REINVESTIGATING THE BEAUTY MATCH UP HYPOTHESIS AND SOCIAL COMPARISON IN FOOD ADVERTISEMENTS

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ABSTRACT

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The use of attractive models as a means to grab consumers' attention and influence their product evaluations and purchase intentions is a common occurrence among advertisers. Research shows that recurrent exposure to ads featuring models with idealized bodies can lead to negative self-evaluations, development of eating disorders, and depression, among other negative outcomes. Given their greater likelihood to express discontent with their bodies when compared to their male counterparts, most of the literature on this issue has focused on women as the population under study. However, a third of all individuals suffering from eating disorders in the U.S. are males. This dissertation explores how males evaluate models featured in snack food advertisements when their bodies conform (or not) with advertising industry norms, and the effects of the pairing of different models with products perceived to be healthy (vs. unhealthy) on participants' evaluations of the self, the product, and the ad. Results showed a significant interaction between exposure to idealized bodies in advertisements and upward social comparison, indicating that respondents with higher social comparison scores had more negative evaluations of the ads. Exposure to ads with idealized bodies predicts participants' engagement in upward social comparison. Further, our results show that upward social comparison was a significant predictor of body dissatisfaction. Yet, overall participants had better evaluations of the ads when presented with unhealthy foods and models with idealized bodies, which stresses the need for guidelines for model casting in advertising.

Keywords: social comparison, gender, social media advertising, attractiveness, food advertising

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CHAPTER 1

INTRODUCTION

Although increasing obesity and eating disorders rates in the United States are influenced by a complex set of factors, such as more sedentary life-styles and individuals' genetic predisposition (Seiders & Petty, 2004), food marketing is often singled out as one of the main culprits (Chandon & Wansink, 2011)[1]. Across product categories, food is still one of the most heavily marketed products (Batada et al., 2008; Harris et al., 2010), and the food industry is among the top ten advertisers in the U.S. media market (Chandon & Wansink, 2011). In particular, scholars have found that most advertised products on television and the internet almost entirely promote high-fat, -sugar, and –salt foods (Boyland, Harrold, Kirkham, et al., 2008; Kelly, Halford, Boyland, et al., 2010). All of these contribute to higher obesity rates (Boyland, Nolan, et al., 2016), which are linked to eating disorders. A number of studies explore the effects of exposure to unhealthy food advertising. These studies have shown that, relative to control conditions, participants' food intake was greater after exposure to advertisements (Halford, Gillespie, Brown, et al., 2004; Harris, Bargh, & Brownell, 2009; Harris, Speers, Schwartz, & Brownell, 2012). In particular, these studies found that exposure to food advertisements was positively related to amount of food consumed and caloric load intake.

The relationship between exposure to food ads and intake is of concern because often times the message communicated in these ads is that unhealthy eating (e.g. frequent snacking on calorie-dense and nutrient-poor food) is "normal, fun, and socially rewarding" (Chandon & Wansink, 2011, p. 13). Cooke (2007) suggested that food ads are effective in shaping consumers' food preferences given (1) the pervasiveness of ads, and (2) that they start shaping opinions in

[1] While we acknowledge that a number of articles first authored by B. Wansink had been retracted by peer reviewed journals, there are no indications that Chandon's work has been compromised.

early ages when these individuals have not yet fully developed food habits. Thus, advertisements become a normative force that dictates what is acceptable in society.

Chandon and Wansink (2011) noted that even in the absence of health information in the ad (i.e., caloric intake and nutrition information), people acquire expectations about the taste, healthfulness, and social acceptability of a particular food item and its ingredients through different peripheral cues presented in food advertising. These cues include branding, health claims, and other stimuli, such as models or spokespersons. When developing ads, marketers recognize that certain stimuli match-ups are more effective than others in communicating the desired message (Fleck & Quester, 2007). In this regard, studies have shown that a match-up between the characteristics of models used in advertisements and the characteristics of the advertised product positively influence product, brand, and ad evaluation (Lynch & Schuler, 1994; Wright, 2016). Given the negative outcomes associated with exposure to unhealthy food ads (e.g., obesity), and that using models in ads that match with the characteristics of the products can result in positive evaluations, one should expect these ads to feature models with preponderance of body fat. However, advertisers have long capitalized on attractive models (Kolbe & Albanese, 1996; Hellmich, 2000; Pope et al., 2000), and in particular those who have idealized bodies (i.e., flat stomachs and muscular build), because of the effectiveness of using attractive rather than unattractive models in advertisements (Elliott & Elliott, 2007; Levine & Murnen, 2009; Solomon, Ashmore, & Longo, 1982). In a comprehensive review, Joseph (1982) showed that physically attractive models were liked more, were perceived more favorably, and had a more positive outcome on product evaluation. In sum, this line of research claims that "physically attractive models generated favorable attitudes toward advertised products because the beauty of the model spills over directly onto product evaluations" (Kim & Sohn, 2016).

In a study focusing on professional athletes' endorsement of food and beverages, Bragg et al. (2013) found that out of 512 brands endorsed by different athletes, sporting goods represented the largest category (28.3%), followed by food and beverages (23.8%). Among the food products endorsed, 79% of them were energy-dense and nutrient-poor, and 93.4% of the beverages had 100% of calories from added sugar. Dixon et al. (2014) found that this is a common practice among fast food retailers, and that brands such as McDonalds often align unhealthy products with images of "health, vitality and fame" (p. 212). These findings are a paradox of the advertising industry: while the model (be it a celebrity, athlete, or other endorser) has a body perceived to be healthy by social beauty standards, they are promoting the consumption of foods and beverages that would prevent the general population to reach a similar body mass composition. This is troublesome for a number of reasons. First, as Chandon and Wansink (2011) point out, exposure to food ads featuring models with idealized bodies can lead consumers to make judgments about the food's healthfulness based on the model's body such that if an athlete endorses such product, the food item should be healthy. Second, in addition to obesity, the literature indicates that the use of thin and muscular models in advertisements leads to negative outcomes such as consumers' body dissatisfaction, development of eating disorders, and depression (Presnell et al., 2004). These results have often been explained through the lens of social comparison theory (Festinger, 1954). This theory posits that individuals tend to compare themselves to others, including models in the media, as a means to explore what is acceptable within one's environment.

The fit (or match) between models and products has been explored in abundance within the marketing communications literature through the lens of the matchup hypothesis (e.g., Kamins, 1990; Lee, Kim, & Kim, 2014; Seiler, & Kucza, 2017). This framework posits that the

effectiveness of an endorser is contingent upon the perceived congruency between a person and the product (Kamins, 1990). And while endorsers and products can match up on a number of different attributes, physical attractiveness is the most commonly studied dimension (see Wright 2016 for a comprehensive list). Studies have also explored congruency between the model's expertise (Friedman & Friedman, 1979; Ohanian, 1990), sophistication (Batra & Homer, 2004), credibility (Koerning & Page, 2002), trustworthiness (Kamins & Gupta, 1994), and masculinity (Lynch & Schuler, 1994) with the advertised product. And while the matchup hypothesis has received considerable scholarly attention, researchers seem to have ignored the congruence between models with idealized bodies and perceived product healthfulness.

Extensive literature suggests several negative outcomes as a result of exposure to media images of idealized thin and muscular models, including poor body image (Levine & Murren, 2009; Slater & Tiggemann, 2006), depression and suicide (Fildes et al., 2014), and body dissatisfaction (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). The majority of the literature focuses on the effects of representations of idealized bodies in the media on women's emotions and self-esteem (Slater & Tiggemann, 2006). However, consumer research focusing on men's processing of ads featuring models with idealized bodies remains limited (Elliott & Elliott, 2005). This phenomenon can be explained by women's higher likeliness to discuss issues related to, and seek help for, body image and eating disorders (Andersen, 2014; Elliott & Elliot, 2007), and because the majority (70%) of individuals in the western countries that are dissatisfied with their appearance are women (Diedrichs, Lee, & Kelly, 2011; Presnell et al., 2004). Yet, the National Eating Disorders Association, the leading non-profit organization for those affected by eating disorders, reports that in the US, about 10 million males will suffer from a clinically

significant eating disorder (ED) at some time in their life, including anorexia nervosa, bulimia nervosa, and binge eating disorders.

While, in general, food advertising and promotion have been linked to individuals' food-related decisions and preferences, snack food advertising should be of interest given that ads promoting these products have been shown to increase snack consumption among children and adults (Harris, Bargh, & Brownell, 2009), not only for the advertised brands, but for other products in the market. Snack products account for 14% of the total advertising expenditures for US food products (Story & French, 2004). Chandon and Wansink (2011) suggested that these ads might promote short-term enjoyment goals in general, which is negatively related to longer-term healthy living goals. In addition to the pervasiveness of snack ads, Seiders and Petty (2004) point out that greater availability (through vending machines) of (unhealthy) food (i.e., snacks) has been found to increase food consumption, to the degree of having negative health outcomes (Tordoff, 2002). Similarly, Cutler et al. (2003) claimed that individuals have increased the frequency of their snacking habits compared to previous generations. Given that people acquire expectations about the product through different peripheral cues used in food advertising, such as spokespersons, and that using attractive models to advertise all sorts of products is a ubiquitous practice (Bragg et al., 2013), this dissertation explores how males evaluate models featured in snack food advertisements when their bodies conform (or not) with advertising industry norms, and the effects of the pairing of different models with products perceived to be healthy (vs. unhealthy) on participants' evaluations of the self, the product, and the ad.

CHAPTER 2

LITERATURE REVIEW

Food Marketing

Several studies (e.g., Cairns, & Macdonald, 2016; Wartella, Lauricella, , Cingel, & Connell, 2016) have explored the effects of food and beverage advertising on food consumption and health outcomes, but the results of these studies offer mixed results. Food marketing can influence consumer expectations through a number of strategies. Food marketers influence consumers' evaluations of the product's quality and quantity through advertising and promotions, branding, the convenience and salience of the purchase, the size and shape of serving containers, and the atmospherics of the purchase and consumption environments (Chandon & Wansink, 2011). There seems to be a consensus among scholars and policy makers in that strategies employed by marketers to promote their products are, at the very least, questionable (Boyland, Nolan, Kelly, et al., 2015). For example, a number of researchers have noted that the food industry deflects attention from foods' high caloric contents by emphasizing physical activity in their ads (Folta et al., 2006).

As a result, food marketers have been charged with being responsible for a number of illnesses (Quilliam, 2008), ranging from dental health problems to eating disorders (Livingstone & Helsper, 2006). In the next paragraphs, the food marketing literature related to the objectives of this dissertation are reviewed.

According to Boyland et al. (2015), an individual's environment is a key driver of that person's diet. As such, obesogenic food environments (i.e. settings that promote unhealthy dietary habits) are, in part, responsible for the increasing rates of obesity and eating disorders (Swinburn, et al., 2011). This is particularly important given that almost all individuals in

Westernized societies are exposed to large amounts of unhealthy food advertising (Boyland et al., 2015). But in addition to food advertising activities, increased food consumption is also driven by convenience-related trends, such as heightened consumer purchasing of meals outside the home and increased purchase of snacks through vending machines and kiosks (Cutler, Glaeser, & Shapiro, 2003). Seiders and Petty (2004) highlight the pervasiveness of food marketing and the intensive distribution and promotion of fast foods and snack foods (Harnack & French, 2003) in all types of retail outlets, such as drug stores, convenience stores, mall food courts, office vending machines, and airports, among others. This greater availability of food has been found to increase consumption to the extent that it can become detrimental to one's health (Tardoff, 2002).

Studies have suggested that food marketing is responsible for an increased frequency of snacking practices among U.S. respondents (Cutler et al., 2003). Snack foods are in a food category that has sparked controversy among public health experts, nutritionists and public interest organizations, given that they are frequently marketed with misleading nutritional information (Seiders & Petty, 2004). For example, packaging and other marketing communication materials present nutritional information based on one serving, when often the package contains more than one. While these practices are troublesome, the fact that there are few regulations about the inclusion of nutritional information for foods served in restaurants and sold in vending machines (FDA, 2016), and none for ads is even more worrisome. Scholars suggest that many consumers are unaware that they are consuming such a high proportion of the recommended fat, sugar, and/or calories suggested for consumption per day (Berman & Wootan, 2003), and that advertising campaigns tend to favor displaying other information and appeals that can lead to heightened ad effectiveness, such as featuring celebrity endorsers.

In addition to the strategic distribution of unhealthy foods described above, food marketing should be of concern to scholars and marketers alike given that the food industry is among the top ten advertisers in the U.S. media market (Chandon & Wansink, 2011). In recent years, in addition to the advertising efforts through traditional media (television, print, radio, billboards), food marketing has also become a phenomenon in new media, such as social media platforms. Chandon and Wansink (2011) point out that food marketers are diverting their budgets from print and television advertising to social media. A number of market research companies seem to echo these claims and have published rankings of the most active food brands on social media. Sherwood (2015) notes that Starbucks, McDonalds, Taco Bell, Ben & Jerry's, and Oreo are among the top brands by followers on Instagram, and that other brands, such as KFC, are often among the top brands by hashtag use. In all cases, the food displayed is high in calorie-content, and often loaded with sugars. In a compilation of the top food brands in social media, AdWeek also listed a number of brands that commercialize products that could be detrimental to one's health if consumed in excess, including Skittles (with 23,421,414 followers), Oreo (43,000,000), Pringles (24,758,000), and M&M's (10,000,000)[2], and others, such as Hershey's, Frito Lay, and Doritos. Therefore, this dissertation will use snack foods ads as the stimuli under study.

Not only does this overload of food marketing through different channels contribute to the development and growth of an obesogenic environment, but the cumulative exposure to food ads also promotes more positive beliefs and attitudes towards those foods most heavily advertised (Sixmith & Furnham, 2009). Thus, social media as the medium through which food messages are disseminated is worth examining (1) because advertisers are increasing the proportion of their budgets allotted to social media (Okazaki & Taylor 2013; Olmstead & Lu,

[2] Updated number of followers for each brand as of Jan 26, 2018

2015; Saxena and Khanna 2013), (2) technology-savvy consumers tend to spend over 10 hours per week on the Internet via their computers and 1.5 to 3 hours a week via mobile devices researching products or services (Barnic, 2014), and (3) because social media are often used as a means for social comparison (Nesi & Prinstein, 2015).

Idealized Male Bodies in Advertisements

Extensive literature has explored the representations of the female body in advertising (Belkaoui & Belkaoui, 1976; Busby & Leichty, 1993; Englis, Solomon, & Ashmore, 1994; Hawkings, Richards, Granley & Stein, 2010; Sohn & Youn, 2012). This line of research has offered detailed information about women's images in advertisements and recognized changes in their portrayals. In general, scholars agree in that female models have become progressively thinner and sexualized (Kim & Sohn, 2016; Yu, 2014). Another body of literature has examined the depictions of male models in advertisements (Elliott & Elliott, 2005; Grau, & Zotos, 2016; Kolbe & Albanese, 1996; Skelly & Lundstrom, 1981; Wolheter & Lammers, 1980), and Elliott and Elliott (2005) point out that that since the 1980s, men's bodies shown in ads offer a similarly idealized body to that presented by women models, where men are shown as sex objects. These findings should be of concern given that exposure to ads featuring models with idealized bodies raises comparison standards for attractiveness and lower individual's satisfaction with their own attractiveness (Elliott & Elliot, 2005). Yet, most studies on body image dissatisfaction as a result of exposure to mediated images have been centered on females because this group has traditionally been more likely to express discomfort with their own bodies and have exhibited higher rates of fasting, taking dietary supplements, vomiting or taking laxatives to lose weight or to keep from gaining than men (Eaton et al., 2012). According to Brown et al. (2015), there is a dearth of research that examines the effects of exposure to idealized images of models in ads and

the media among males. Thus, this dissertation will explore the extent to which men can be negatively affected by idealized representations of male bodies, particularly for snack food ads endorsed by male models with different body sizes and compositions. In the next paragraphs, the representations of males in advertising are discussed.

According to Kolbe and Albanese (1996), the defining attributes of the American man have remained virtually unchanged since the writings of Alexis de Tocqueville of his travels in nineteenth-century America. These writings described the American man as individualistic, insensible, cold, and implacable (Barker-Benfield, 1976). In this respect, in the author's book about male portrayals in Viagra ads, Baglia (2005) states that social communication (language, symbols, and significant social performances and actions) creates norms, regularities, and expectations about each actor in society. He goes on to note that masculinity is socially constructed, and that the representations of males in the media (and advertisements) help institute what the normal man should look and act like. Baglia (2005) bases the assessment on Goffman (1963), who provided a depiction of the American man based on print ads in an influential piece on gender advertising,. He wrote:

"[In] an important sense there is only one complete unblushing male in America: a young, married, urban, northern, heterosexual Protestant father of college education, fully employed, *of good complexion, weight and height* [emphasis added], and a recent record in sports… Any male who fails to qualify in any of these ways is likely to view himself –during moments at least- as unworthy, incomplete, and inferior…" (Goffman, 1963, p. 128).

As early as in 1963, Goffman made a similar observation to that of a number of more contemporary researchers about the depiction of males in advertisements in today's media: there is a prevalence of ads depicting models with "washboard abdominal muscles, massive chests,

and inflated shoulders" (Pope et al., 2000, p. 34). This combination of muscularity and leanness is difficult to accomplish with a regular exercising routine. In a content analysis of sole male images in men's magazines, Kolbe and Albanese (1996), found that across a number of magazines (*Esquire*, *GQ*, and *Business Week*, among others), most models featured in ads had bodies that were not "ordinary", but those of strong and hard male icons, which the authors considered to be an objectification of the male body. In particular, they found that there was an overwhelming representation of bodies that were "strong, tough, and equipped for strenuous and exacting physical activity" (p. 11) (i.e., mesomorph models), few models had endomorphic bodies (i.e., soft and rounded), and even fewer had ectomorph bodies (i.e., thin and frail).

Similarly, Patterson and England (2000), also discuss a ubiquitous depiction of male bodies in magazine ads, and showed that readers are often presented with a depiction of models with idealized bodies (i.e., mesomorphic bodies). They further point out that endomorph models (which is the body composition of the average American male; Hamblin, 2013) were rarely seen, irrespective of product category, and that in those cases where endomorphic models were shown, they tended to be the object of humor. In the case of ectomorphs, Patterson and England (2000) suggested that models with this particular physique were common only in clothing advertising, where products look better on slightly thinner men. Hellmich (2000) agrees with previous results and claimed that "men are being bombarded with images of muscular, half-naked men on the covers of men's magazines" (p. 06D), which leads to men developing an "Adonis complex" and eating disorders after being overexposed to idealized bodies in advertising (Elliott & Elliott, 2005). Diedrichs et al. (2011), summarize this review of literature and claim that the current western idea of male beauty, based on the stereotypes reinforced through the media, consists of muscular, tall and well-groomed men.

As Pope et al. (2000) indicated in their studies, ads feature idealized bodies to promote a wide variety of products ranging from underwear to cars. And while previous literature suggested that using highly attractive models in advertisements results in more positive ad, product, and brand evaluations (see Belch, Belch, & Villarreal, 1987; Joseph, 1982 for reviews), and heightened media coverage and brand impressions (Kalb, 2013), most recent research literature contests the results (Bower, 2001; Bower & Landreth 2001). Studies have shown that models with idealized bodies are only more effective than models that resemble the average American male more closely in certain product categories (e.g. attractiveness-relevant products). Of concern to this dissertation is the prevalence of male models with idealized bodies in advertisements for unhealthy products, in particular, unhealthy food snacks. The snack food segment is interesting given that the foods advertised promote energy-dense, nutrient poor foods, which when paired with a model with an idealized body, send mixed messages about fitness, health, and diet to consumers (Bragg et al., 2013; Dixon, Schully, Wakefield, et al., 2011b; Nestle, 2006; World Health Organization, 2012). Further, these models are often portrayed as the typical and ideal customer of the advertised brands, and look attractive and powerful while doing so (Portwood-Stacer, 2014).

Recently, and paralleling campaigns that celebrated the shape of real women in ads, there have been a number of initiatives to include real men in ads. In 2015, American Eagle released an integrated campaign called #AerieReal. This ad caught the media's attention for promoting and celebrating male bodies of all types, using un-retouched photos in advertisements, with a slogan emphasizing diversity, and claiming that: "the real you is sexy" (Mandell, 2016). However, the company later admitted that they created the ad as an April Fool's joke. Dove released a campaign exploring how men view their own beauty. Unilever launched a commercial

for their male deodorant line (Axe) featuring models depicting a spectrum of body images. The campaign, called "Find your magic", aims at ending sexist stereotypes and dispelling traditional portrayals of masculinity, while celebrating individuality (Weed, 2016). Similarly, Norwegian textile brand Forsman & Bodenfors showcased male body diversity in an underwear campaign by casting models with chest hair, beer-bellies, freckles, cellulite and tattoos (Jardine, 2015).

Yet, portraying realistic-looking bodies is not the norm when it comes to advertisements for unhealthy foods (Bragg et al., 2013). For example, among the celebrities with idealized bodies that have endorsed unhealthy foods, Oreo's roster of endorsers included Eli and Peyton Manning and Shaquille O'Neal; Peyton Manning for Papa John's; LeBron James, Dwight Howard, and Kobe Bryan for McDonald's; and Miguel Cabrera, Anderson Silva, and David Beckham for Burger King. But this phenomenon is not exclusive to athletes, a number of food ads have also made use of models with idealized bodies to promote energy-dense, nutrient poor foods. In 2013, Kraft's released an integrated advertising campaign for Zesty Italian salad dressing that caught the media's attention for featuring a near-naked male model. According to *Business Insider*, the product advertised was barely noticeable, and the periodical questioned the effectiveness of the ad strategy to sell the product (Kalb, 2013). M&M's released a 30 second ad of a male model highly sexualized (see: https://youtu.be/6QMb16bxJvY). Bradley Cooper was cast in a sexualized ad for Häagen-Dazs (see https://youtu.be/s3zY4Trz7po), an American ice cream brand, and even brands for carbonated sodas have developed advertisements showing half-naked men with idealized bodies.

Recognizing that little is known about the ideal male body size, Brierley and colleagues (2016) identified the proportion of fat and muscle mass necessary for individuals to have a healthy and attractive body, both for males and females. Brierley et al. (2016) claimed that while

previous studies had attempted to provide a characterization of participants' perceptions of healthy body mass indexes (i.e., weight scaled for height, BMI), these studies failed at addressing the role of body fat (St. Onge, 2010) and muscle, which have distinct relationships with health and are conflated in BMI, in determining perceived health and attractiveness. Furthermore, Brierley et al. (2016) claimed that internalizing body ideals, as promoted by agents such as the media, have an influence in individuals' perceptions of attractive body compositions for both genders, but even more so for women. Brierley et al. (2016) presented their participants with a digital image of a male and asked participants to graphically manipulate the apparent fat and muscle mass of the bodies presented to them to represent "healthy" and "attractive" male bodies. Their results showed that, in general, male bodies were preferred when the subject presented featured lower fat mass (M = 12.16 kg, SD = 4.69) than muscle mass (M = 63.27 kg, SD = 4.06). Thus, given that the mean weight of male figures presented to the subjects was 79.29 kg, the men's fat mass chosen for attractive and healthy male bodies fell within the range of healthy body fat (8 to 21%; Frankfield et al., 2001; Gallagher et al., 2000). The guidelines regarding body mass compositions for males offered by Brierley et al. (2016)'s study are deemed an adequate reference for selecting the models employed in this dissertation given that it addressed a previous limitation of the literature concerning BMI.

Rather than following body type classifications that rely solely on the individuals' body mass index (i.e., endomorph, ectomorph, and mesomorph), for this study we rely on more comprehensive definitions. Given that BMI alone is not a reliable indicator of an individual's body composition (Frankfield et al., 2001), as it fails to take into account factors such as muscle and fat mass, this dissertation follows the guidelines offered by Brierley et al. (2016)'s study. We define models with idealized bodies as those whose muscularity accounts for at least 79% of

their body composition (with fat mass ranging between 8 and 21%). Further, we mimic St. Onge's (2010); this study will refer to as "average" models those male individuals with body fat ranging between 22 and 40%, and muscle mass ranging between 60 and 75%. Overweight individuals will be defined as those with fat mass above 40%. We recognize that these classifications are not exhaustive, and that more research is needed to make Brierley et al. (2016)'s study results generalizable. Yet, these indicators address previous limitations offered by the BMI measures.

In sum, investigating the use of idealized (vs. average) bodies in food advertisements is deemed meaningful given that research shows that (1) these snack ads make unhealthy foods more attractive by associating them with attractive spokespersons/models, (Bragg et al., 2013; Dixon, Schully, Wakefield, et al., 2011b; Nestle, 2006; World Health Organization, 2012), and (2) exposure to mediated content featuring idealized bodies leads to poor body image (Levine & Murren, 2009; Slater & Tiggemann, 2006), depression and suicide (Fildes et al., 2014), and body dissatisfaction (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). The following section reviews the role of digital advertising in the context of this dissertation.

Social Media Advertising

Social media has become a ubiquitous phenomenon of both individual's lives and society as a whole (Khang, Ki, & Ye, 2012). While social media sites (SNS), such as Facebook and Twitter were originally used by many to peruse content for entertainment purposes, these platforms are now an integral part of various activities such as education (e.g., Greenhow & Lewin, 2016), employee communication (Brustein, 2010), and emergency communication (Wukich, & Steinberg, 2016), among others. Since Facebook's launch in 2007, there has been a continuous growth in the use of social media for sharing user-generated content, such as

photography, videos, and podcasts (Khang, Ki, & Ye, 2012). According to a recent report by *Statista* (2017), there are nearly four billion active social media users worldwide (considering only the most popular social media outlets). Furthermore, as of 2016, daily social media usage of global Internet users amounted to 118 minutes per day, up from 96 minutes in 2012 (Statista, 2017b). Scholars have noted that given the popularity of these platforms, advertisers have turned to social media (SM) to create brand communities, reach their target populations, and augment brand awareness and exposure (Kaplan & Haenlein, 2016).

In marketing communications, specifically, advertisers and marketers have turned to social media recognizing the prospects of these platforms for delivering their campaign strategies given SM's potential for earned advertising (Khang, Ki, & Ye, 2012). To this regard, Alhabash et al. (2017) claimed that social media amplifies the importance of the human factor, given that it allows users to "respond, react, and generate online content that fits (or modifies) an existing advertising strategy" (p. 285). Given that social media allows users not only to see the content, but also share, engage with, and create content to be shared through these platforms (Scott, 2015), Alhabash et al. (2017) proposed a unique definition to differentiate social media advertising from traditional approaches. They defined it as "any piece of online content designed with a persuasive intent and/or distributed via social media platform that enables internet users to access, share, engage with, add to, and co-create" (p. 286).

Allowing users to interact with content in various ways is important given that advertising content that is passed along or shared among friends has shown more significant effects on ad recall, brand awareness, and purchase intentions compared to traditional forms of paid advertising (Bilton, 2010). Thus, it is not surprising that advertisers are progressively

allotting larger budgets to SM (Okazaki & Taylor 2013; Olmstead & Lu, 2015; Saxena & Khanna 2013), with an estimated market worth $35.98 billion in 2017 (eMarketer, 2015).

Therefore, it seems safe to ascertain then that social media is an effective medium for advertisers to deliver their messages to their various publics, and that social media might be more effective than advertising via traditional outlets (Sass, 2015). There are several reasons to support this claim: (1) the cost of ad placing on social media is much cheaper (vs. traditional media outlets; Bhanot, 2012), (2) SM gives advertisers the tools to better quantify and reach specific target audiences, and (3) the analytics tools associated with SM have resulted in machine learning algorithms that provide better insights about different online and offline forms of ad engagement (Alhabash, Mundel, & Hussain, 2017). In addition to these favorable outcomes, social media advertising is deemed to be a meaningful area of study for this dissertation given that social media is often used as a means for social comparison (Nesi & Prinstein, 2015).

In a study investigating the outcomes of social comparison to social media referents among adolescent students, Nesi and Prinstein (2015) asked respondents to report on levels of depressive symptoms (at baseline and after a year), technology use frequency, and social comparison and feedback-seeking measures. Consistent with their hypotheses, the researchers found that technology-based social comparison and feedback-seeking behaviors were associated with depressive symptoms. Furthermore, they found that other factors, such as gender and level of popularity, moderated the effects of social media use on social comparison, so that females low on popularity suffered from these outcomes more than their counterparts. This dissertation ascribes to the effects of social media exposure and use on social media comparison, and posits that repeated exposure to social media content featuring attractive and fit individuals might result

in lower reported self-esteem and perceived self-attractiveness. Thus, social media advertising serves as the stimuli under study.

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Social Comparison

Abundant research has explored the unintended consequences of idealized advertising imagery on girls and women's self-perceptions (Gulas & McKeage, 2000; Kim & Sohn, 2016; Martin & Gentry, 1997; Richins, 1991). Groesz et al. (2002), for example, reviewed 25 studies exploring the relationships between media exposure and negative effects on body image and found that exposure to idealized bodies in advertising had an adverse effect on body satisfaction when compared to control images. Social comparison theory, which posits that there is an innate human need to compare oneself with others to gain accurate self-evaluations (Festinger, 1951), is a theoretical framework often used by researchers to explain the consequences related to body dissatisfaction as the result of media exposure (Gulas & McKeage, 2000). In the following paragraphs, the literature on social comparison theory is reviewed.

Social comparison theory (SC) is based on Festinger's earlier work, specifically, the informal communication theory (ICT; 1950). ICT posited that when individuals are in groups, they desire to conform with public opinion either because group consensus can provide a person with confidence in one's own opinion or because agreement is needed to achieve the group's goals (Suls & Wheeler, 2000). In 1951, Festinger introduced a new theory that built on ICT called "A theory of social comparison processes". The new theory (SC) focused on how individuals use groups to evaluate their abilities and opinions against those of the other members of the groups. That is, "observing those with similar abilities allows us to know what our own possibilities for action in the environment are" (Suls & Wheeler, 2000, p. 5).

In particular, Festinger (1954) posited that humans have a drive for continual improvement, and in order to decide on which changes need to be made, individuals compare themselves to similar others. While Festinger did not pursue the development of this theory, a number of researchers continued with this line of research (e.g., Gordon, 1966; Radloff, 1966; Latané, Eckman, & Joy, 1966). Mettee and Smith (1977) posited that in addition to those who are similar to us, individuals might also compare themselves to dissimilar others. This proposition is of interest to this dissertation. This modification of SC theory is important given that it operated under the assumption that the differences between some individuals and dissimilar others might be greater than those identified when comparing the self to similar others. In the preface to the *Handbook of Social Comparison*, Suls and Wheeler (2000) note that SC theory furthered scholarly interest with Wills (1981) introduction of the notion of upward and downward comparison. This broader view of SC, similar to Mettee and Smith's (1977), introduced the notion that in addition to self-evaluation, social comparison can also serve as a means for self-enhancement and self-improvement goals (Gulas & McKeage, 2000; Wood, 1989).

In the study of (downward) social comparison, Wills (1981) posited that individuals can increase their subjective well-being by making comparisons between the self and someone who is worse off. Upward comparison refers to comparisons made with others considered above oneself in regard to a particular dimension (i.e., an endomorph person comparing his body to that of a mesomorph), which can lead to a decrease in well-being (Morrison, Kalin, & Morrison, 2004). Downward comparisons refer to those made against individuals judged as inferior on a particular dimension (i.e., mesomorph comparing his body to an ectomorph), and is believed to enhance an individual's subjective well-being. Wills described a number of ways in which

downward comparisons can be made, including active derogation, causing harm to others, or simply on a passive basis (i.e., taking advantage of chances to compare with people who are less fortunate) (Suls & Wheeler, 2000).

The subsequent revisions and additions of SC theory led researchers to examine not only individuals' comparisons to other individuals in their circles, but also to other forces in the environment, such as the media. While Wood (1989) saw the environment as an inactive backdrop, more recent literature suggests that the social comparison process might be often automatic (Lyubomirsky & Ross, 1997) and that the nature of the comparison might be forced by the environment (Sirgy; 1998, Steil & Hay, 1997). According to Gulas and McKeage (2000), the environment can force a variety of comparisons. For example, while in certain instances exposure to an unfortunate other may encourage one to make downward comparisons, in other separate instances the environment may also force upward comparisons with other individuals who are present in a variety of situations (e.g., models in ads) who are more fortunate on one or more dimensions. Thus, through the lens of social comparison, exposure to media images of muscular males helps shape a standard of male attractiveness (Petty, 2011).

Scholars have noted that the images employed in advertising present a narrow view of reality (Pollay, 1986; Richins, 1991, 1996). For models featured in ads, marketers often favor attractive individuals (Bower, 2001) that have bodies impossible for most to attain (Petty, 2010; Pope et al., 2000). Gulas and McKeage (2000) noted that consumers realize that the mass media present the world in a "styled and idealized way" (p. 17). Yet, individuals still draw meaning from these images (Hirschman & Thompson, 1997). Petty (2010) claims that the cultural standard for the ideal body image, which is reinforced by the media, has created a multitude of psychological problems (e.g. low self-esteem and eating disorders). Among the factors that have

an influence on body image formation, Petty (2010) considers social comparison as a central contributor.

Tiggemann and McGill (2004) claim that: "the mass media, due to the pervasiveness and reach, are probably the single most powerful transmitters of sociocultural ideals" (p. 24). They list studies showing the relationships between exposure to mediated images and body dissatisfaction and eating disorders. Similarly, Morrison et al. (2004), explored upward and downward comparisons to images in the media and claimed that universalistic targets (i.e., the mass media) exert more pressure to coincide with idealistic standards of attractiveness than other targets (e.g., friends). Thus, making comparisons to mediated images with idealized bodies should be of concern, particularly with advertisements, given that they often reinforce a standard of beauty that is difficult to attain. Research shows that social comparison of physical appearance often results in upward comparison (Morrison et al., 2004; Wheeler & Miyake, 1992), and that this type of comparison results in negative self-evaluations (Suls, Martin, & Wheeler, 2002) and lower perceived self-attractiveness (Morrison et al., 2004).

Recent research on upward and downward comparisons of the self to other individuals has supported the notion that upward comparisons with mediated images can influence an individual's self-esteem, and perceived self-attractiveness, among other outcomes. For example, Lanzieri and Hildebrant (2016) summarize a number of studies where males exposed to idealized images of same-sex professional models report lower self-esteem and body satisfaction (vs. controls). By contrast, research on downward comparisons shows mixed results (Suls, Martin, & Wheeler, 2002). As Collins (2000) suggested, some people might make comparisons against inferior others and cultivate more positive self-judgments due to aspirational and motivational evaluations of the target. However, downward comparisons can also lead to negative judgments

and attitudes when an individual acknowledges that he could too look like the target to which the person is being compared (Collins, 2000).

Morrison et al. (2004) explored the consequences of social comparison to sources in different media outlets. The authors found that exposure to magazine and television content featuring models with idealized bodies, and the degree to which men engaged in social comparison, were predictors of participants' perceived self-appearance, self-esteem, number of diets to lose weight, use of pathogenic weight control practices, and use of steroids to increase muscle mass. Similarly, in a comprehensive literature review on the effects of social comparison on eating behaviors, Polivy and Pliner (2015) claim that abundant literature supports the relationships between making comparisons between one's weight and other individuals' and body dissatisfaction, and that, depending on the images, exposing participants to magazine ads before eating can influence subsequent eating amounts (Mills, Polivy, Herman, & Tiggemann, 2002).

At the most basic level, exposure to models with idealized bodies in a persuasive message has been found to result in lower self-esteem and body satisfaction. With this in mind, we hypothesize:

> **H1:** Participants will exhibit (H1a) greater body dissatisfaction, and (H1b) lower levels of self-esteem when exposed to ads featuring idealized looking models than when exposed to models with average or overweight bodies.

However, research shows that these negative effects experienced by participants tend to be limited to a particular group of respondents, those who are heavier and have higher levels of body dissatisfaction (Henderson-King & Henderson-King, 1997). In other words, although all men are exposed to media content with idealized bodies, not all develop disorders related to their

bodies (Tiggemann & McGill, 2004). According to Hargreaves and Tiggemann (2009), men are more likely to feel dissatisfied with their muscle size and tone and wish to be lean but highly muscular. A number of experimental studies have researched the impact of exposure to idealized muscular media images on men's body image. Abrour and Martin Ginis (2006) showed that participants' trait muscle dissatisfaction moderated the negative effects associated with exposure to idealized bodies. In particular, men with higher initial muscle dissatisfaction exhibited more negative outcomes than those with lower scores. Furthermore, Hargreaves and Tiggemann (2009), showed that the degree to which participants engage in social comparison mediated the effects of the advertisements on men. Thus, we hypothesize that participants that engage in upward comparisons will be more likely to report lower levels of self-esteem compared to other participants.

H2: Upward social comparison will mediate the effect of idealized bodies in snack food ads and (a) self-esteem, and (b) body dissatisfaction, such participants exposed to ads featuring idealized bodies will report greater social comparison, which in turn will negatively affect self-esteem and body satisfaction.

Recent studies support the relationships between exposure to idealized bodies on social media and low self-esteem and perceived physical attractiveness among women (e.g. Neira, Corey, & Barber, 2014; Perloff, 2014; Vogel, Rose, Roberts, & Eckles, 2014). Further, studies show that technology-based social comparison and feedback-seeking behaviors on social media were associated with depressive symptoms (Nesi & Prinstein, 2015). This line of research supports the notion that exposure to idealized bodies on social media-based outlets have similar

social comparison and self-esteem outcomes as traditional media. However, these effects are not yet clear in the context of a male audience.

In a study investigating social comparison on social media, Vogel and colleagues (2014) suggested that social media sites, such as Facebook and Instagram, are suitable platforms for engaging in social comparison. The authors posit that as social media sites are increasingly used for a variety of social functions (e.g., sharing pictures with friends and following role models), people use the information on these sites for social comparative functions, such as self-evaluation or self-enhancement. Furthermore, given that users have the ability to create a public persona of their liking by selectively allowing content in their profiles, posting chosen pictures, and describing themselves in a way that presents their ideal self-views (Rosenberg & Egbtert, 2011), the majority of the comparisons made on social media will be in upward direction.

Social comparison on social media is thus problematic given that (1) users on social media tend to project positive rather than negative images of themselves, and (2) social media users believe that other users are happier and more successful than themselves (Chou & Edge, 2012). Based on these premises, Vogel and colleagues (2014) conducted an experiment to decipher whether or not (and in which direction) college students engaged in social comparison through Facebook. Their results showed that frequency of Facebook use was (1) negatively correlated with self-esteem (i.e., participants with more exposure to Facebook had lower self-evaluations); and (2) positively related to both types of social comparison (i.e., upward and downward); and that participants who used Facebook the most engaged in social comparisons to a greater extent. Interestingly, on average, Vogel et al.'s respondents reported engaging in more upward (vs. downward) social comparisons on Facebook, and Vogel et al. (2014) concluded that

while upward comparisons on Facebook predicted lower self-esteem, downward comparisons did not.

Of particular interest to this dissertation is Vogel et al. (2014)'s second study. The authors explored whether manipulating user content on social media (to make the target of the comparison seem to be healthier or unhealthier) had an impact on upward social comparison. Their results showed that participants reported lower self-esteem and poorer self-evaluations after exposure to social media content portraying "healthy" users. The results of Vogel et al.'s (2014) study are in line with those of other researchers regarding upward comparison on social media. Haferkamp and Kramer (2011) exposed participants to made-up social media profiles of individuals deemed to be highly rated in attractiveness or unattractiveness. Their results showed that following exposure to the upward comparison conditions, participants reported larger actual-ideal self-discrepancies than those in the downward comparison conditions. Similarly, studies have found that different types of social media content, such as selfies, can act as sources for social comparison and as a means to internalizing a standard of beauty. Chua and Chang (2016) found that exposure to selfies on social media often resulted in participants' lower self-esteem, insecurity, and intentions to edit their self-presentation for peer approval.

Matchup Effect of Spokesperson and Product Congruency

Among the many visual components of an ad, the models featured in the ad are important influencers of the consumer's perception of the advertisement and the product (Knobloch-Westerwick & Coates, 2006). The model featured in an advertisement can offer a number of cues to consumers, including the intended users of a product (Knobloch-Westerwick & Coates, 2006), the benefits resulting from product use (Lynch & Schuler, 1994), and trustworthiness of the product (Kamins & Gupta, 1994). Thus, it is no surprise that considerable scholarly attention has

been paid to identifying which model's characteristics are more effective in enhancing ad effectiveness. In particular, abundant research has hypothesized that the effectiveness of an advertisement featuring models is, in part, contingent upon some sort of congruence, or *matchup*, between and endorser and a product.

This congruence has been explained through the lens of the matchup hypothesis (Kamins, 1990), which suggests that the effectiveness of the endorser is determined by its congruency with certain product characteristics. Kamins' (1990) work was informed by earlier studies that provided support to the development and testing of the matchup hypothesis. Kanungo and Pang (1973) investigated the fittingness between the model and kind of product promoted in ads by manipulating the type of product (stereo, TV, car, and sofa) and featured model(s) (male, female, and both genders present). In addition to showcasing the products with different models, to serve as a baseline for comparing the effects of featuring a model in the ad, the authors included a control where no models were included. Participants were asked to view the ads and respond to a number of scales dealing with product attributes (e.g., attitudes toward the product). Their results showed that ads with male models (vs. the other conditions) endorsing cars received more favorable product evaluations from both male and female respondents. On the contrary, the presence of female models produced more positive attitudes toward the product for sofa advertisements among male respondents. For stereos, the ads created more favorable attitudes for both male and female respondents when both male and female models were featured. On the other hand, male subjects had higher product evaluations after being exposed to TV ads with no models, while female respondents had more positive attitudes toward the product when the TV sets were displayed with a male/female couple. Based on these results, Kanungo and Pang (1973) were interested in understanding if the perceptions of the study's stimuli were a function of the

product being perceived as either masculine or feminine by consumers. Thus, they asked a second set of respondents to indicate whether they thought the four products were masculine, feminine, equivalently masculine or feminine, or neither. Unsurprisingly, cars were viewed as masculine, sofas as feminine, stereos being equally masculine and feminine, and TVs were not viewed as masculine or feminine. In other words, the authors found that in general, a product perceived to be masculine was a better fit with a male model, a feminine product with a female model, and so on. Therefore, the authors concluded that if "there is a match or fittingness between the product and a model in an advertisement, consumer evaluations of the product advertised will be favorable because perceptual and attitudinal congruence will exist" (Lynch & Schuler, 1994, p. 419). By contrast, attitudes toward the product will be lower if the stimuli are perceived to be incongruent.

In order to test whether a matchup between endorser's characteristics and perceived product healthfulness affects participants' perceptions of the product, we pose the following hypothesis:

H3: Model body type in the ads will affect participants' perceptions of product healthfulness

In 1977, a study that explored the roles traditionally portrayed by women in advertising (Peterson & Kerin, 1977) provided support to the notion of different levels of congruency between the product and the model in the advertisement, as suggested by Kanungo and Pang (1973). Their experiment involved both a feminine product (body oil) and a masculine product (ratchet wrench set) with the same fictitious brand name (Vade). The ads that featured these items had a professional model posing behind the product, with different levels of sensuality. The data showed that the match between the seductive model and the body oil resulted in more

positive attitudes toward the advertisement (finding it more appealing) and the product when compared with their other treatments. However, the nude model/wrench set condition was perceived to be the least appealing. Building on this notion of a matchup between the product characteristics and the model endorsing it, Kahle and Homer (1985) exposed 200 men and women to ads for disposable razors with models that varied in their levels of perceived attractiveness. Their results suggested that ads featuring an attractive model resulted in more positive attitudes toward the product than those featuring an unattractive source.

Building on these studies, and particularly on those that focused the attention on the match between a model's attractiveness and the product characteristics, Solomon et al. (1992) introduced the *beauty* matchup hypothesis to account for more subtle differentiations among positive sources (i.e., models) that interact with product images to assess ad effectiveness than the model introduced by Kamins (1990). Their study showed that particular products were associated with specific types of good looks, such that *Cosmopolitan* magazine was better advertised when using models that highlighted the sexual emphasis of the magazine, and products such as Chanel perfume were better matched with models with a "classic beauty" look. The beauty match up revision posited that a model's particular type of beauty, and associated image, is paired with a specific product to enhance the acceptance of the ad (vs. positing that simple good looks are enough to influence product and ad evaluation). It also specifies that consumers can differentiate among multiple types of good looks among different models, and that in advertising, certain beauty ideals are more appropriately paired with certain products. A plethora of research shows the effectiveness of using attractive rather than unattractive endorsers and models in advertising and promotions (Baker & Churchill, 1977; Bloch & Richins, 1992; Solomon, Ashmore, & Longo, 1992), lending support to the notion of the matchup hypothesis.

More recently, Till and Busler (2000) exposed respondents to ads with models that either "matched" or "mismatched" the products endorsed. In particular, they investigated the relative effectiveness of ads for an energy bar promoted by an athlete in the ad (considered to be a match) or an actor (mismatch). Their results showed that respondents had more favorable evaluations when there was a matchup than when the ad featured a mismatch. Similarly, Bower and Landreth (2001) investigated the persuasive effects of manipulating the attractiveness level of the model using beauty products. Their results showed that ad effectiveness depended on whether the beauty product improved appearance (i.e., aesthetic purposes by enhancing beauty, such as jewelry and colognes) or solved appearance problems (e.g., products that serve to fix or hide beauty liabilities or flaws such as acne or dandruff), such that products that improved appearance were better matched with more attractive endorsers. Choi and Rifon (2012) analyzed the matchup among different celebrities and attractiveness (vs. technology related) products and found similar results. They concluded that a matchup between the endorser and the product enhances purchase intentions only through attitudes toward the advertisement and the brand, but not directly toward the product. In 2016, Wright called for more recent studies that investigate the matchup hypotheses in advertising and replicated the seminal work by Till and Busler (2000). The study exposed participants to ads with either an attractive or an unattractive model presented alongside an image of a fictional cologne brand called "Aerius 2." Wright's data showed (with some differences to Till and Busler's) that attitudes toward the brand were more favorable when the model was attractive (vs. unattractive), but model attractiveness did not have an effect on purchase intention.

However, there have been cases where the matchup effect was not observed. For example, Kamins and Gupta (1994) explored whether the expertise of the endorser of a computer

system (with the ad claiming that the model was the company's Chief Executive Officer) would yield more positive evaluations because of the high degree of fit between the model and the product. However, no significant differences were observed between the model's influence in the product evaluation when the advertised product was a shoe or the computer system. According to Wright (2016), the lack of a matchup effect in certain studies reflects that perceived congruence between products and models may be more dynamic and contextually dependent than previously theorized. Wright (2016) cites Bower and Landreth's (2001) study that found that ad effectiveness (per the matchup hypothesis) depended on whether the advertised product enhanced or solved appearance problems. In a similar line, Mundel & Huddleston (2017) explored the effects of featuring models with different body sizes in ads for fast food brands (McDonalds and Subway). It was expected that featuring endomorphic (vs. mesomorphic) models in fast food ads would result in more positive attitudes toward the ad and toward the product, as per the matchup hypothesis, and results showed that ad evaluations were more positive for McDonalds when the model was endomorphic than mesomorphic. However, this trend was reversed with Subway, where ad evaluations were more positive for ads with mesomorphic models than for ads with endomorphic models (Mundel & Huddleston, 2017). These results might indicate that when the product is perceived to be healthier, a model with a fit body is better suited to advertise the product (and vice versa). Yet, there is a dearth of literature examining the congruence between models with different body sizes and products with varied levels of perceived healthfulness. Thus, it is considered meaningful to investigate how perceived healthfulness of the advertised product affects participants' evaluations of the model featured in the ad, and in turn, of the product and the brand.

Given the need to further the understanding of the matchup effects between models and different product types (Wright, 2016), and that there is an overrepresentation of models with idealized bodies in advertising (Elliott & Elliott, 2007), this dissertation hypothesizes that social media ads that match up the food's healthfulness to the body composition of the model will evoke more favorable responses, including ad, product, and brand attitude, as well as greater viral behavioral intentions and purchase intentions.

H4: Participants' (H4a) attitudes toward the ad and (H4b) the product, (H4c) viral behavioral intentions, and (H4c) intentions to purchase the product will vary between idealized, average, and overweight looking models at a greater magnitude when the ads feature a healthy than an unhealthy snack.

CHAPTER 4

METHODS

Four studies were conducted for this dissertation, three pretests to identify stimulus products and test stimulus materials (e.g., brands and models), and the main study, an online experiment.

Study 1 – Snack Pretest

Design

A major focus of this research was to identify those snacks that are perceived to be beneficial or detrimental to one's health. To identify and select the snack foods featured in the advertisements, a pre-test was conducted among students from a Michigan State University. The goal of this pre-test was to determine consumer familiarity with, past consumption of, and attitudes toward different snacks, and to select stimulus snacks that consumers perceive to promote either healthy or unhealthy food products. In order to pre-test meaningful snacks, in other words, those that were appropriate for the healthy or unhealthy categories, two lists of healthy and unhealthy snacks were identified to enhance the study's external validity by using real companies (brands). A list of the healthiest snacks in the U.S. was obtained from *Lab42*, a market research company that published a white paper entitled "A closer look at healthy snacking" (Lab42, 2013). This selection is considered appropriate given that the snacks listed were chosen based on the foods' caloric content, fat and sugar proportion, but also the sales volumes of each snack product. The healthy products selected to be pre-tested were granola, Greek yogurt, nuts, dried fruit, baby carrots, and hummus. To match these six healthy snacks, a

list of unhealthy snacks was identified. These snacks were chocolate cookies, chocolate spread, chocolate bars, cheese puffs, cereal bars high in sugar and potato chips (Meyers, 2014).

Participants

Forty undergraduate male students were recruited from a student pool at Michigan State University and offered extra credit for participation. Slightly more than half (51.4%) of this convenience sample were juniors, followed by seniors (21.6%), sophomores (18.9%), and freshmen (5.4%), and graduate students (2.7%). 59.5% of the sample was white, with most respondents (64.8%) reporting affluent family incomes ($100,000 or more yearly). The mean age was 22 years old, ranging between 19 and 31 years old.

Measures and Procedures

Students completed short self-administered questionnaires including questions measuring familiarity with the snack foods described above (a seven-point semantic differential scale anchored by 1= unfamiliar and 7= familiar), attitudes toward those products using a three item, seven-point semantic differential scale (MacKenzie & Lutz, 1989), and perceptions of the product as being healthy using a three item, seven-point semantic differential scale. Those snacks with similar ratings on the attitude scales were selected for the main study. To assess attitudes for the pretest snacks, the three attitude items were combined to form a scale for each product (α ranged from .90 to .98). Similarly, the items related to healthfulness were combined (α ranged from .74 to .97).

Results

Means and standard deviations for all these measures are presented in Table 1.

Table 1: Product Pretest

	FAMILIARITY		PAST CONSUMPTION		ATT PRODUCT		PERCEIVED HEALTHFULNESS	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Granola	5.42	1.77	4.79	6.31	5.28	1.28	5.33	1.25
Greek Yogurt	5.08	2.08	3.82	4.62	5.45	1.22	5.78	1.08
Nuts	5.79	1.66	5.24	6.11	5.39	1.51	5.38	1.39
Dried Fruits	2.24	1.68	1.82	1.81	4.66	1.45	4.95	1.51
Carrots	5.74	1.74	5.30	5.30	5.37	1.51	6.26	0.92
Hummus	2.73	2.04	2.59	3.41	4.39	1.81	5.09	1.58
Cookies	6.16	1.09	3.92	4.97	5.13	1.60	2.83	1.24
Chocolate Spread	5.34	1.92	1.97	3.12	4.78	1.65	3.24	1.40
Chocolate Bars	6.27	1.07	3.84	4.68	5.11	1.60	2.70	0.95
Cheese Spread	6.26	1.35	5.00	5.73	4.96	1.71	2.87	1.10
Cereal Bars	4.81	2.01	2.30	2.95	4.61	1.20	3.48	0.98
Chips	6.37	0.91	5.82	6.67	5.02	1.48	2.70	1.04

Given these results, the snacks selected for the main study as being the healthiest were baby carrots ($M = 6.26$, $SD = 0.92$), Greek yogurt ($M = 5.78$, $SD = 1.08$), and nuts ($M = 5.38$, $SD = 1.39$). The three unhealthy snacks selected for the main study were potato chips ($M = 2.70$, $SD = 1.04$), chocolate bars ($M = 2.70$, $SD = 0.95$), and cookies ($M = 2.83$, $SD = 1.24$). Paired samples t-tests were run comparing participants' attitudes toward the product to ensure there were no significant differences between the pairs of healthy and unhealthy products: baby carrots/potato chips ($t\ (37) = 1.00$, $p > 0.05$), Greek yogurt/ chocolate bars ($t\ (36) = 1.23$, $p > 0.05$), nuts/ cookies ($t\ (37) = 1.02$, $p > 0.05$).

Study 2 – Stimulus Development

To control for past brand exposure experience, this dissertation used foreign brands for the products selected from the pre-test. The use of foreign brands (vs. brands available in the respective market) was recommended given that it allows the researcher to have more control over past brand exposure experience, therefore allowing an examination of the experimental manipulation in isolation of previous attitudes toward the brand (Nelson, Keum, & Yaros, 2004; Schneider & Cornwell, 2005).

Based on Ma's (2013) procedures, we included 12 British brands and 12 Australian brands for a pilot study. These included four potato chips brands (i.e., Walkers, Smith's, Nando's, McCoy's), four chocolate brands (i.e., Topic, Cadbury Dairy Milk, Haigh's, Pod's), four cookies brands (i.e., Maryland, Drizzles, FOX's, Arnott's), two baby carrots brands (i.e., Organix, Um, Goodies, Only Organic), four yogurt brands (i.e., Liberté, Muller, Vaalia, Tamar Valley), and four nut brands (i.e., Sensations, KP, Nobbys, Lucky). For the main study, the brands with lowest scores in familiarity and a score closer to the mean in perceived healthfulness were selected to control for variations in perceived brand healthfulness.

Measures and Procedures

40 undergraduate male students were recruited from a large Midwestern university and offered extra credit for participating. Students completed a short online questionnaire including questions measuring brand familiarity (a seven-point semantic differential scale anchored by familiar/unfamiliar), a three item 7-point scale measuring attitudes towards the brand (MacKenzie & Lutz, 1989), and a three item 7-point scale measuring and perceived brand healthfulness (Bauer et al., 2013).

Table 2: Brand Pretest Results

	Familiarity		AttB		Perceived Healthfulness	
	M	**SD**	**M**	**SD**	**M**	**SD**
Arnotts	2.50	1.81	4.51	1.35	3.86	1.24
Maryland	2.41	1.73	3.91	1.35	3.87	1.34
Drizzles	2.76	1.92	4.15	1.28	3.82	1.39
FOX's	2.65	1.86	4.17	1.32	3.75	1.29
Walkers	3.32	2.18	3.68	1.41	3.31	1.36
Smith's	2.68	1.82	3.96	1.27	3.66	1.20
Nando's	2.56	1.74	4.09	1.28	3.70	1.30
McCoys	2.65	1.67	3.55	1.32	3.44	1.33
Topic	2.50	1.81	3.84	1.38	3.68	1.36
Cadbury	3.47	2.08	4.29	1.60	3.75	1.40
Haighs	3.32	2.23	4.56	1.56	4.20	1.28
Pod's	2.82	1.88	3.98	1.20	3.61	1.22
Liberté	3.44	1.97	4.63	1.37	4.90	1.37
Muller	3.97	2.08	4.80	1.45	5.23	1.36
Vaalia	3.29	2.14	5.13	1.37	5.25	1.39
Tamar Valley	3.35	2.23	4.85	1.36	5.22	1.17
Sensations	3.06	1.95	4.06	1.42	3.59	1.37
KP	2.79	1.89	3.90	1.14	3.90	1.17
Nobby's	2.88	1.89	4.27	1.12	4.55	1.12
Lucky	3.24	2.12	4.57	1.00	4.89	1.06

Results

After successful reliability analyses (Att_B, $\alpha = .92$; Perceived Healthfulness, $\alpha = .91$), the items were averaged and combined into individual scales. Filtering the analyses by product type (e.g., cookies), one-way analyses of variance were conducted among each product type to uncover differences among the individual brands. The results are presented below per product:

- Cookies: No significant differences were found in terms of familiarity ($F(3,132) = .248$, $p > .05$), Att_B ($F(3,132) = 1.17$, $p > .05$), or perceived healthfulness ($F(3,132) = .06$, $p > .05$) among the cookie brands.

- Potato Chips: No significant differences were found in terms of familiarity ($F(3,132) = .248$, $p > .05$), Att_B ($F(3,132) = 1.17$, $p > .05$), or perceived healthfulness ($F(3,132) = .06$, $p > .05$) among the potato chip brands.
- Chocolate bars: No significant differences were found in terms of familiarity ($F(3,132) = 1.70$, $p > .05$), Att_B ($F(3,132) = 1.68$, $p > .05$), or perceived healthfulness ($F(3,132) = 1.39$, $p > .05$) among the chocolate bars.
- Greek Yogurt: No significant differences were found in terms of familiarity ($F(3,132) = .74$, $p > .05$), Att_B ($F(3,132) = .76$, $p > .05$), or perceived healthfulness ($F(3,132) = .53$, $p > .05$) among the Greek yogurt brands.
- Nuts: No significant differences were found in terms of familiarity ($F(3,132) = .34$, $p > .05$) or Att_B ($F(3,132) = 2.04$, $p > .05$). However, a significant difference was found between the brands in terms of perceived healthfulness ($F(3,132) = 8.55$, $p = .000$) among nut brands. Thus, we selected KP, as it did not exhibit significant differences compared to the other brands.

Given that the brands for the other three snacks did not exhibit significant differences, we selected the brands based on convenience in terms of securing the snacks.

Study 3 – Model Pretest

Design

To ensure that the male models cast for the main study are perceived to have body sizes that fit the three body types described (idealized, average, overweight), a pre-test was conducted through Amazon's Mechanical Turk. Before exposing participants to the models, an illustration of the typical American male was presented to them as a reference (Spector, 2013). For each model, participants were asked to estimate the percentage of body fat and muscle in each model.

Next, they were asked to indicate whether they believed the model had an overweight, average or an idealized body. A total of 12 males with different body compositions were recruited for this pretest. The table below describes their height (in inches), weight (in pounds), and waist size (in inches), body fat and muscle percent.

Table 3: Descriptive information on models selected pretested for main study

	Height	Weight	Waist Size	Body Fat %	Muscle %
Model 1	6’	170	30”	9	91
Model 2	5’7”	230	41”	25	75
Model 3	5’11”	160	31”	13	87
Model 4	6’2”	175	31”	11	89
Model 5	6’	225	36”	16	84
Model 6	5”8’	187	34”	18	82
Model 7	5’11”	170	30”	9	91
Model 8	5’7”	197	34”	16	84
Model 9	6’1”	182	30”	8	92
Model 10	6’	180	33”	15	85
Model 11	5’11”	215	36”	17	83
Model 12	5’9”	167	32”	15	85

Participants

60 male respondents were recruited through Amazon mTurk and offered a cash incentive for participating. The majority of the sample was white (61.7%), with most respondents (51.7%) reporting modest family incomes ($10,000 to $49,000 yearly). The mean age was 22 years old, ranging between 19 and 31 years old. The mean age was 35 years old, ranging between 19 and 58 years old. Over a third of the sample reported having completed a bachelor’s degree (36%), followed by some college classes but no degree (21.7%).

Measures and Procedures

Participants completed a short online questionnaire including questions measuring model familiarity (a seven-point semantic differential scale anchored by familiar/unfamiliar), a three item 7-point scale measuring attitudes towards the model (MacKenzie & Lutz, 1989), and two questions related to the body composition of the model.

Results

After successful reliability analyses (Att_M, $\alpha = .96$), the items were averaged and combined into individual scales. Comparisons were made through an ANOVA between the models in the same body type category (i.e., overweight, average, and idealized) to ensure there were no significant differences in terms of attitudes toward the model. Models 7, 10, and 12 were discarded from future analyses because of their significantly different attitude scores toward the model ($F(659) = 29.41$, $p < .001$).

The use of the slider bar to estimate percent of body fat and muscle did not prove satisfactory, as participants' estimates of muscle and fat percent were not reflective of the study's pre-set categories. The tables below reflect the means for groups in homogeneous subsets for both muscle and fat percent as the result of one-way ANOVA analyses.

Table 4: Muscle % Estimated Average by Subset

	Subset 1	**Subset 2**	**Subset 3**
Model 2	40.71		
Model 5	42.81		
Model 12	45.21		
Model 8	47.01	47.01	
Model 11	47.56	47.56	
Model 6	52.80	52.80	52.80
Model 3	53.56	53.56	53.56
Model 9		59.31	59.31
Model 7		59.63	59.63
Model 1			61.75
Model 4			65.01
Sig.	*.05*	*.06*	*.08*

While the estimated muscle percent was lower than indicated in the guidelines offered by Brierley et al. (2016)'s study, it is possible to find within the same subset the models that were considered to belong to each body type category as reported below.

Similarly, while the data shows that participants were able to identify different subsets of models according to their body fat, the estimated percent of body fat does not reflect the guidelines described by Brierley et al. (2016). The subsets are presented below in Table 5.

Table 5: Fat % Estimated Average by Subset

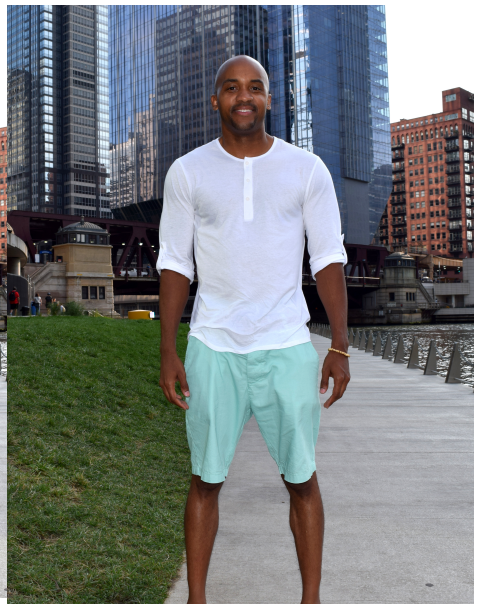
	Subset 1	**Subset 2**	**Subset 3**	**Subset 4**	**Subset 5**
Model 4	15.58				
Model 9	16.71				
Model 1	17.71				
Model 3	21.16	21.16			
Model 7	22.63	22.63			
Model 6		26.46	26.46		
Model 8			31.91	31.91	
Model 11			32.16	32.16	
Model 12			32.68	32.68	
Model 5				37.06	
Model 2					49
Sig.	*0.139*	*0.542*	*0.294*	*0.586*	*1*

Given that the slider use did not prove successful in accurately estimating body fat percentage, chi-square tests were performed over the second body type measure. The tests confirmed that there were no significant differences among models in the same body type category, but scores for the models were significantly different across categories ($X^2(20) = 618.45$, $p = .000$). Figure 1 below illustrates the selected models for the main study per category.

Figure 1: Model Pretest Results

Models with idealized bodies

Count = 48_a



Count = 54_a

Count = 45_a

Models with average bodies

Count = 42_b

Count = 42_b

Count = 49_b

Figure 1 (cont'd)

Models with overweight bodies

Count = 58_c

Count = 32_c

Count = 44_c

Each subscript letter denotes a subset of model categories whose column proportions do not differ significantly from each other at the .05 level.

Study 4 – Main Study

Design

To test the study's hypotheses, this study used a 3 (model body type: idealized vs. average vs. overweight) x 2 (Perceived snack healthfulness: healthy vs. unhealthy) x 3 (ad repetition) mixed factorial design, with all factors except ad repetition manipulated between subjects, as shown in the model found in Appendix B. Research suggests that the continued pairing of the different stimuli shown in an ad (i.e., brand, model, product) through advertising repetition increases the strength of the belief that the brand possesses the attributes advertised (Fishbein, 1967; Olson & Mitchell, 1975). In addition, ad repetition could account for variations in the effects of the ad. Thus, this study exposed participants to three similar advertisements. Using a Qualtrics-administrated panel, participants were randomly assigned to view three

Facebook ads in one of the six experimental conditions. The model with hypothesized relationships is presented in Appendix B – Model.

Participants

As in the previous studies, the population under study were U.S. male adults. Subjects were recruited through a panel service operated by Qualtrics. This panel uses a double opt-in process, where participants are initially prescreened by Qualtrics and invited to be in their database. For each particular study, Qualtrics sends a second invitation where participants have to agree to participate in the survey. As an incentive, panel members received compensation through Qualtrics' (final compensation to participant not disclosed by the panel administrator).

Four hundred and two U.S. male participants aged 20 to 85 participated in this study (M = 51, SD = 15.89). Half of the sample was aged 50 or younger. Most participants had some education, including some college but no degree (22.4%) or a bachelor's degree (28.4%). Most participants reported being employed (52.4%), and had a relatively low household income, between $10,000 and $49,999 (44.3%), followed by $50,000 to $99,999 (32.8%). Ninety-four percent of respondents were non-Hispanic, with the majority of the sample being white (86.1%).

Participants indicated frequent snacking (86%), with 53.5% of respondents indicating the consumption of snacks four or more times a week, followed by two to three times a week (32.8%). Furthermore, most participants indicated snacking once or twice a day (72.9%), followed by three or four times a day (18.7%). Thus, the sample is deemed appropriate for the study.

The panel service pre-screened the responses for missing data and delivered a data set with less than 1% of partial responses. Thus, all 402 participants were included in the analysis.

Stimulus Materials

Based on the results of the pilot studies, stimulus materials (ads) were created for each of the experimental conditions. The stimuli were Facebook advertisements for unhealthy (e.g., potato chips) and healthy (e.g., baby carrots) snacks. Each ad was shot outdoors, and featured the model holding the product. The brand's logo and a small picture of the product were superimposed over the image. To allow participants' identification of the stimuli as social media ads, each ad mimicked the aspect of a Facebook post, including a frame with the options for measuring participants' evaluations of the post (i.e., comment, like, share). Each post had a description that was adapted from other popular snack brands' Facebook pages.

Based on the pre-test results, three ads were created for each experimental condition (i.e., healthy snack X model with idealized body, healthy snack X model with average body, healthy snack X model with overweight body, unhealthy snack X model with idealized body, unhealthy snack X model with average body, and unhealthy snack X model with overweight body). Each ad featured a different model and product based on the appropriate categories. Sample ads are shown below.

Figure 2: Sample Ads Per Condition

Healthy x Idealized

Healthy x Average

Healthy x Overweight

Unhealthy x Idealized

Unhealthy x Average

Unhealthy x Overweight

Procedures

The experiment was conducted using Qualtrics.com in August 2017. Upon providing consent, participants answered screening questions (sex, weight, height, snacking behavior). Participants were then randomly assigned by the online survey system to one of six experimental conditions. In each condition, participants were exposed to three ads, each followed by questions related to attitudes toward the ad, the brand, viral behavioral intentions, perceived product healthiness, and perceived model fit with the particular advertisement and product. Following exposure to the ads, participants answered questions regarding self-esteem, questions for the body image assessment for obesity scale (BIA-O; Williamson et al., 2000), and muscularity dissatisfaction. Participants reported demographic information (e.g., age, educational level,

household income). Description of the items follow. The questionnaire is shown in Appendix A – Instruments. A correlation matrix is included in the Appendix C – Correlations.

Measures

Independent Variables

Endorser's body type is defined as the general appearance of an individual human body (Frederick, Sandhu, Morse, & Swami, 2016). Participants were randomly assigned to view three Facebook ads featuring either a model with an idealized, average, or overweight body fat. We based the distinction on the literature reviewed in the second chapter: models with idealized bodies were high on muscularity (at least 79% of their body composition) and low on fat mass (ranging between 8 and 21%). Average models had body fat ranging between 28 and 40%, and muscle mass ranging between 60 and 75% (St. Onge, 2010). Overweight models had a fat body mass above 40%. The pretest previously described was conducted on Amazon's Mechanical Turk to ensure the models selected for the study were perceived to have such body compositions. Given that the hypotheses concerned differences among exposure to idealized bodies vs. non-idealized, a dichotomous variable was created where 0 = exposure to non-idealized bodies in advertisements, 1 = exposure to idealized bodies in advertisements.

Product Healthfulness participants responded to three 7-point Likert-type items anchored by "Unhealthy/Healthy", "Harmful/Beneficial", and "Unwholesome/Wholesome" (Mundel & Huddleston, 2017). Reliability tests were successful, with Cronbach's α ranging between .81 and .97.

Ad repetition is defined as the number of ads displayed to each participant. In each condition, participants were exposed to three comparable ads, each featuring a unique combination between product and model (or no model in the control condition).

Muscularity Dissatisfaction: attitudinal preoccupations with muscle mass (McCreary et al., 2004). The seven-item muscularity attitudes subscale of the Drive for Muscularity Scale (DMS, McCreary, Sasse, Saucier, & Dorsch, 2004) was used to measure muscularity dissatisfaction. Respondents indicated to what extent the items applied to them in a scale from 1 to 7 (always, never).

Control Variables

Unhealthy snack consumption: to control for possible differences accounted for the frequency of consumption of these snacks, we included this variable in the model.

Mediators

Social Comparison: to assess participants' upward or downward comparison we followed the procedures in Vogel et al. (2014)'s study. Participants responded to the following questions: "When comparing yourself to others on Facebook, to what extent do you focus on people who are better off than you?", "When comparing yourself to others on Facebook, to what extent do you focus on people who are worse off than you?", "When comparing yourself to others on social media advertisements, to what extent do you focus on people who are better off than you?", "When comparing yourself to others on social media advertisements, to what extent do you focus on people who are worse off than you?" (1 = not at all; 7 = a great deal). Two variables were created, one for upward social comparison, and one for downward social comparison. The scales were reliable, with a Cronbach's α of .93.

Dependent Variables

Attitudes towards the Ad (A_{ad}) and Product (A_P): participants' predisposition to respond in a (un)favorable manner to a particular ad, product, or other stimuli (Choi, Miracle, & Biocca, 2001). Three seven-point semantic differential scales were used to measure attitude

toward the ad, the product, and the brand: negative/positive, bad/good, and unfavorable/favorable (Choi, Miracle, & Biocca, 2001; Coulter & Punj, 2007; MacKenzie & Lutz, 1989). The original scale, formed by the unweighted sum of four brand-related semantic differential items, had a Cronbach's α of .92 (Coulter & Punj, 2007). Reliability tests for these variables were successful, with Cronbach's α ranging between .97 and .98.

Viral behavioral intentions: this study used measures developed by Alhabash and McAlister (2014). Virality is defined as whether participants think that: (1) the ad is worth sharing; (2) they would recommend the ad to others; (3) they would like; (4) share; (5) comment on the ad on Facebook, (6) would like the Facebook page of the advertised brand, and (7) would post about the brand on their own Facebook pages. All items were measured on a 7-point Likert-type scale anchored by "Strongly Disagree" to "Strongly Agree." Reliability analyses were successful. Cronbach's α ranged between .97 and .98.

Rosenberg Self-Esteem Scale: participants' general feelings about themselves (Rosenberg, 1965). This dissertation used the Rosenberg self-esteem Scale (Rosenberg, 1965). Participants indicated their agreement with 10 statements on 7-point Likert scales (1 = not at all true, very true), such as "All in all, I am inclined to feel that I am a failure". Initial reliability was not successful. After performing a factor analysis, four items were dropped. The final variable, consisting of six items, had a Cronbach's α of .81.

Purchase Intention: participants responded to the following question: what are the prospects that you would purchase the product in the ad in the next 7 days? Three 7-point semantic differential scales (e.g., unlikely/likely) were used to indicate their intent. Reliability analyses were successful. Cronbach's α ranged between .95 and .96

CHAPTER 5

RESULTS

Manipulation Checks

Given that the use of slider bars to estimate percent of body fat and muscle failed to provide robust results, this manipulation check was based on the model body type measure, where participants were prompted to identify the model as having either an idealized, average, or overweight body. Results of the chi-square analysis (χ^2 (20) = 618.45, $p < .001$) are reflected below.

Table 6: Model Manipulation Check Results

		Perceived Model Body Type		
Condition		**OVERWEIGHT**	**AVERAGE**	**IDEALIZED**
Overweight	**Count**	**53_a**	**71_b**	**10_c**
	Expected Count	25.3	79	29.7
	% within Condition	39.60%	53.00%	7.50%
Average	**Count**	**15_a**	**91_b**	**$28_{a, b}$**
	Expected Count	25.3	79	29.7
	% within Condition	11.20%	67.90%	20.90%
Idealized	**Count**	**8_a**	**75_b**	**51_c**
	Expected Count	25.3	79	29.7
	% within Condition	6.00%	56.00%	38.10%
Total	**Count**	**76**	**237**	**89**
	Expected Count	76	237	89
	% within Condition	18.90%	59.00%	22.10%

Each subscript letter denotes a subset of Model Body Type categories whose column proportions do not differ significantly from each other at the .05 level.

The results of the table above show that overall, regardless of body type, participants tended to classify most of the models as having an average body. For the average condition, the majority of participants (67%) indicated that the models had an average body, which confirms

the manipulation for the "average" experimental condition. In the overweight conditions, 39% of participants believed the models had an overweight body, while the majority (53%) indicated the models had an average body. Similarly, in the idealized models condition, 38% of the respondents indicated the models had an idealized body, while the majority (56%) indicated the models had an average body. These results were surprising given that a pre-test was conducted to identify models that were suitable for the main study. Possible methodological reasons and the effects of these results are discussed in the limitations section. However, it is important to note that other researchers have stressed the difficulties that male samples have in judging body dimensions associated with obesity (Elliott & Elliott, 2007). A survey by Cancer Research carried out in 2012 examined 2000 adults and found that only seven percent of males correctly judged their own weight, and that there seems to be a phenomenon where bigger sizes are becoming the new normal, which leads to people not being able to recognize health problems related to weight (Parry, 2014). The results herein lend support to men's limited capacity to identify different body compositions as being healthy or unhealthy, which calls for more research to identify cues that would assist men in more accurately evaluating body composition.

To check for significant differences among perceived healthfulness of the products, the scores for the three products shown by condition were averaged into a single item ranging from 1 (unhealthy) to 7 (healthy). An independent sample t-test was conducted comparing the scores of those participants in healthy and unhealthy foods conditions. Results showed a significant difference (t (390) = 10.29, p = .000) that confirmed the manipulation was successful. Products in the healthy foods conditions were seen as healthier (M = 4.83, SD = 1.25) than in the unhealthy foods conditions (M = 4.25, SD = 1.31). Further analyses were performed to determine whether or not there were differences among each of the products shown to participants. An

ANOVA with repeated measures with a Greenhouse-Geisser correction was calculated, the mean scores for product healthfulness were statistically significantly different ($F(1.97, 9.61) = 12.13$, $p < .001$). In the healthy conditions, Organix carrots ($M = 4.97$, $SD = 1.51$) had higher scores for perceived product healthfulness than KP peanuts ($M = 4.41$, $SD = 1.59$) and Liberté yogurt ($M = 4.83$, $SD = 1.61$). In the unhealthy conditions, FOX cookies ($M = 4.40$, $SD = 1.46$) received higher scores than Cadbury chocolate ($M = 4.34$, $SD = 1.47$) and Walkers chips ($M = 4.23$, $SD = 1.62$).

Treatment Groups

To ensure that the six treatment groups were similar in terms of age, educational level, and BMI, a series of Kruskal-Wallis H tests, which allow comparison of more than two independent groups, were conducted.

A Kruskal-Wallis H test showed that there was no statistically significant difference in age between the different treatments, $\chi^2(5) = 2.54$, $p = 0.769$. Similarly, there were no significant differences in BMI ($\chi^2(5) = 6.42$, $p = 0.267$), or education ($\chi^2(5) = 3.45$, $p = 0.630$).

Table 7: Sample Description

Variables	n (N = 402)	%
Gender		
Male	402	100%
Age, mean years ± SD	50 ± 15.89	
BMI		
Healthy	130	32.3%
Average	153	38.1%
Overweight	119	29.6%
Education		
High school graduate	82	20.4%
Associate's degree	54	13.4%
Some college no degree	90	22.4%
Professional degree	5	1.2%
Bachelor's degree	114	28.4%
Graduate Degree	154	38.4%
Ethnicity		
Hispanic	24	6%
White/Caucasian	346	86.1%
Asian	20	5%
Black/African American	29	7.2%
Other	7	1.7%
Income	24	6%
Less than $10,000	178	44.3%
$10,000 to $49,999	132	32.8%
$50,000 to $99,999	46	11.4%
$100,000 to $149,999	13	3.2%
$150,000 or more	24	6%

Hypotheses Tests

To test H1, which concerned changes in participants reported self-esteem and body dissatisfaction according to the body type of the model in the ad (i.e., average vs. idealized vs. overweight), the dependent variables were submitted to a one-way ANOVA. Results showed no significant differences between condition means for either self-esteem (H1a, $F(2,399) = .586$, $p > .05$) or for body dissatisfaction (H1b, $F(2,399) = 1.18$, $p > .05$). Thus, H1 was not supported.

Given that the literature (Hargreaves & Tiggemann, 2009), shows that the degree to which participants engage in social comparison mediates the effects of advertisements on men, we conducted a mediation analysis on the effects of social comparison on self-esteem and body dissatisfaction. To test H2, regarding whether social comparison mediated the effect of exposure to idealized bodies on self-esteem ($H2_a$) and muscularity dissatisfaction ($H2_b$), PROCESS Macro (Model 4; Hayes, 2013) was used. Rather than following a more traditional approach as in Barron and Kennedy (1986) with a Sobel test, which is considered a very conservative test with very low power (MacKinnon, Warsi, & Dwyer, 1995), we used the indirect effect as the measure of mediation (Hayes & Rockwood, 2017). Hayes and Scharkow (2013) recommend using bootstrapping, a non-parametric method based on resampling with replacement. With the release of PROCESS Macros, which made macros such as SOBEL obsolete, a confidence interval for the indirect effect is computed, and it is checked to determine if zero is in the interval. If not, then it is assumed that the indirect effect is significant. It is important to note that bootstrapping does not require the assumption that paths a and b in the mediation model are uncorrelated.

To test the hypotheses, a dichotomous independent variable (i.e., exposure to ads with idealized bodies = 1, exposure to ads with non-idealized bodies = 0) was used. Given that model attractiveness was significantly correlated with the dependent variables, perceived model attractiveness was added to the model as a covariate.

For $H2_a$, indirect effects were tested using a bootstrap estimation approach with 1000 samples (Shrout & Bolger, 2002). These results indicated the indirect coefficient was not significant (b = -.02, SE =.01, 95% CI = -.07, .01). Therefore, these results do not support the mediation hypothesis (Hayes & Rockwood, 2017). Results of the different paths are presented in Table 8

Table 8: Mediation results of upward social comparison on the effects of exposure to idealized bodies on self-esteem

Paths	***Coefficient (b)***	***t (df = 399)***	***p***
Path a Exposure to idealized bodies → upward social comparison	-.361	-1.92	.06
Path b Upward social comparison → Self-esteem	.028	.83	.40
Path c Exposure to idealized bodies on self-esteem controlling for upward social comparison	-.011	-.09	.92
Patch c' Exposure to idealized bodies → Self-esteem	-.001	-.01	.99

For $H2_b$, indirect effects were tested using a bootstrap estimation approach with 1000 samples (Shrout & Bolger, 2002). These results indicated the indirect coefficient was not significant (*b* = -.039, *SE* =.02, 95% CI = -.1004, -.0042). Therefore, these results do not support the mediation hypothesis. However, other approaches to mediation analyses, such as Barron and Kenney's, could focus on the partial mediation explained by exposure to idealized bodies and upward social comparison, and through upward social comparison and the self-esteem. Results are presented in Table 9.

Table 9: Mediation results of upward social comparison on the effects of exposure to idealized bodies on body dissatisfaction

Paths	***Coefficient (b)***	***t (df = 399)***	***P***
Path a Exposure to idealized bodies → upward social comparison	-.361	-1.92	.05
Path b Upward social comparison → Body dissatisfaction	.11	3.52	.001
Path c Exposure to idealized bodies on body dissatisfaction controlling for upward social comparison	.09	.76	.44
Patch c' Exposure to idealized bodies → Body dissatisfaction	.13	1.10	.26

Further analyses were conducted to evaluate whether perceived model attractiveness influenced the results reported above. Simply put, we were curious to understand whether models perceived to be more attractive could influence participants' reported self-esteem and body dissatisfaction. A 2 X 3 (attractiveness X model body type) factorial analysis of variance tested the effects of perceived model attractiveness and condition on self-esteem. Results indicated a non significant main effect for attractiveness, $F(1,205) = 3.34$, $p > .05$. The main effect for the model body type was not significant either, $F(2,205) = .28$, $p > .05$. Similarly, the interaction between the two factors was not significant, $F(2,205) = .26$, $p > .05$, indicating that perceived model attractiveness was not a source of significant variation for participants' self-esteem. Results are shown on Table 10.

Further, a 2 X 3 (attractiveness X model body type) factorial analysis of variance tested the effects of perceived model attractiveness and condition on body dissatisfaction. Results indicated a non significant main effect for attractiveness, $F(1,205) = .63$, $p > .05$. The main effect for the model body type was not significant either, $F(2,205) = .04$, $p > .05$. Similarly, the interaction between the two factors was not significant, $F(2,205) = .63$, $p > .05$, indicating that

perceived model attractiveness was not a source of significant variation for participants' body dissatisfaction.

Table 10: Average Self-esteem and Body Dissatisfaction per condition and perceived model attractiveness

Perceived Attractiveness	Model Body Type	Self-esteem		Body Dissatisfaction	
		M	SD	M	SD
Not attractive	Overweight Body	5.27	1.26	3.90	1.21
	Average Body	5.17	1.14	3.86	0.90
	Idealized Body	5.50	1.13	3.74	1.44
Attractive	Overweight Body	5.60	1.28	3.94	1.21
	Average Body	5.68	1.19	3.96	1.18
	Idealized Body	5.67	1.42	3.99	1.10

H3 concerned whether or not the conditions would influence participants' perceptions of the products' healthfulness. A one-way ANOVA was conducted comparing participants' ratings of product healthfulness by condition. Results showed a significant difference ($F(5,396) = 2.69$, $p = .02$), indicating that in the unhealthy conditions, participants perceived the products to be less healthy when the model was overweight than in the other conditions. On the other hand, in the healthy products conditions, participants perceived the snacks to be healthier when the model had an idealized body than in the other conditions. H3 was supported. Results are summarized in Table 11.

Table 11: Perceived product healthfulness by condition

	Idealized		Average		Overweight	
	M	SD	M	SD	M	SD
Healthy Products	4.97	1.32	4.62	1.54	4.62	1.20
Unhealthy Products	4.40	1.38	4.40	1.35	4.17	1.36

The last set of hypotheses dealt with the main effects of product healthfulness and models' body type and their interaction on attitudes toward the ads (H4a), attitudes toward the products (H4b), viral behavioral intentions (H4c) and intentions to purchase the products (H4d). To analyze these relationships, we used a 2 (product healthfulness) x 3 (models' body type) x 3 (message repetition) repeated measures ANOVA.

Attitudes toward the Ad. The analysis revealed that there was not a significant main effect of message repetition on A_{ad}, $F(2, 792) = 1.60$, $p = .20$. The main effect of model body type on A_{ad} was significant, $F(2, 396) = 4.09$, $p < .05$, $\eta^2_p = .02$. Participants expressed more favorable attitudes towards the ad when exposed to models with idealized bodies ($M = 4.73$, $SD = .12$) than in ads with average ($M = 4.48$, $SD = .12$) or overweight models ($M = 4.24$, SE = .12). Results are illustrated on Figure 3. The main effect of snack healthfulness was not significant, $F(1, 396) = 1.19$, $p > .05$. The effect of model body type x snack healthfulness interaction on A_{ad} was not significant, $F(1, 396) = 0.12$, $p > .05$. Additionally, a quadratic trend three-way interaction among model body type, snack healthfulness, and message repetition was not significant, $F(2, 396) = .91$, $p > .05$. H4a was not supported. Average means for the six experimental conditions are presented on Table 12.

Figure 3: A_{Ad} by condition

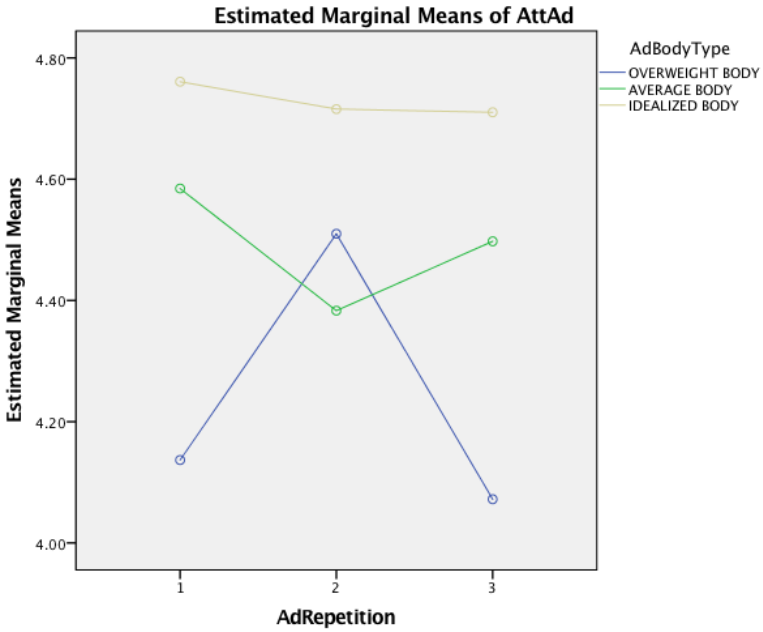
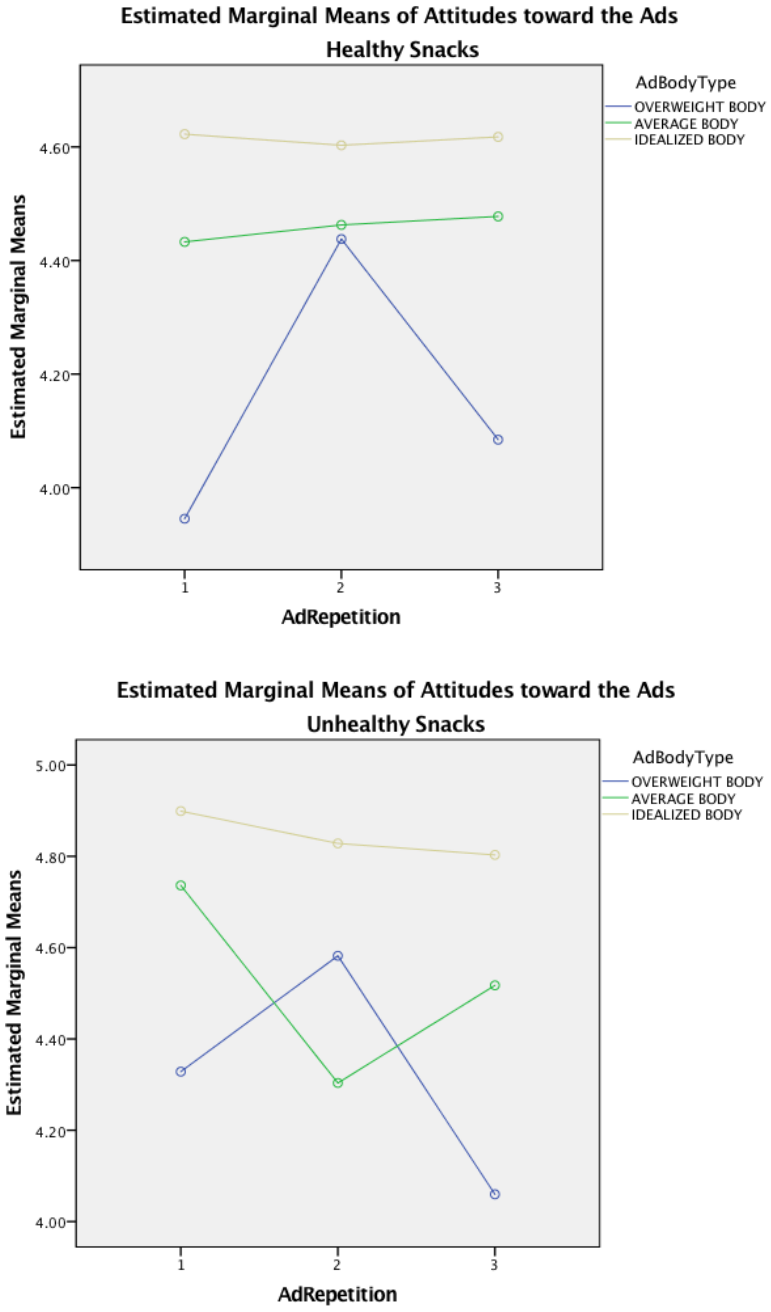


Table 12: Average A_{ad} according to body type and snack healthfulness

Body Type	Snack Healthfulness	M	SE
Overweight body	Unhealthy	4.15	0.17
	Healthy	4.32	0.17
Average body	Unhealthy	4.45	0.17
	Healthy	4.51	0.17
Idealized body	Unhealthy	4.61	0.17
	Healthy	4.84	0.17

Figure 4: Ad Repetition by Body Type by Snack Healthfulness Three Way Interaction for A_{Ad}



Attitudes toward the Product. The analysis revealed that there was a significant main effect of message repetition on A_P, $F(2, 792) = 4.13$, $p = .02$, $\eta^2_p = .01$. The main effect of model body type, however, was not significant, $F(2, 396) = 2.35$, $p > .05$. The main effect of snack healthfulness was not significant either, $F(1, 396) = 1.23$, $p > .05$. The effect of model body type

x snack healthfulness interaction on A_P was not significant, $F(2, 396) = 0.11$, $p > .05$. Additionally, a quadratic trend three-way interaction among model body type, snack healthfulness, and message repetition was not significant, $F(2, 396) = .18$, $p > .05$. H4b was not supported. Average means for the six experimental conditions are presented on Table 13.

Table 13: Average A_P according to body type and snack healthfulness

Body Type	Snack Healthfulness	M	SE
Overweight body	Unhealthy	4.31	0.17
	Healthy	4.53	0.17
Average body	Unhealthy	4.59	0.17
	Healthy	4.66	0.17
Idealized body	Unhealthy	4.70	0.17
	Healthy	4.88	0.17

Viral Behavioral Intentions. The analysis revealed that there was not a significant main effect of message repetition on VBI, $F(1.98, 785.11) = 1.90$, $p > .05$. The main effect of model body type, was not significant, $F(2, 396) = 0.42$, $p > .05$. The main effect of snack healthfulness was not significant either, $F(1, 396) = 1.23$, $p > .05$. The effect of model body type x snack healthfulness interaction on VBI was not significant, $F(2, 396) = 0.74$, $p > .05$. However, a quadratic trend three-way interaction among model body type, snack healthfulness, and message repetition was significant, $F(2, 396) = 4.54$, $p = .01$, $\eta^2_p = .02$. Overall, participants exhibited stronger viral behavioral intentions when exposed to ads for healthy products featuring a model with an average body, than when exposed to unhealthy products with an average model. H4c was partially supported. Average means for the six experimental conditions are presented on Table 14.

Table 14: Average VBI according to body type and snack healthfulness

Body Type	Snack Healthfulness	M	SE
Overweight body	Unhealthy	1.88	0.16
	Healthy	1.92	0.16
Average body	Unhealthy	1.81	0.16
	Healthy	2.23	0.16
Idealized body	Unhealthy	1.95	0.16
	Healthy	2.09	0.16

Figure 5: Ad Repetition by Body Type by Snack Healthfulness Three Way Interaction for VBI

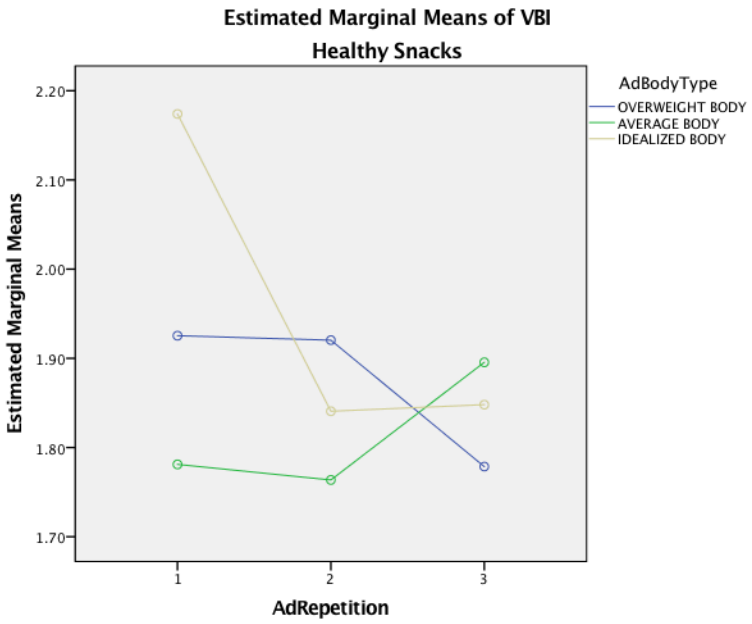
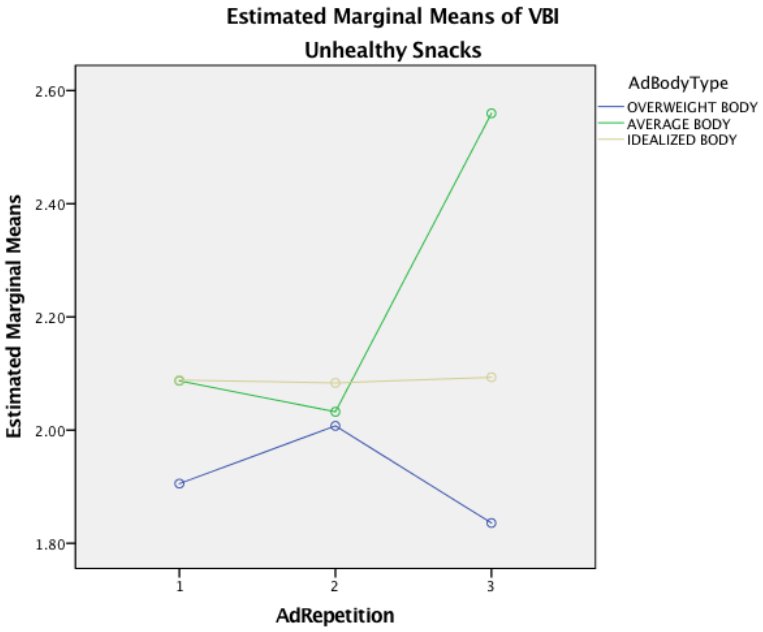


Figure 5 (cont'd)



Purchase Intentions. The analysis revealed that there was a significant main effect of message repetition on PI, $F(2, 792) = 7.02$, $p = .001$, $\eta^2_p = .02$. The main effect of model body type, however, was not significant, $F(2, 396) = 0.26$, $p > .05$. The main effect of snack healthfulness was not significant either, $F(1, 396) = 2.44$, $p > .05$. The effect of model body type x snack healthfulness interaction on PI was not significant, $F(2, 396) = 1.42$, $p > .05$. Additionally, a quadratic trend three-way interaction among model body type, snack healthfulness, and message repetition was significant, $F(2, 396) = 4.20$, $p < .05$, $\eta^2_p = .02$. Overall, participants reported stronger purchase intentions when exposed to ads for healthy snacks than for unhealthy snacks. Further, those exposed to models with overweight bodies in the healthy snacks condition expressed stronger PI than any of the other conditions. H4d was partially supported. Average means for the six experimental conditions are presented on Table 15.

Table 15: Average PI according to body type and snack healthfulness

Body Type	Snack Healthfulness	M	SE
Overweight body	Unhealthy	3.61	0.21
	Healthy	4.29	0.21
Average body	Unhealthy	3.78	0.21
	Healthy	3.82	0.21
Idealized body	Unhealthy	3.86	0.21
	Healthy	3.95	0.21

Figure 6: Ad Repetition by Body Type by Snack Healthfulness Three Way Interaction for PI

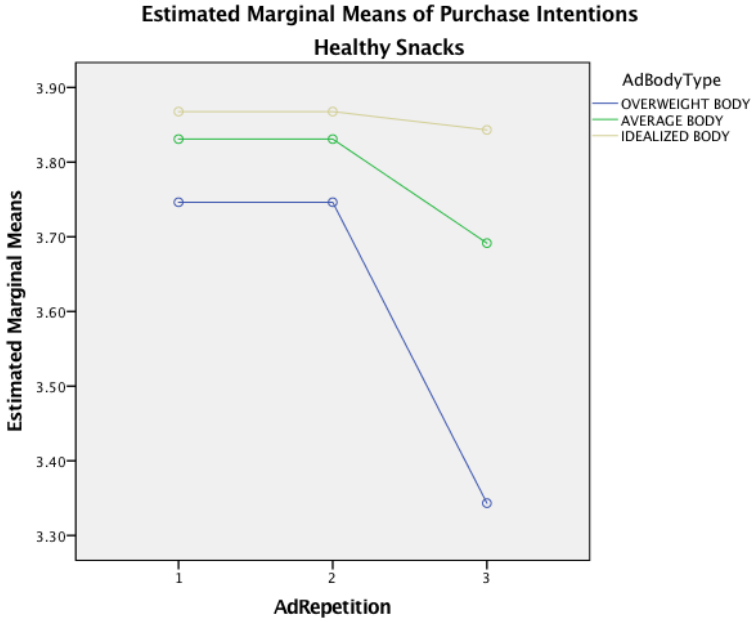
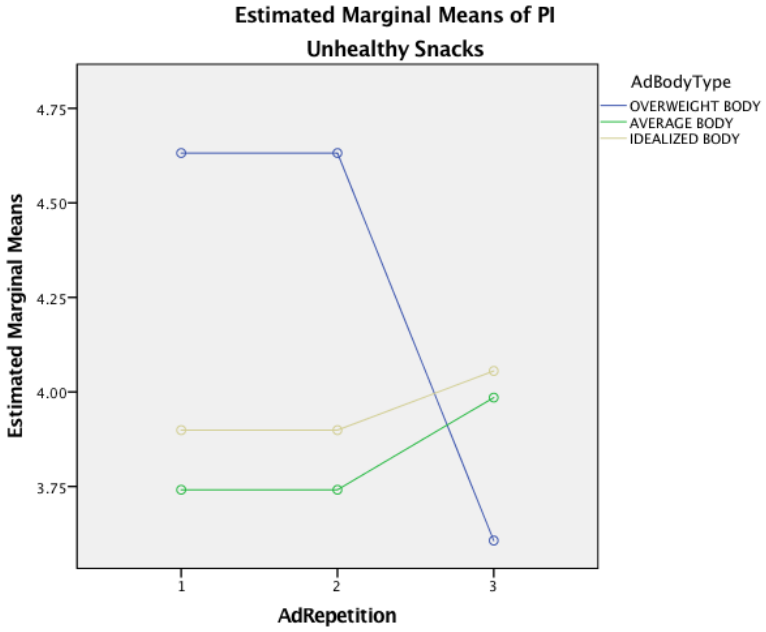


Figure 6 (cont'd)



CHAPTER 6

DISCUSSION AND CONCLUSIONS

While it is widely recognized that food marketing is one of the main culprits for increasing obesity and eating disorders in the United States (Chandon & Wansink, 2011), researchers are becoming increasingly aware of the risks associated with exposure to food-related content in the image driven social media environment. In addition to the normative body images projected by peers, the mainstream media, and traditional ads, social media sites reinforce messages supporting thin and muscular bodies with images of idealized bodies. SNS go beyond the portrayal of a particular type of beauty, and users accompany images showcasing idealized bodies with disturbing hashtags (e.g., #thinspogram #thighgap or #bonespo) and inspirational messages (e.g., "skip dinner, be thinner"). This is problematic because while social media amplifies behaviors associated with eating disorders (e.g., body dissatisfaction, low self-esteem), there is also a constant stream of ads promoting foods that are high in caloric content, high in sugars and saturated fats, and low in nutrients (Seiders & Petty, 2004). This dissertation further summarized research on food distribution showing that unhealthy foods make their way into different spheres of a person's life through vending machines and distribution among cafeterias and convenience shops (Chandon & Wansink, 2011). The need for more research, both for foods contributing to obesogenic outcomes and body representations in advertisements, becomes apparent.

In this dissertation, participants' responses to healthy and unhealthy snack ads were explored using two main frameworks: social comparison (Festinger, 1951) and the matchup hypothesis (Kamins, 1990). Social comparison operates under the assumption that humans have

a drive for continual improvement, and for an individual to know what changes need to be made, individuals compare themselves with other agents in the environment. Previous research has shown that social comparison of physical appearance often results in upward comparison, and that this type of comparison results in negative self-evaluations. We examined whether upward social comparison would mediate the relationship between participants' exposure to idealized bodies and their reported self-esteem and body dissatisfaction. The mediational analyses, as well as the analyses of variance, showed no significant differences in self-esteem when participants engaged in upward social comparison. These results highlight the need for more research to reach more definitive conclusions about the effect of mediated images reflecting a particular standard of beauty on male self-esteem. While a number of studies showed that participants reported lower levels of self-esteem after being exposed to idealized bodies (e.g., Petty, 2010; Tiggemann & McGill, 2004), this dissertation does not lend support for this hypothesis. Other lines of research had suggested that the negative scores on self-esteem as result of exposure to idealized bodies could be explained by the respondents' BMI (Henderson-King & Henderson-King, 1997). However, we did not find significant differences in participants' self-esteem between groups of respondents with different BMI. The study outcomes might be a function of the models cast for the stimuli. Models with more defined bodies might trigger different evaluations among male participants. It is also possible that the male population might be less susceptible to changes in self-esteem as the result of exposure to ads than female samples, which are frequently the subject under study in social comparison research.

Further, we tested the relationship between exposure to idealized bodies and upward social comparison on participants' body dissatisfaction. The mediation analyses did not lend support for full mediation. However, we found that participants who were exposed to ads with

idealized bodies reported higher upward social comparison scores than those in the other conditions. Our results also show that upward social comparison was a significant predictor of body dissatisfaction, which is in line with previous research on upward social comparison (Morrison et al., 2004; Suls, Martin, & Wheeler, 2002; Wheeler & Miyake, 1992).

Further, we were concerned with the effects of perceived attractiveness on participants' self evaluations. Previous research has shown that physically attractive models generate more favorable attitudes because the beauty of the model has an effect on product evaluations (Kim & Sohn, 2016). Morrison et al. (2004) suggested that universalistic targets (i.e., the mass media) elicit greater pressure to conform to idealistic standards of attractiveness than particularistic targets (i.e., friends). However, we did not find attractiveness to explain variance in our hypotheses. Future studies could benefit from using a single model whose body is digitally manipulated to avoid differences in model attractiveness. Overall, the results suggest that men might be less likely to experience negative feelings towards themselves as the result of media exposure than was reported by Morrison and colleagues (2004).

The match up hypothesis posits that consumers tend to have more favorable evaluations of ads and products when the cues in the ad "match" or fit well together (Landreth, 2001). Based on our own preliminary study (Mundel & Huddleston, 2017) and the literature (Till & Busler, 2000; Wright, 2016), we expected participants to perceive healthy snacks as being healthier when the model had a fit body (i.e., a match between endorser and product type) than in the other conditions. As hypothesized, results showed that participants perceived the snacks to be less healthy when the model was overweight than in the other conditions. Further, participants perceived snacks to be healthier when the ads featured a model with an idealized body than in the other conditions.

Further, we expected participants to report more positive attitudes towards the ads and the products when exposed to models whose weight matched the healthfulness of the stimuli. In line with previous studies, that showed that attractive models often result in more favorable ad and product evaluations (Kim & Sohn, 2016), results showed that participants expressed more favorable attitudes towards the ad when exposed to models with idealized bodies than when exposed to ads in the average and overweight models conditions. However, the results indicate that perceived healthfulness did not significantly interact with the body conditions, and that perceived healthfulness was not a significant predictor of participants' product or ad evaluations. Thus, the contribution to the literature of the match up portion of this dissertation is in the discovery of further limiting conditions of the advantages of models with idealized bodies. Conversely, using models that reflect the average American male did not hurt ad or product evaluation for snack foods social media ads. Further we compared models with idealized bodies with more ecologically valid counterpoints, such as models with average and overweight body types, which can be useful for future studies investigating the role of average-looking models on participants' self evaluations.

Future studies should investigate the importance of healthy eating and lifestyles among males to understand the relationship between product type (e.g., healthy vs. unhealthy) and self-esteem, body dissatisfaction, and ad and product evaluation. We noted boundaries for the match up effect between the independent variables (i.e., product healthfulness and model body type) and the outcome variables. This is not surprising given the number of cases in the literature where the matchup effect was not observed. For example, Kamins and Gupta (1994) showed that matching an endorser expertise to electronic products did not offer significantly better product evaluations than when featuring other types of endorsers.

We also explored the effects of exposing participants to social media ads promoting healthy (vs. unhealthy) snack foods featuring models with different body sizes. Participants' behavioral intentions to engage with the stimuli- (Facebook ads-viral behavioral intentions-VBI) were low across all conditions. However, we found a significant quadratic trend interaction among model body type, snack healthfulness and message repetition, which showed that participants reported stronger VBI for healthy snacks in ads featuring models with average bodies than in the other conditions. The low reported VBI might be the result of the stimuli. Given that the ads were modeled after the brands' social media posts, the advertisements might not have been unique or compelling enough to influence the participants' intentions to engage with them. Another possible explanation lies in men's reticence to discuss body-related issues, which could result in lower intentions to interact with ads that could trigger weight and health conversations. Further, the lack of a familiar brand name could have resulted in the overall low VBI.

In regards to implications for marketing communications practitioners, this dissertation showed that it is important for marketers to understand that the models cast for advertisements exhort an influence on consumers' perceptions of the product healthfulness as a result of the model's body type. We showed that participants perceived healthy snacks to be healthier when exposed to models with idealized bodies, and unhealthier when exposed to unhealthy snacks with overweight models. Thus, it is important for marketers to be aware of the influence the model selected for a particular ad can have a positive or negative effect on product evaluations.

The results show that overall, participants in the healthy conditions exhibited more positive attitudes and purchase intentions for products when the model featured in the ad had an idealized body, yet these ratings were not always significantly different from those exposed to

ads with models featuring non-idealized bodies. This speaks about more credible and authentic ads from food brands, where consumers could still favor an unhealthy product when presented with an ad with models with body compositions that relate to the consumption of this type of food. In the last few years, brands often known for offering unhealthy products have been taking corrective steps as the result of the pressure of activists, and more health-conscious consumers are shifting their business to brands that offer them alternatives (such as McDonalds burger customization and salad options). Should these pressures spill over to ad regulation, marketers could opt for including more diverse models that are congruent with the perceived healthfulness of their product portfolio. Further, marketers operating in the food industry could opt for self-regulating as a gesture of good will before governmental intervention, which could result in a stronger relationship with consumers.

Conclusions

Food marketing research shows that in the absence of health information in advertisements, such as caloric intake and nutrition information, consumers develop evaluations of the advertised product and its ingredients through different peripheral cues present in the ad (Chandon & Wansink, 2011). These cues include branding, health claims, and stimuli such as colors and the people featured in the ad. This dissertation showed that overall, participants perceived snack foods to be healthier when exposed to models with idealized bodies in the healthy products conditions, and unhealthier when exposed to models with non-idealized bodies in the unhealthy products conditions.

Further, advertisers often feature attractive models in their ads, particularly those with idealized bodies (Elliott & Elliott, 2007; Levine & Murnen, 2009) because of the effectiveness of using attractive rather than unattractive models in their promotional material. And while more

policy groups voice their concerns about the negative consequences associated with these practices on consumers' self-evaluations and subsequent eating disorders, a hard reality looms over the results of this study. Under First Amendment rights, advertisers and marketers have the freedom to best promote their products. Thus, it seems unlikely that a regulation could easily be set in place to help prevent using idealized bodies to promote unhealthy foods.

However, just as alcohol marketers have opted for self-regulation in regards to the age of the models featured in advertisements as a means to prevent underage drinking behaviors as the result of identification between the consumer and the model, food brands can choose their own strategies to promote their products. Given that scholars have posited that exposure to ads featuring models with idealized bodies can lead to depression and body dissatisfaction among males, the results of this study suggest that the use of models with non-idealized bodies in unhealthy food ads might be as effective as the "traditional" approach for some products, such as snack foods.

Limitations

There are a number of limitations worth noting. First, the results of the manipulation check for model body type are somewhat surprising given that the perception of the treatments had been successful during the model pretest. However, Sigall and Mills (1998) claim this type of outcome is not unusual for experimental designs. As per these researchers' approach, the issue is not that the experimental apparatus failed, but rather that the manipulation itself did not achieve the intended effects on the independent variable within subjects. Furthermore, Sigall and Mills (1998) claim that not seeing the desired effect on a manipulation check is not a threat to the validity of the results, as although non-significant, there was an effect of the independent variables on the outcome variables. Following Sigall and Mills (1998), if (1) there is an effect on

the dependent variables, (2) the researcher controls for other variables in the model (covariates), and (3) excluding the sampling cases who do not pass the manipulation check does not affect the results, there is no issue with the experimental design. Even more, according to John et al. (2012), proceeding with an analysis without those who failed the check could be considered cherry-picking and is a questionable practice. Future studies would perhaps obtain more robust results by having the survey panel drop the cases in which the stimuli did not achieve the intended effects on the subjects. Certain respondent panels, such as Qualtrics, allow the researcher to set parameters on whether or not to include such cases. However, this was not an option for this dissertation given limited financial resources. The results also might be explained by a lack of enough of a difference in the two model body types to trigger significant differences among conditions.

Second, while the studies described here used real foreign brands as stimuli and respondents obtained through a panel (vs. a student sample), the surveys described above were not random samples of the adult male population of the United States. Participants were randomly sampled from the virtual panels used for the various studies, but the panels themselves are not random. Future research with a more representative sample would be desirable. Future studies would benefit from using a wider range of products to assess whether or not the results in this dissertation would hold true for other product categories. It is possible that participants were not necessarily driven to evaluate the ads and focused on the snacks themselves because of the high frequency of snacking practices among this sample.

Another limitation of the current research related to the use of different pools of participants for each study is discussed in the methods section. While in some cases we used student samples, in other we used recruiting services, which might offer different outcomes.

These decisions responded to economic restrictions related to using a recruiting panel for testing each outcome. Other researchers would benefit from sampling within the same platform.

Further, when designing the ads, some models were shown looking at the camera directly, while others were shown from the side. This could have affected participants' perceptions of the model's body type. The last notation has to do with casting models from different races. Future studies should control for model race in their analyses.

Implications

This research has both practical and theoretical implications. In this study, we did not find support for the mediational effects of social comparison on men's self-evaluations. While previous research (e.g., Elliott & Elliott, 2005) indicate that idealized bodies raise comparison standards for male's own bodies and lower individual's satisfaction with their own attractiveness, this dissertation seems to show a boundary for the effects of social comparison when it comes to comparing oneself to models in snack food advertisements. Further, while most studies on body image dissatisfaction as a result of exposure to mediated images have been centered on females because of their likelihood of expressing discomfort with their own bodies than men (Eaton et al., 2012), this dissertation shows partial results suggesting that men can be negatively affected by idealized representations of male bodies, particularly for snack food ads endorsed by male models with different body sizes and compositions. This research lays the ground for further analysis of the male population.

While the results did not vary significantly, in some cases the direction of the results leaned in the direction hypothesized. Overall, participants rated healthy products to be healthier when exposed to idealized bodies than in the other conditions, and unhealthy products to be unhealthier when exposed to overweight individuals. Finally, our results showed that

respondents who engage in upward social comparison expressed less favorable attitudes toward the ad in the idealized bodies conditions. We stress the need for greater corporate responsibility from advertising agencies and food marketers. These actors could benefit from following a similar approach to the Children's Food and Beverage Advertising Initiative (CFBAI), which promotes self-regulation among food marketers for non-nutritious food among children.

Thus, as activists and associations such as the National Eating Disorder Association seek to promote regulation of models in the media, and as marketers and advertisers look to adapt to the expectations of their consumers, this dissertation offers insight on how to better approach the over-representation of models with idealized bodies across food ads.

APPENDICES

Appendix A – Instrument

INTRODUCTION

Thank you for agreeing to take part in our study.
In this study, you we are going to ask you to answer questions about certain brands and products, your satisfaction with your own body, perceptions about different social media ads, and demographic information. When you're ready, please hit the continue button (>>).

PART ONE: SCREENING QUESTIONS

We want to make sure that you are eligible for this study. Please answer the following question:

1. **What is your gender?**

☐ Female
☐ Male
☐ Transgender
☐ Otherwise not listed

2. **To the best of your knowledge, what is your current weight in lbs.?**
3. **To the best of your knowledge, what is your current height in feet and inches?**
4. **If you were to think of an ideal weight for yourself, what would that weight be in lbs.?**
5. **If you were to think of an ideal height for yourself, what would that height be in feet and inches?**

PART TWO: SNACKING BEHAVIOR

In this section, you will be asked a number of questions related to your snacking habits.

Please think about what you ate during the past week. You are going to mark the column that shows, on average, how many times you ate that particular snack. If you did not eat this food or drink this beverage during the past week, please mark "never or less than 1 per month."

How often do you have snack foods?

☐ Never
☐ Monthly or less
☐ 2-4 times a month
☐ 2-3 times a week
☐ 4 or more times a week

How many snacks do you have on a typical day?

☐ 1 or 2
☐ 3 or 4
☐ 5 or 6
☐ 7 or 9
☐ 10 or more

How often did you eat these foods in the past week?

	Never or less than 1 per week	1 per week	2-4 per week	5-6 per week	1 per day	2-3 per day	4+ per dau
Low-fat or non-fat potato chips, tortilla chips and corn chips (such as Baked Lays, Reduced-fat Doritos, Fat-Free Pringles)	☐	☐	☐	☐	☐	☐	☐
Regular potato chips, tortilla chips, corn chips and puffs (such as all flavors of Ruffles, Lay's, Pringles, Doritos, Fritos, Cheetos)	☐	☐	☐	☐	☐	☐	☐
Other salty snacks (like cheese nibs, Chex mix, gold fish crackers, Ritz Bitz)	☐	☐	☐	☐	☐	☐	☐
Candy, including chocolate, candy bars, jelly bellies, gummies and Lifesavers (**do not** include cookies)	☐	☐	☐	☐	☐	☐	☐
Low or nonfat frozen desserts such as low fat ice cream, frozen yogurt, popsicles, & sherbet	☐	☐	☐	☐	☐	☐	☐
Regular ice cream & milkshakes (include all flavors)	☐	☐	☐	☐	☐	☐	☐
How often did you eat a serving of vegetables such as green salad, peas, green beans or corn? (**do not** count fried potatoes or French fries)	☐	☐	☐	☐	☐	☐	☐
How often did you eat a serving of fruit such as a banana, apple or grapes? (**do not** count juices)	☐	☐	☐	☐	☐	☐	☐

(Neuhouser, Lilley, Lund, & Johnson, 2009) – Pearson correlations for items ranging from 0.56 to 0.87

PART THREE: AD EVALUATION

In this section, you will evaluate different Facebook ads.

[Each participant will be exposed to a total of **FACEBOOK 3** ads; either for a healthy or unhealthy product (snack foods – already pretested) with either an average or fit model] Ads will be produced for the experiment and pre-test

Please evaluate the specific AD that you just saw using the scale from 1 to 7.

Negative	☐	☐	☐	☐	☐	☐	☐	Positive
Bad	☐	☐	☐	☐	☐	☐	☐	Good
Unfavorable	☐	☐	☐	☐	☐	☐	☐	Favorable

Please evaluate the PRODUCT that you just saw featured in the ad using the scale from 1 to 7.

Negative	☐	☐	☐	☐	☐	☐	☐	Positive
Bad	☐	☐	☐	☐	☐	☐	☐	Good
Unfavorable	☐	☐	☐	☐	☐	☐	☐	Favorable

Please evaluate the PRODUCT that you just saw featured in the ad using the scale from 1 to 7.

Unhealthy	☐	☐	☐	☐	☐	☐	☐	Healthy

Harmful	☐	☐	☐	☐	☐	☐	☐	Beneficial
Unwholesome	☐	☐	☐	☐	☐	☐	☐	Wholesome

Please indicate your agreement or disagreement with the following statements regarding what you could possibly do in relation to the <u>ADVERTISEMENT</u> you've just seen. Use the scale from 1=Strongly Disagree to 7=Strongly Agree to rate each statement.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
This ad is worth sharing with others	☐	☐	☐	☐	☐	☐	☐
I will recommend this ad to others	☐	☐	☐	☐	☐	☐	☐
I will "like" this ad on Facebook	☐	☐	☐	☐	☐	☐	☐
I will "share" this ad on Facebook	☐	☐	☐	☐	☐	☐	☐
I will "comment" on this ad on Facebook	☐	☐	☐	☐	☐	☐	☐
I will "follow" the brand on Facebook	☐	☐	☐	☐	☐	☐	☐

Please use the following bipolar adjectives to rate your intentions to purchase the (PRODUCT) that you just saw using the scale from 1 to 7.

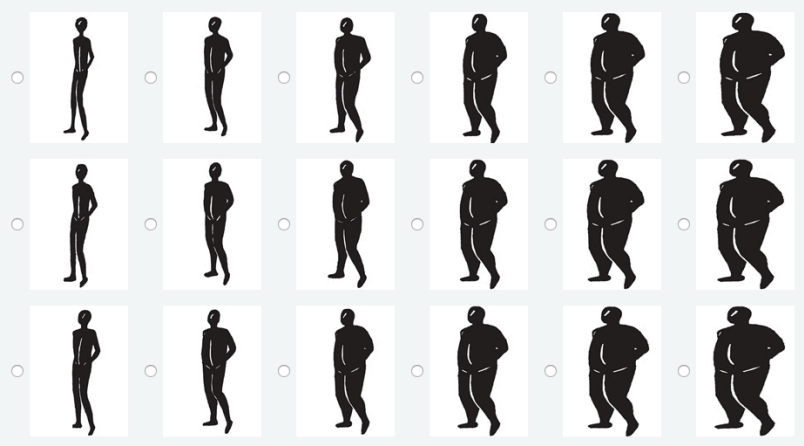
Unlikely	☐	☐	☐	☐	☐	☐	☐	Likely
Improbable	☐	☐	☐	☐	☐	☐	☐	Probable
Impossible	☐	☐	☐	☐	☐	☐	☐	Possible

Please indicate your agreement or disagreement with the following statements in relation to the <u>ADVERTISEMENT</u> you've just seen. Use the scale from 1=Strongly Disagree to 7=Strongly Agree to rate each statement.

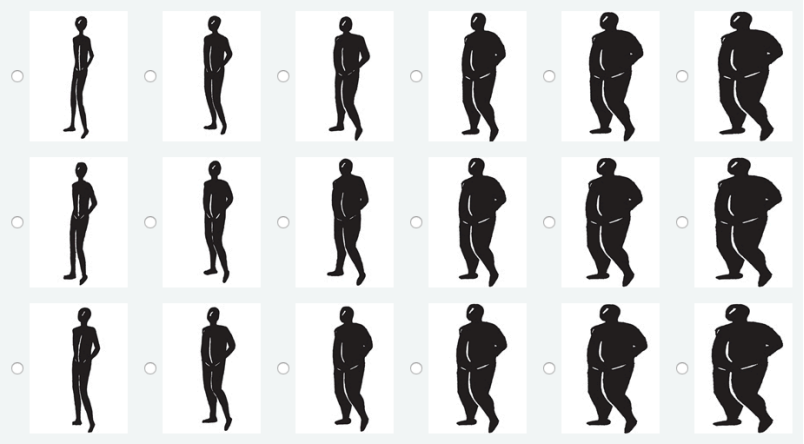
	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
In this ad, the man and product together have clear meaning to me	☐	☐	☐	☐	☐	☐	☐
It is obvious to me why they used this man to advertise this product	☐	☐	☐	☐	☐	☐	☐
It is clear to my why the advertiser put this man with this product	☐	☐	☐	☐	☐	☐	☐
I understand what the advertiser was trying to say to me about this product by using this particular man	☐	☐	☐	☐	☐	☐	☐
I see a connection between the man in the ad and the product	☐	☐	☐	☐	☐	☐	☐
Because of the man used with this particular product in the ad, I had to really question why it was there (R)	☐	☐	☐	☐	☐	☐	☐
The man's body size is acceptable for an advertisement	☐	☐	☐	☐	☐	☐	☐
The man's body size is suitable for an advertisement	☐	☐	☐	☐	☐	☐	☐
The man's body size is appropriate for an advertisement	☐	☐	☐	☐	☐	☐	☐

PART FOUR: BIA-O

Below, you can to see a number of body silhouettes presented in random order. We need you to select the silhouette that **most accurately depicts your body size as you perceive it to be**. Please be honest, accurate, and definitive. You must choose only one silhouette by clicking on the button on the left side of the image that most accurately depicts your current body size.



Next, you will see the same body silhouettes, and they will also be presented to you in random order. Please select the silhouette that **most accurately depicts the body size that you would most prefer**. Again, be honest, accurate, and definitive. You must choose only one silhouette.



PART FIVE: SOCIAL COMPARISON, SELF-ESTEEM

Please evaluate each of the following statements using the scale from 1 = Not at all to 7 = A great deal

	Not at all 1	2	3	5	5	6	A great deal 7
Social Comparison on SNS							
When comparing yourself to others on Facebook, to what extent do you focus on people who are better off than you?	☐	☐	☐	☐	☐	☐	☐
When comparing yourself to others on Facebook, to what extent do you focus on people who are worse off than you?	☐	☐	☐	☐	☐	☐	☐

Please evaluate each of the following statements using the scale from 1 = Not at all to 7 =

Extremely

	Not at all 1	2	3	5	5	6	Extremely 7
Self-Esteem (Rosenberg, 1965)							
On the whole, I am satisfied with myself	☐	☐	☐	☐	☐	☐	☐
At times I think I am no good at all	☐	☐	☐	☐	☐	☐	☐
I feel that others respect and admire me	☐	☐	☐	☐	☐	☐	☐
I feel that I have a number of good qualities	☐	☐	☐	☐	☐	☐	☐
I am able to do things as well as most other people	☐	☐	☐	☐	☐	☐	☐
I feel I do not have much to be proud of	☐	☐	☐	☐	☐	☐	☐
I certainly feel useless at times	☐	☐	☐	☐	☐	☐	☐
I feel that I'm a person of worth, at least on an equal plane with others	☐	☐	☐	☐	☐	☐	☐
I wish I could have more respect for myself	☐	☐	☐	☐	☐	☐	☐
All in all, I am inclined to feel that I am a failure	☐	☐	☐	☐	☐	☐	☐
I take a positive attitude toward myself	☐	☐	☐	☐	☐	☐	☐

Items 2, 5, 6, 8, 9 are reverse scored. Score: "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Sum scores for all ten items. Scores should be on a continuous scale. Higher scores indicate higher self-esteem.

Please evaluate each of the following statements using the scale from 1 = Always to 7= Never

	Always 1	2	3	4	6	5	Never 7
MBDS: Male Body Dissatisfaction Scale (Hallsworth et al., 2005)							
I think my chest is just the right size	☐	☐	☐	☐	☐	☐	☐
I think my thighs are just the right size	☐	☐	☐	☐	☐	☐	☐
I like the shape of my buttocks	☐	☐	☐	☐	☐	☐	☐
I think my stomach is just the right size	☐	☐	☐	☐	☐	☐	☐
I think my chest is too small	☐	☐	☐	☐	☐	☐	☐
I feel satisfied with the shape of my body	☐	☐	☐	☐	☐	☐	☐
I think my biceps are just the right size	☐	☐	☐	☐	☐	☐	☐
I think my thighs are too small	☐	☐	☐	☐	☐	☐	☐
I think that my biceps are too small	☐	☐	☐	☐	☐	☐	☐

PART SIX: DEMOGRAPHIC QUESTIONS

What is your marital status?

☐ Married
☐ Widowed
☐ Divorced
☐ Separated
☐ Never married

Which of the following best describes the area in which you live?

- ☐ Urban
- ☐ Suburban
- ☐ Rural
- ☐ Other, please specify

Please indicate your educational background

- ☐ Less than high school
- ☐ High school graduate
- ☐ Some college no degree
- ☐ Associate's degree, occupational
- ☐ Associate's degree, academic
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Professional degree
- ☐ Doctoral degree

Please indicate your occupation

- ☐ Management, professional and related
- ☐ Service
- ☐ Sales and office
- ☐ Farming, fishing, and forestry
- ☐ Construction, extraction, and maintenance
- ☐ Production, transportation, and material moving
- ☐ Government
- ☐ Retired
- ☐ Unemployed
- ☐ Student

Which statement describes best your current employment status?

- ☐ Working (paid employee)
- ☐ Working (self-employed)
- ☐ Not working (temporary layoff from a job)
- ☐ Not working (looking for work)
- ☐ Not working (retired)
- ☐ Not working (disabled)
- ☐ Not working (other)
- ☐ Prefer not to answer

Are you….

- ☐ Hispanic
- ☐ Non-Hispanic

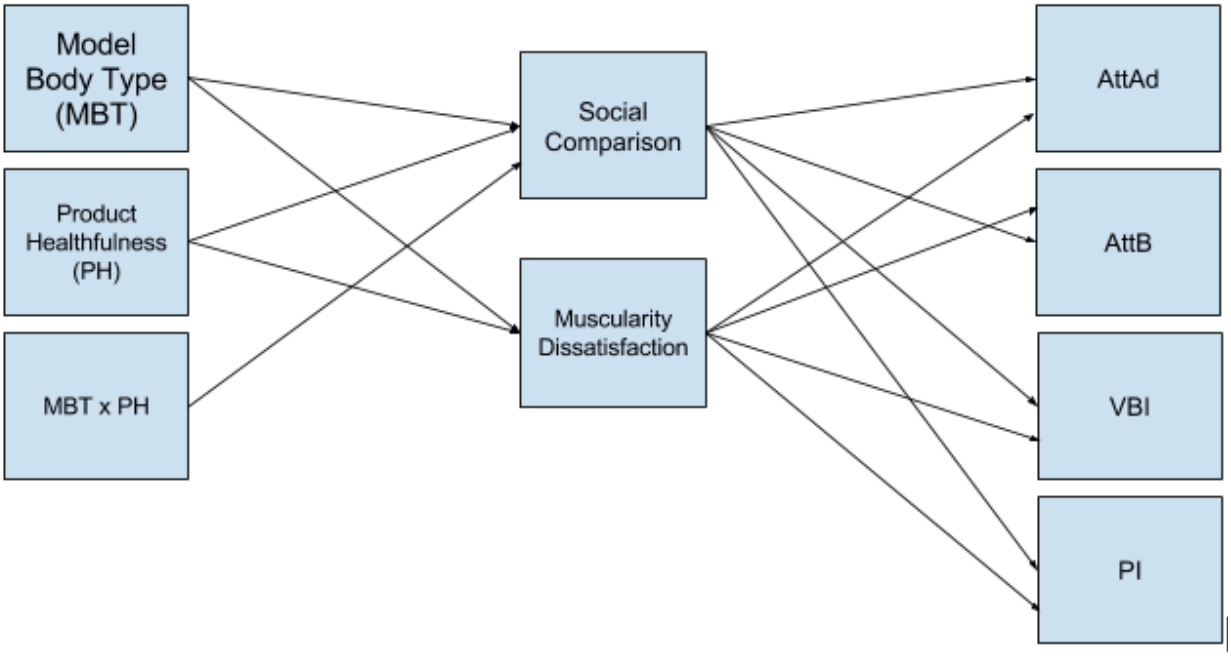
Which of the following best describes your ethnic background?

- ☐ White/Caucasian
- ☐ Black, African American, or Negro
- ☐ American Indian
- ☐ Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Other, please specify: _____

What is your family annual income?

- ☐ Less than $10,000
- ☐ $10,000 to $49,000
- ☐ $50,000 to $99,999
- ☐ $100,000 to $149,999
- ☐ $150,000 or more

Appendix B – Model



Appendix C – Correlations

		Ad Attitudes	Product Attitudes	VBI	Purchase Intentions	Perceived Model Attractiveness	Unhealthy Snack Cons.	Self-Esteem	Body Dissatisfaction	Household Income
Ad Attitudes	Pearson Correlation	1	.911**	.615**	.708**	.572**	.293**	.224**	0.023	-0.012
	Sig. (2-tailed)		0	0	0	0	0	0	0.642	0.818
	N	402	402	402	402	402	402	402	402	402
Product Attitudes	Pearson Correlation		1	.553**	.752**	.502**	.272**	.263**	-0.003	-0.052
	Sig. (2-tailed)			0	0	0	0	0	0.946	0.299
	N		402	402	402	402	402	402	402	402
VBI	Pearson Correlation			1	.684**	.484**	.478**	.215**	0.062	.098*
	Sig. (2-tailed)				0	0	0	0	0.215	0.049
	N			402	402	402	402	402	402	402
Purchase Intentions	Pearson Correlation				1	.413**	.359**	.226**	0	0.029
	Sig. (2-tailed)					0	0	0	0.996	0.567
	N				402	402	402	402	402	402
Perceived Model Attractiveness	Pearson Correlation					1	.195**	.176**	0.047	0.083
	Sig. (2-tailed)						0	0	0.352	0.098
	N					402	402	402	402	402
Unhealthy Snack Cons.	Pearson Correlation						1	.180**	0.063	.117*
	Sig. (2-tailed)							0	0.207	0.019
	N						402	402	402	402
Self-Esteem	Pearson Correlation							1	-.191**	0.019
	Sig. (2-tailed)								0	0.707
	N							402	402	402
Body Dissatisfaction	Pearson Correlation								1	0.069
	Sig. (2-tailed)									0.168
	N								402	402
Household Income	Pearson Correlation									1
	Sig. (2-tailed)									
	N									402

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

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