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**The (Ironic) Dove Effect: Usage of Acceptance Cues for Larger Body Types Increases
Unhealthy Behaviors**

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Abstract

The average weight of the population has risen rapidly in much of the world. Concurrently, in recent years, advertisers have increased the usage of larger models in their campaigns, and many of these ads claim that their larger models (as compared to thin models commonly used) possess “realistic” body types. Many groups have lauded these moves as beneficial to promoting a healthy body image in society. However, in five studies, the authors found that cues suggesting the acceptance of larger body types resulted in greater intended or actual consumption of food and a reduced motivation to engage in a healthier lifestyle. The authors suggest that one reason why being larger-bodied may appear to be contagious is that as it is seen as more socially permissible, individuals exhibit lower motivation to engage in healthy behaviors and consume greater portions of unhealthy food. The authors also contrast acceptance with communications stigmatizing various body types, and identify limitations of both approaches. The authors conclude with implications for public policy.

Key words: obesity, acceptance, stigmatization, health, public policy, social norms

In recent years, a number of health-related issues have received attention among marketers, policy makers, and social commentators. Three of these issues include 1) the rising rate of overweight and obese¹ individuals in most developed countries, 2) the effects of a model's body type in advertising or media images, and 3) the implementation of public policies that are designed to combat the obesity epidemic (e.g., food labeling laws, anti-obesity campaigns; e.g., Andrews et al. 2014; Seiders and Petty 2004). Separately, discussions on these issues have the ultimate goal of encouraging people to make better decisions regarding their health. Specifically, discourse regarding the rising rate of obesity revolves around how to combat the obesity epidemic through healthy eating, exercise, and policy, while dialogue about body images in the media tends to aim at combatting poor body-esteem and eating disorders by highlighting that most models possess body types that are very thin. At the intersection of these issues is marketers' recent usage of images of larger body types in their campaigns alongside communications suggesting that such larger bodies are accepted (or should be more accepted) by society. How the usage of these marketing communications may affect the health behaviors of consumers and how these health behaviors could have policy implications are questions that have yet to be addressed in previous research.

According to various health organizations, the average weight of individuals in many Western countries is increasing at a rapid rate, as over 2/3 of adults in the U.S. are now categorized as either overweight or obese (NHANES 2013). Since those who are overweight or obese are at a heightened risk for serious health problems, such as heart disease, diabetes, and cancer (Bianchini, Kaaks, and Vainio 2002; U.S. Dept. of Health 2000), cues in the environment that may contribute to this epidemic require the attention of policy makers, medical

professionals, and academics. Indeed, while the rising average weight has become an issue of concern among these constituents, the usage of underweight and/or “unrealistic” models in the media has also become an important issue of discussion. Because a wealth of research has shown that exposing consumers to images of models who are underweight and without imperfections can have detrimental effects on people’s physical and mental health (Groesz, Levine, and Murnen 2002; Halliwell and Dittmar 2005; Harper and Tiggemann 2008), policy makers and those in the fashion industry have taken steps to minimize marketers’ usage of such images (AMA 2011; Critchell 2012). At the same time, a number of marketers in recent years have also gone against conventional practice and featured models and body types that are larger, with several even suggesting that such models are “normal”, or “real” (i.e., accepted by society). Generally, while such campaigns that set out to enhance women’s body-esteem and protect consumers from exposure to unrealistic images have been widely applauded (Rappaport 2011), it remains unclear whether suggesting that larger bodies are socially acceptable has any problematic consequences. In other words, while policy makers and marketers have examined how different body types affect self-perceptions (Mills et al. 2002), product evaluations (Häfner and Trampe 2009) and food consumption (Campbell and Mohr 2011; McFerran et al. 2010a,b), no work we are aware of has investigated how suggestions about the *acceptance* of larger bodies affects people’s consumption and motivation towards health behaviors.

The current research does just that. In the studies that follow, we document how cues that present larger body types as acceptable can change people’s intentions to engage in a healthier lifestyle as well as their actual eating behavior. This research makes a contribution to the marketing, health, and public policy literatures by being the first work we are aware of to address

this issue empirically. We also make a contribution by identifying a mechanism that underlies this relationship between acceptance cues and adverse health decisions. Furthermore, we make a contribution to marketing and public policy by comparing how accepting larger bodies compares to stigmatizing larger bodies, a tactic sometimes used in public health campaigns. Finally, we make a contribution to public policy by demonstrating how cues that accept larger bodies can result in less support for social programs related to obesity prevention. We also discuss how the current work has implications for consumers, marketers, and policy makers and may lead to the investigation of other factors related to the obesity epidemic. In the next section, we review literatures on the usage of body types in the media, social norms regarding bodies, and how these issues involve important health consequences for the general public.

Body Images, the Media, and Health Implications

The size of models in most media has been decreasing over the years (Owen and Laurel-Seller 2000; Sypeck, Gray, and Ahrens 2004), making the usage of thin models the plurality in places such as the fashion and beauty industries (Hellmich 2006; McGevna 2009; Murphy 2012; Spettigue and Henderson 2004). There has been concern in recent years that the exposure to underweight models, or images that have been digitally altered to represent an unrealistic standard, can negatively impact how consumers view their own bodies and make decisions about their health (e.g., Halliwell and Dittmar 2005; Martin and Kennedy 1993; Stice and Shaw 1994; Richins 1991; for a review see Groesz, Levine, and Murnen 2002). As a result, policy makers have taken steps to protect consumers from advertisements that could negatively impact their body image and health. The American Medical Association (AMA) and The National Advertising Division (NAD) have both recently taken actions to address advertisers' common

practice of using tools such as Photoshop to alter the physical appearance of models in advertisements due to concerns over the negative ramifications it could have on consumers (AMA 2011; Edwards 2011). The editors of the prominent fashion magazine *Vogue* also made a commitment to “not knowingly work with models under the age of 16 or who appear to have an eating disorder” (Critchell 2012). Additionally, organizers at Madrid fashion week decided to ban models with body mass index (BMI) below the normal range (as per Centers for Disease Control and Prevention [CDC] guidelines), and other organizers of European fashion shows have considered the same policy (Povoledo 2006). Similarly, the Council of Fashion Designers of America (CFDA) introduced the CFDA Health Initiative Guideline in 2007, which called for educating models and those working with models about the dangers of eating disorders and proposed that healthy foods be provided during fashion shows and photo shoots (CFDA 2007).

Perhaps as reflections of public concern over the negative consequences associated with the usage of underweight models, some marketers in recent years have bucked the trend by utilizing larger models and communicating the acceptance of larger models in their publications and campaigns. Debenhams (a large UK department store chain), for example, now features (U.S.) size 14 mannequins in their stores, as does Åhléns, the largest department store chain in Sweden. *Vogue Italia*, a high fashion magazine, also took the unprecedented step of featuring three plus size models on their cover (Moss 2011). *Sports Illustrated* recently featured a plus size model in their annual swimsuit edition (McCall 2015). *Elle* magazine also featured plus size actresses Melissa McCarthy on the cover of their 2013 November issue and Mindy Kaling on the cover of their 2014 February issue. While praised by most, some criticized *Elle* in both cases for trying to hide the actresses’ curves and body shape (Le Tellier 2014; Thomas 2013). Famed

fashion brand Calvin Klein also created controversy by featuring a size 10 model in their new campaign. While the model is larger than the typical model, the public thought she was still much slimmer than the average American woman (Lee 2014). Consumers are frequently passionate about this topic; for instance, a high school student started a petition with the aim of persuading Disney to create a larger-bodied princess character (Beaumont-Thomas 2014). In the next section, we review the theoretical background in social norms and discuss how social norms can provide guidelines for what is acceptable in society and how marketing cues can communicate information regarding the acceptance of larger body types.

Social Norms and Consumer Behavior

Social norms are often defined as “scripts” that govern people’s behaviors in a given context and can be strong predictors of human behavior (Asch 1951; Sherif 1966; Lin, Dahl, and Argo 2013). People often behave in ways that are consistent with the norms in their social context, so they are more likely to conform to norms established by society (Sherif 1966). Often, these norms are established when people observe the behaviors of others around them (e.g., everyone is choosing the wrong answer, Asch 1951) or by cues that are present in their social environment (e.g., a parking lot filled with litter, Cialdini 2003). Work in social norms has also noted the importance of distinguishing between descriptive social norms (i.e., what *is* done) and injunctive social norms (i.e., what *ought* to be done) (Fisher 2010). Descriptive norms state facts (e.g., telling a consumer that (s)he uses less power than his/her neighbors, see Schultz et al. 2007), but do not make a value judgment about how good, bad, acceptable, harmful, or anything similar, the behavior itself is. For example, guests at a hotel were more likely reuse towels when they were told the majority of the other hotel guests were doing so (Goldstein et al. 2008).

In the context of body types, certain cues could indicate the prevalence of larger bodies as a descriptive norm (e.g., the statement “2/3 of the population is overweight or obese”), but such cues are silent about how good or bad larger bodies are. Research by Christakis and Fowler (2007), for example, showed that being larger can spread through one’s social network, as people’s weight gain was attributed to the weight gain of those close to them (but see also Cohen-Cole and Fletcher 2008; Lyons 2011; Shoham et al. 2012). In other words, weight gain may occur because people receive cues showing that the majority of their social network is larger-bodied.

Injunctive norms, on the other hand, are value judgments about a behavior’s inherent goodness (or badness). Such norms are the ones that marketers usually have more control over, and the ones we examine here. In one example, participants exposed to cues that being silent in the library is acceptable lowered their voice (Aarts and Dijksterhuis 2003). Another study found that participants who were shown messages stating that their neighbors want them to grasscycle (and also that grasscycling has “positive implications” for the environment and makes a “positive contribution” to their community) were more likely to do so (White and Simpson 2013). Injunctive norms have also been shown to have positive effects on fruit consumption intentions (Onwezen, Bartels, and Gerrit 2014), gambling (Meisel and Goodie 2014), alcohol consumption (Goldberg et al. 2006), and risky driving in teens (Simons-Morton et al. 2014).

Injunctive Norms About Larger Bodies in Marketing

Marketers frequently invoke injunctive norms about body types through cues such as images and messaging, with larger and thin bodies being both stigmatized and accepted in marketing communications. On the one hand, statements about how thin models are “abnormal”,

“problematic”, or “unrealistic” are examples of stigmatizing thin bodies because they make a value judgment regarding the body type’s “badness”; on the other hand, statements about how larger models are “real” or “normal” are examples of accepting larger bodies because they make a value judgment of their “goodness”. As a definition, we use the term “accepting” to mean the efforts marketers make to communicate, either implicitly or explicitly, that a behavior is socially permissible (i.e., we define accepting as an action, rather than as a consequence). While the usage of these cues may have become more commonplace due to the rising weight of the population (changes in descriptive norms), images of larger models alongside messages or cues suggesting the acceptance of larger bodies are injunctive norms in action.

Marketers in recent years have used various cues (both implicit and explicit) to communicate the (injunctive) norm of accepting larger bodies. While not a firm dichotomy, cues that are more implicit in nature include displaying plus size mannequins in non-plus size stores and the usage of larger models in fashion shows. The inclusion of such is a relatively subtle way to make a statement about accepting larger body types, as larger bodies are dominantly excluded in these contexts. Explicit cues, in contrast, not only include images of larger models, but also celebrate the acceptance of such models through messaging. Perhaps the most well-known example is Dove’s “Real Beauty” campaign, in which larger models were featured alongside the tagline, “real women with real curves”. Aerie, the lingerie line for the clothing company American Eagle, launched the “aerie Real” campaign, with unaltered, larger models in their advertisements (Krupnick 2014). Recently, the Lammily doll was introduced to the marketplace, with more “realistic” features such as cellulite and stretch marks (Stampler 2014). The tagline of its advertisement, “Time to Get Real”, reflected the company’s suggestion that a larger body

shape is acceptable in society. Often explicit in these campaigns is the notion that being larger-bodied is not to be shamed. Many individuals and groups have lauded these campaigns (Simmons 2006), and many have sought other companies to do the same. There seems to be few critics of companies' usage and acceptance of larger-bodied models, presumably since there is a lay belief among many that such campaigns or practices (a) reduce the stigma and prejudice felt by consumers with larger bodies (Crandall 1994), (b) discourage consumers from chasing a thin body for themselves that they likely can never attain, and/or (c) encourage consumers to be happy with their present body type, even if it is larger (Aydinoğlu and Krishna 2012; Hoegg et al. 2014). In sum, the usage of larger bodies in marketing and efforts on the part of firms to suggest the social permissibility of larger bodies (i.e., by suggesting their acceptance by society) has increased and been applauded by the public. In fact, the rare critics of these campaigns tend to critique either the firm's intent (i.e., its authenticity) or its execution, and almost never for its inclusion of those who are larger, or the explicit statements that they are "normal", or "real".

Stigmatizing or Fat "Shaming"

While accepting suggests that a behavior is socially permissible, stigmatizing suggests a behavior is socially impermissible. Previous work has examined how stigmatization influences people's attitudes toward the stigmatized target (e.g., HIV-related stigmas and homophobia; Naughton and Vanable 2012) and the behaviors of those who are stigmatized (e.g., mental illness and treatment-seeking behavior; Fung, Tsang, and Cheung 2011). Although the accepting of larger bodies has mainly been viewed in a positive light, there are a few detractors. In fact, some have taken the opposite approach to accepting: stigmatizing (i.e., "fat shaming") those who are larger-bodied. It has been suggested, even by academics, that because society has become too

socially accepting of larger bodies, people's motivation to lose weight has decreased. Bioethicist Daniel Callahan (2013) wrote in a Hastings Center report that "people don't hate being fat enough" and that shaming them would be an effective strategy for increasing weight loss motivation. That is, just as stigmatizing smoking (but perhaps not smokers, see for example Bresnahan, Silk, and Zhuang 2013) helped to decrease smoking, he and others propose that bringing shame to being larger should also motivate people to lose weight (Freind 2012). Fat shaming in the marketplace sometimes happens very explicitly, such as the "Strong4Life" campaign from Children's Healthcare of Atlanta, which featured photos of larger children with taglines such as, "Warning...It's hard to be a little girl if you're not" (Johnson 2012). Retailers have also engaged in potentially discriminatory actions. Clothing brand Abercrombie & Fitch does not carry XL and XXL size clothing and the company's CEO, Mike Jeffries, stated that his company's clothing should only be worn by attractive individuals (Lutz 2013). Similarly, the former chairperson of Lululemon, Chip Wilson, controversially stated that their pants "don't work on some women's bodies" (Lustrin and Patinkin 2013). The chain is also known to place larger-sized clothing items in the back of the store (Lutz 2013). Finally, the signing of Tess Munster, a size 22 model by MiLK Model Management (a major modeling agency in London), was criticized on the grounds that the model's size was unhealthy, because she was too large (France 2015).

Presumably, many utilizers of fat shaming strategies believe that stigmatizing larger bodies is likely to be an effective strategy to combat the obesity epidemic; however, empirical research has suggested otherwise. Stigmatized individuals often feel a sense of social isolation and rejection, which can enhance overeating and decrease motivation to engage in an active

lifestyle (Friedman and Puhl 2012; Puhl and Brownell 2006; 2003). This work shows that making larger individuals feel badly about themselves is not an effective means to motivating positive behavior, at least at the aggregate. Indeed, research suggests the stigmatization of larger individuals can even cause these individuals to engage in *more* unhealthy behaviors (e.g., consume more unhealthy goods), and increases their psychological stress (Puhl and Heuer 2010). In sum, it does not appear that stigmatizing or shaming those with larger bodies is likely to be an effective solution to the obesity problem.

Overview of the Present Research

As the noted above, there is evidence that some marketers are sending the message that being larger is acceptable, or at the very least not to be stigmatized. Several untested questions then stem from these facts. First, do such acceptance cues used by marketers alter the (perceived) social permissibility of being larger? Second, while evidence exists that stigmatizing those who are larger is not likely to improve their health outcomes, does it then follow that accepting larger bodies will result in improvement in health behaviors? Or, would accepting larger bodies have negative implications for health behaviors because being larger is perceived as more permissible? Third, what are the public policy implications of accepting larger bodies? Specifically, if larger bodies are communicated as accepted by society, does it then follow that support for social programs related to obesity prevention efforts could wane?

In five studies, we first examine whether the utilization of acceptance cues for a body shape (i.e., mannequins) affects people's evaluations of how socially permissible larger body types are (pilot study). Second, we examine how, holding body type constant, altering the message to create an impression that larger bodies are accepted can influence consumers'

consumption of an unhealthy food item (study 1), the calorie counts of their meals (study 2), and their motivation to be in better shape (study 2). Third, we contrast accepting with stigmatizing of larger bodies, and examine the motivational outcomes for consumers when a larger body (versus a thinner body) is accepted (study 3). Fourth, we investigate how these acceptance cues may influence attitudes toward overweight and obesity prevention policy programs (study 4).

We find support for four main consequences of marketers' usage of acceptance cues of larger bodies: (a) increased belief in the social permissibility of being larger-bodied, (b) decreased desires to reduce one's caloric consumption, (c) lower motivation to engage in healthier behaviors, and (d) decreased support for social programs aimed at preventing or combatting obesity. We conclude with a discussion of the implications of the current work for policy makers, consumers, and marketers and offer ideas for future research.

Pilot Study

As noted earlier, the fashion industry is often at the forefront at providing social cues and injunctive norms regarding (un)acceptable body types. Our pilot study examines whether mere exposure to mannequins that vary in body shape (thin vs. larger-bodied) influences people's perceptions of the extent to which being overweight or obese is socially permissible in society. We use mannequins for two main reasons. First, mannequins are often perceived or promoted as the ideal body shape (Dolce et al. 1987; Wallis 2014); therefore, they can be used as subtle cues in the environment that invoke an injunctive norm of the body type that is accepted in society, and represent a conservative way to test the effect of the social permissibility of being larger-bodied. Second, unlike live humans, their body shapes are easily altered without concern for

extraneous factors (e.g., face, hair, dress, demeanor) that are very challenging to manipulate cleanly in real people.

Method

Participants and Design

The study was a one-factor between-subjects design with three levels (mannequin size: thin-bodied vs. larger-bodied vs. control). One hundred and sixty-eight (168) female participants were recruited from the online survey panel, Mechanical Turk (Paolacci, Chandler, and Ipeirotis 2010) ($M_{\text{age}} = 34.74$, $SD = 12.32$). Only females were examined because they are especially susceptible to the influences of stimuli related to body image (Häfner 2009; Halliwell and Dittmar 2005), although we relax this inclusion criterion in the later studies.

Procedure

Participants were asked to imagine that they were walking on the street when they passed by a woman's clothing store. In the *thin-bodied* and *larger-bodied* mannequin conditions, there was a mannequin in the store's display window, and a photo of a mannequin was also attached. While the mannequins in the photos varied in their body shape (thin-bodied vs. larger-bodied), they had similar facial features, posture, and clothing (see web appendix for stimuli). Those in the control condition were not shown any photos of a mannequin nor was one mentioned. After the mannequin size manipulation, participants indicated the extent to which that they "feel being obese or overweight is normal", that "it is ok to be obese or overweight", and that "it is perfectly fine to be obese or overweight these days" (1 = strongly disagree, 7 = strongly agree). These items are measures of injunctive norms as they make value judgments about the (un)acceptability of being overweight or obese. A social permissibility index was created from these items ($\alpha =$

.90). Participants also completed unrelated measures that were designed to disguise the purpose of the research to participants, as well as their height and weight (solicited to later calculate their BMI). BMI did not moderate the effects in this or any subsequent study.²

Results and Discussion

Social Permissibility Index

ANOVA revealed a significant main effect ($F(2, 167) = 3.34, p = .04$). Orthogonal contrast tests showed that participants in the larger-bodied mannequin condition felt that being overweight or obese was more socially permissible ($M = 3.15, SD = 1.51$) than those in the thin-bodied ($M = 2.64, SD = 1.26$), and control ($M = 2.57, SD = 1.18; t(167) = 2.58, p = .01$) conditions. The thin-bodied and control conditions did not differ ($t < 1, ns$).

In this pilot study, we showed that merely altering the size of a cue that is often associated with the body type that is seen as acceptable in society had an effect on people's perception of how socially permissible it is to be overweight or obese. Having confirmed that even subtle (or implicit) cues can influence the extent to which consumers perceive having larger bodies to be permissible, the next studies will turn to more explicit cues of acceptance. More importantly, the studies that follow are designed to test the effects of accepting larger bodies on consequential downstream measures: people's food choices and motivation to engage in a healthier lifestyle.

Study 1

Method

Participants and Design

The study was a one-factor (advertisement: acceptance vs. plus size vs. control) between-subjects design, and 80 undergraduate students participated ($M_{\text{age}} = 19.90$, $SD = 2.18$). Similar to the pilot study, only females were recruited for this study.

Upon arrival, participants were given an opaque cup containing seven individually-wrapped chocolates (22 calories, .2 oz each), purportedly “left over from a prior experiment”, and they were free to snack on as many or as few as they wished. Participants next viewed an ad for a fictitious female clothing store before completing several unrelated studies designed to mask the purpose of the research, as well as basic demographic variables. The ad contained a photo of a larger-bodied female model, accompanied by the tagline “*For Normal Women*” (acceptance condition), “*For Plus Size Women*” (plus size condition), or “*For Women*” (control condition; see web appendix for stimuli). To confirm the model used in our acceptance and plus size conditions would be perceived as larger-bodied, we conducted a pretest where we showed the participants ($N = 16$) the photo of the model and asked them to indicate what they thought her height and weight were so we could calculate the perceived BMI. The results confirmed that the model was perceived as overweight ($M = 25.17$) based on the CDC’s classification of an overweight individual (BMI between 25 to 29.9). The model was removed in the control ad. Another pretest conducted with a separate group of 42 participants confirmed that exposure to the acceptance (vs. plus size) ad resulted in more agreement that seeing the model in the ad made them “feel like being obese or overweight is normal” (1 = disagree, 7 = agree) ($M_{\text{acceptance}} = 3.75$, $SD = 1.65$ vs. $M_{\text{plus size}} = 2.77$, $SD = 1.34$; $F(1, 41) = 4.47$, $p = .04$). The number of chocolates consumed during the session (approximately 45 minutes) served as the dependent measure.

Results and Discussion

Chocolates Consumed

ANOVA revealed a significant main effect ($F(2, 79) = 6.44, p = .003$). Orthogonal contrast tests showed that participants in the acceptance condition consumed more chocolates ($M = 4.59, SD = 2.71$) than those in the plus size ($M = 3.05, SD = 3.26$), and control ($M = 2.03, SD = 2.27; t(79) = 3.18, p = .002$) conditions. The latter two conditions did not differ ($t(79) = -1.34, ns$). The pattern of means supports our postulation that accepting the larger body *increased* consumption of an unhealthy food item.

In study 1, we showed that cues that suggest the acceptance of larger bodies has potentially negative behavioral consequences. That is, people were more likely to consume an unhealthy food item when the larger model was accepted as opposed to plus size, even though her body type was identical in both cases. This shows that the manner in which marketers frame larger bodies in their communications (i.e., suggesting their acceptability) can actually increase unhealthy consumption. Indeed, there may be backfire effects of accepting larger bodies, at least for some consumers. The result that the plus size condition did not consume fewer chocolates than the control condition may have been because the “plus size” label was not a cue that communicated the unacceptability of being larger-bodied. We will explore the effects of a cue that frames having a large body as unacceptable in study 3.

The next study aims to replicate the effect from study 1 using a slightly different manipulation. This study also extends beyond the findings in study 1 by measuring consumption tendencies through the selection of various food items, rather than giving participants a single (unhealthy) choice. Another purpose of the study is to increase the generalizability of our study 1 findings by utilizing a sample that includes both male and female participants. Finally, this study

extends the previous results by examining an additional dependent measure - assessing one's motivation to engage in a healthier lifestyle.

Study 2

Methods

Participants and Design

The study was a one-factor (advertisement: acceptance vs. plus size vs. control) between-subjects design, and 162 participants were recruited from Mechanical Turk ($M_{\text{age}} = 32.99$, $SD = 10.94$; females = 60.6%). The advertisement was similar to study 1, but we removed the tagline completely in the control condition and it read "*For Real Women*" in the acceptance condition. Not only is this a less explicit manipulation of acceptance than the one used in the previous study, it is also consistent with the message heavily marketed in Dove's Real Beauty campaign. Pretesting with a separate group of 74 participants with the same item as study 1 again confirmed the efficacy of the manipulation ($M_{\text{acceptance}} = 3.86$, $SD = 1.85$ vs. $M_{\text{plus size}} = 2.68$, $SD = 1.53$; $F(1, 73) = 9.20$, $p = .003$).

After viewing the advertisement, participants were asked to create their "ideal meal" from a list of 15 food items. Pictures of the food item and realistic calorie counts were shown (e.g., pizza slice, 300 calories), and participants could select as many or as few items as they wished by writing these items down. After the food selection task, participants rated the extent to which they "want to be in better shape" (-3 = not at all, +3 = very much). They also completed a number of basic demographic measures (e.g., gender). Gender did not have significant effects on the key measures of this study and the subsequent studies so will not be discussed further.

Results and Discussion

Total Calorie Count

The number of food items was coded and the total calorie count for the meals created was summed. Result of a one-way ANOVA conducted showed a significant main effect for the total calorie count for the meals created ($F(2, 161) = 4.25, p = .02$; see figure 1). Replicating study 1, orthogonal contrast tests revealed those in the acceptance condition created meals that contained significantly higher calorie counts ($M = 622.78, SD = 435.70$) than those in the plus size ($M = 448.21, SD = 183.57$) and control conditions ($M = 503.36, SD = 278.23; t(161) = 2.78, p < .01$). The two latter conditions did not differ ($t < 1, ns$). Interestingly, the average total number of food items selected did not differ between conditions ($M_{\text{acceptance}} = 4.31, SD = 2.13$ vs. $M_{\text{plus size}} = 3.89, SD = 1.42$ vs. $M_{\text{control}} = 3.87, SD = 1.52; F(2, 161) = 1.16, ns$), suggesting that consumers chose items with higher calorie counts (e.g., soda vs. water) rather than fewer items (e.g., eliminating an appetizer) in the acceptance condition.

Motivation

A significant main effect for motivation to be in better shape was also found ($F(2, 161) = 3.77, p = .03$), and the pattern of results was consistent with the findings for total calorie count. Those exposed to the acceptance ad had *less* motivation to be in better shape ($M = 1.53, SD = 1.64$) than the plus size ($M = 2.02, SD = 1.03$) and control conditions ($M = 2.16, SD = .96; t(161) = -2.67, p < .01$), while the latter two conditions did not differ ($t < 1, ns$).

-----Insert Figure 1 about here-----

The pattern of results from study 2 replicated those observed in study 1. We demonstrated that accepting larger bodies both increased people's tendency to choose less healthy food items and decreased their motivation to be in better shape. We also showed the

acceptance manipulation had an effect in a non-student sample and with both genders, even though the larger target in our study was a female model, suggestive of some cross-gender effect as well. Finally, this study demonstrated the acceptance effect with the language that is consistent with that used by marketers (i.e., Dove) to accept larger body types.

Study 3

To this point, our studies have focused exclusively on accepting larger bodies. The next study was designed to extend our focus in three ways. First, we sought to empirically test reactions to stigmatizing, as well as accepting, larger bodies – an important step as marketers and policy makers have utilized both strategies. While our previous studies showed that accepting larger bodies can *demotivate* consumers, might stigmatizing them be motivating? Past research would suggest this is unlikely to be the case, but to our knowledge there has not been an experimental test of this.

Second, we sought to test how consumer reactions would vary if the individual being portrayed was thin, as compared to larger-bodied. Previous work has indicated that exposure to thin images may lead consumers to eat less, relative to exposure to larger bodies (Campbell and Mohr 2011; Durkin, Rae, and Stritzke 2012; Incollingo Rodriguez et al. 2015; Krahe and Krause 2010), but research has not examined when a value judgment (i.e., an injunctive norm of its acceptability) is presented alongside such images. Third, we delve further into the possible mechanism that underlies our effects by examining whether the perception that larger bodies are socially permissible is associated with a reduced desire to engage in healthy behaviors.

Methods

Participants and Design

The study was a 2 (advertisement: acceptance vs. stigma) x 2 (size of model: thin-bodied vs. larger-bodied) + 1 (control) between-subjects design, and 516 participants were recruited from Mechanical Turk ($M_{\text{age}} = 33.42$, $SD = 12.11$; females = 47.8%). Participants were asked to view an advertisement for a local gym and fitness center. Similar to previous studies, advertisement was manipulated by the tag line that was featured with the model. Those in the *acceptance* condition saw the tagline “For Real Women” while those in the *stigma* condition saw the tagline, “Time to Slim Down”. To manipulate the size of the model, participants in the *larger-bodied* condition saw the image of a larger model while those in the *thin-bodied* condition saw an image of a thin model. Only the size of the model was varied while everything else (e.g., facial expression, clothing) was the same across the two conditions (McFerran et al. 2010a,b; see web appendix for stimuli). The plainclothes appearance of the “model” ensured that referring to her as “real” even while thin-bodied would be plausible and believable. In order to have a baseline comparison group, we also had a pure control condition, in which no model was featured and no tag line was included in the ad. After the participants viewed the ad, they indicated the extent to which they “intend to exercise today”, “will work out more often this week”, and “want to be in better shape” (-3 = not at all, +3 = very much; $\alpha = .73$). They also completed the same social permissibility items used in the pilot study and an index was created from these three items ($\alpha = .90$) to test as a process measure.

We also included measures of fat phobia and appearance self-esteem. Previous research has shown that exposure to negative images of larger individuals can result in more anti-fat attitudes (McClure, Puhl, and Heuer 2011); therefore, it is possible exposures to the acceptance cues would lead to weaker anti-fat attitudes. Fat phobia can also impact people’s motivations to

be healthier (Vartanian and Novak 2011), so people's attitudes toward larger individuals may influence their health behaviors. Previous work has also found that being presented with images of larger individuals can enhance one's own body-esteem (Roberts and Good 2010), which may in turn decrease motivation. Therefore, we included the Shortened Fat Phobia Scale (Bacon, Scheltema, and Robinson 2001), which contains 14 pairs of adjectives describing larger individuals (e.g., "lazy-industrious", "unattractive-attractive"), and the 6 item appearance-esteem sub-scale taken from the state self-esteem scale (Heatherton and Polivy 1991), which had items such as "I feel satisfied with the way my body looks right now" and "I am pleased with my appearance right now" on 5-point scales (1 = not at all, 5 = extremely). Finally, they also answered a number of demographic questions and questions about the ad.

Results and Discussion

Motivation Index

A 2 (advertisement) x 2 (size of model) ANOVA revealed a marginal interaction effect ($F(416) = 3.12, p = .08$). The main effects for advertisement ($F(416) = .96, p = .33$) and size of model ($F(416) = 1.99, p = .16$) were nonsignificant. However, planned contrasts showed that among those in the larger-bodied conditions, those who saw the acceptance ad were significantly less motivated to engage in a healthier lifestyle ($M = .62, SD = 1.51$) than those who saw the stigma ad ($M = .98, SD = 1.40; t(416) = 1.98, p < .05$). Among those in the thin-bodied condition, there was no significant difference between those in the acceptance ($M = 1.04, SD = 1.14$) and stigma conditions ($M = .94, SD = 1.25; t < 1, ns$). Those in the larger-bodied/acceptance condition were significantly less motivated than those in the thin-bodied/acceptance ($t(416) = 2.21, p = .03$) and control ($M = 1.03, SD = 1.42; t(416) = 2.19, p =$

.03; see figure 2) conditions. This is important because while accepting a larger-bodied figure decreased motivation (thus replicating our earlier results), accepting a thin-bodied figure did not *increase* motivation, as it was not significantly different from the control condition.

-----Insert Figure 2 about here-----

Social Permissibility Index

A 2 (advertisement) x 2 (size of model) ANOVA conducted on the social permissibility index revealed a nonsignificant interaction effect ($F(415) = 1.42, p = .24$). The main effects for advertisement was directional ($F(415) = 2.64, p = .11$), while size of model ($F(415) = .02, p = .88$) was nonsignificant. However, planned contrasts showed that participants in the larger-bodied/acceptance condition perceived being larger-bodied as significantly more socially permissible ($M = 2.92, SD = 1.56$) than those in the larger-bodied/stigma condition ($M = 2.53, SD = 1.23; t(415) = 2.04, p = .04$). There was no significant difference in social permissibility among those in the thin-bodied conditions; see figure 3).

-----Insert Figure 3 about here-----

Mediation Analysis

To examine whether the social permissibility index played a mediating role in the relationship between advertisement (independent variable), size of model (moderating variable), and the motivation index (dependent variable), a moderated mediation model was conducted. Contrast coding (-1, 1) was used for the categorical variables (Irwin and McClelland 2001). Following the recommendations of Preacher, Rucker, and Hayes (2007; Hayes, 2012), we ran the MODMED macro for model 2. The 95% BCa (bias-corrected and accelerated) bootstrap CI was significant for the larger-bodied condition [.0045, .0907], but not for the thin-bodied condition

[-.0314, .0445]. Since zero was not included in the lower and upper bounds of the first confidence interval, this indicated that the social permissibility index had a significant indirect effect in the relationship between the advertisement and the motivation index among those in the larger-bodied condition.

Fat Phobia Index

A fat phobia index was created from the 14-items in the scale ($\alpha = .93$). A 2 (advertisement) x 2 (size of model) ANOVA revealed a nonsignificant interaction effect ($F(413) = .55, p = .46$). The main effects were also nonsignificant. Therefore, while accepting larger bodies is likely a reflection of what is permissible in society, it did not make people feel more positively toward these individuals. Our null effect suggests a likely distinction between people's perceptions about others' outcomes (being larger-bodied) and the behaviors that produce these outcomes (sedentary lifestyles, high fat diets, see Stein and Nemeroff 1995).

Appearance-Esteem Index

An appearance-esteem index was created from the 6-items in the scale ($\alpha = .91$). A 2 (advertisement) x 2 (size of model) ANOVA revealed a marginal interaction effect ($F(413) = 2.99, p = .09$). The main effects and the main planned contrasts of interest were however nonsignificant. Therefore, it does not appear our manipulations had an effect on how people viewed their own physical appearance.

Together, our results showed that those exposed to the ad that accepted a larger model had the lowest level of motivation as compared to the other conditions. This is consistent with the results from our previous studies, which showed that accepting larger bodies can have negative implications for consumers. Although those in the stigma/larger-bodied condition

exhibited higher motivation than those in the acceptance/larger-bodied condition (and similar to those in the thin-bodied conditions), we are not suggesting that marketers and policy makers should stigmatize larger bodies and/or accept thin images. It is important to note that those in the pure control condition also had comparable level of motivation to these conditions. What we can conclude from this study is that accepting a larger image decreases short run health motivations, and there is no benefit to stigmatizing bodies of any type. The results also speak to process by showing that the observed reduced desire to be healthy is driven, at least in part, by the perceived social permissibility stemming from marketers' suggestions about the acceptability of larger bodies. Our final study extends beyond consumers' decisions regarding their own health behaviors and investigates policy implications of the current work by examining how exposure to the acceptance cues influences desired allocation of consumers' own tax dollars. Specifically, we test whether acceptance cues decrease support for overweight and obese prevention social programs (vs. other health-related social programs).

Study 4

Law and public policy makers have taken action in recent years with obesity and overweight prevention initiatives such as restricting schools on the sale of unhealthy foods (Dority, McGarvey, and Kennedy 2010; Wilson 2013) and levying taxes on sugary drinks and/or fast food (OECD 2012). While policy makers aim to influence the behaviors of their constituents through policy changes, the success of their efforts is contingent upon public support for the implementation of these policies. One measure of public support is how constituents view the allocation of their tax dollars to these efforts. Previous work has shown that consumers are generally aversive to tax payments as the personal benefits associated with government programs

are usually unclear (Lamberton 2013; Spilker et al. 2012). When a policy (or potential policy) has low public support, its chances of succeeding are low.

Based on the results obtained in our previous studies on how the acceptance of larger bodies can have negative consequences on consumer well-being, we predict that consumers who are exposed to the cue that being larger is acceptable should be less likely to allocate their tax payments to overweight and obesity prevention social programs. We base this prediction on the fact that a consequence of accepting larger bodies should be a general decrease in viewing overweight and obesity as something that needs to be changed, either at the societal level (which we test here), or at the individual level (as we have shown in our previous studies).

Methods

Participants and Design

To examine this question, we conducted a study with 106 participants from Mechanical Turk ($M_{\text{age}} = 34.38$, $SD = 12.64$; females = 51.9%). The study utilized a one-factor (advertisement: acceptance vs. stigma vs. control) between-subjects design. At the start of the study, participants were told that they would be completing a number of different tasks. Similar to study 3, participants first viewed the advertisement for a new gym and fitness center that featured the larger-bodied female model with the tagline “For Real Women” (*acceptance* ad), the tagline “Time to Slim Down” (*stigma* ad), or the ad without the model and tagline (*control* ad). As a cover story, participants were told that they would be asked to answer questions about this ad later on in the survey. After viewing the ad, participants were given the task in which they had the opportunity to allocate their tax dollars (from 0-100%) to six health-related social programs (procedure adopted from Lamberton [2013]). Specifically, they were free to allocate as much or

as little as they wished to the social programs for “people with HIV”, “seniors”, “preventing overweight and obesity”, “mentally ill”, “physically disabled”, and program to “provide healthcare for refugees”. They were also told that their allocations must add up to 100%, and the software ensured this was the case before they could proceed further. The target program was the overweight and obesity prevention program, and we predicted those in the acceptance condition would allocate significantly less to this program than those in the other two conditions.

Following the allocation task, participants provided demographic information.

Results and Discussion

Allocation to Overweight and Obesity Prevention Program

The one-way ANOVA conducted on the allocation to the overweight and obesity prevention program revealed a significant main effect ($F(2, 105) = 3.22, p = .04$). Specifically, orthogonal contrasts showed the acceptance condition allocated a significantly smaller percentage of their tax dollars to this program ($M = 8.94\%$, $SD = 7.17$) than the stigma ($M = 15.65\%$, $SD = 16.59$) and control conditions ($M = 15.43\%$, $SD = 11.50$, $t(105) = -2.54, p = .01$). The stigma and control conditions did not differ ($t < 1, ns$). Importantly, no significant main effects were found on the allocations to the other five social programs, meaning the difference found in allocations was driven by a decrease in the overweight and obesity prevention program. In sum, it appears that exposure to acceptance cues affects consumers' own unhealthy behaviors, as well as their attitudes toward policies or programs that could help combat obesity.

General Discussion

The present research demonstrated how bodies are portrayed has consequences for (un)healthy intentions and behaviors. We found that cues marketers use to suggest the

acceptance of larger bodies led to more agreement that being larger is socially permissible (pilot study), greater consumption of an unhealthy food item (study 1), creation of meals with higher calories (study 2), and less motivation to be in better shape (study 2). We also found that while stigmatizing larger bodies and accepting thinner images did not *increase* motivation to be healthier, accepting larger bodies decreased it (study 3). We were able to show the effect with different manipulations for acceptance with both genders, with student and non-student populations, and with multiple measures of food and health decisions. Finally, we demonstrated that the current work has implications for public policy, as consumers exposed to the acceptance cues preferred to allocate a smaller proportion of their tax dollars to a social program designed to prevent being overweight and obesity (study 4), suggestive of the fact they viewed being larger-bodied as less problematic, a finding that dovetails with the results of our other studies.

One of the most intriguing findings in recent years is that being larger may be socially contagious (Christakis and Fowler 2007). Although a number of follow-up work has questioned the conclusions of this research (Cohen-Cole and Fletcher 2008; Lyons 2011; Shoham et al. 2012), the general idea of being larger spreading through society is still an interesting one to consider. If being larger does indeed “spread”, mechanisms that may underlie such diffusion remain unclear. Several explanations have been suggested as plausible, and all have some face validity. For example, people with similar traits or lifestyles are more likely to be in each other’s social network, or connected individuals may be exposed to common third factors (e.g., unhealthy restaurants, unwalkable neighborhoods) that can contribute to this effect. The current research offers another potential factor that can contribute to this line of research on the contagion of being larger-bodied. Specifically, we propose that acceptance cues are associated

with an enhanced social permissibility of being larger, which may have unintended, detrimental effects. Indeed, we provide causal evidence that individuals can make poorer health choices when exposed to acceptance cues of larger bodies. As these poorer health choices can further contribute to the obesity epidemic, these seemingly innocuous cues may not only contribute to the obesity problem of individual consumers, but also groups of consumers.

Implications for Public Policy

Results from the current research provide an interesting paradox for the different stakeholders of public policy (e.g., consumers, marketers, public policy makers). Since larger bodies are being more frequently used by marketers and the usage of such images is often embraced by consumers, it may be profitable for marketers to continue to feature these images in their campaigns because consumers may view these businesses more positively than businesses that use thin images (Walsh 2015). However, from the public policy makers' perspective, and as supported by the current research, increasing the acceptance of larger bodies could result in negative consequences for consumers and society. As policy makers seek to implement policies that can help curb this epidemic, study 4 suggests that consumers who are exposed to the acceptance cues may be especially aversive to these very obesity prevention efforts. As such, there needs to be cooperation between marketers and policy makers to ensure that the well-being of consumers is protected. For example, having the awareness that marketers may prefer to use images that are consistent with current trends of society (i.e., larger models), policy makers could work with them on ensuring that healthy, and not overly large or thin models are used in ads. They could also educate both marketers and consumers (through ads or public service announcements, for example) on the negative consequences acceptance ads could have. While

we do not believe (nor have data to show) policy makers should outlaw cues of acceptance, we do believe additional care, awareness, and education should be considered when such cues are utilized. At the same time, policy makers may need to be mindful of how their own obesity prevention programs are promoted among the public. For example, they may not want to draw attention to the fact that taxpayers support some of these programs. Alternatively, they could point out the individual (and not the societal) benefits of these programs, as one of the reasons why consumers are averse to tax payments is because they fail to recognize how the tax payments that help fund social programs contribute to their individual needs (Lamberton 2013).

Taken together, our research demonstrates that it is important for policy makers and marketers to consider the outcomes of both thin and larger models in advertising. It appears that a number of proposals have begun to take shape in this avenue, but to date these are mostly voluntary guidelines. For instance, while countries such as Israel and France have legally banned the usage of underweight models and have implemented anti-Photoshop laws (Minsberg 2012; Picy 2015), these policies are still on a more voluntary basis in the U.S. Our research presents a bit of a dilemma for marketers and policy makers, as there seem to be negatives associated with several courses of action. In terms of body images, at the two extremes are thin and larger-bodied, and each of these can be encouraged (accepted) or discouraged (stigmatized) by marketers. Past research has shown that using images of larger-bodied individuals as a way to “shame” people into losing weight should also be discouraged, based on the data here and elsewhere. Our data does show that while accepting larger bodies results in more negative consequences than stigmatizing such bodies, stigmatizing fails to *improve* motivation. Based on the results from the current research (see also Campbell and Mohr 2011 and Incollingo

Rodriguez et al. 2015), it appears that the utilization of larger-bodied images still can result in negative implications for consumers, especially when such images concurrently suggest the acceptability of larger bodies.

So where does this leave us? We speculate policy makers need to be mindful in creating a good balance between using unhealthy (overly large) images while bringing awareness to the negative implications these images could have on consumers. We conjecture from the results of several studies, including ours, that drawing attention to any body size (large, small, or either) and suggesting it is an accepted standard (i.e., utilizing injunctive norms) may be a poor idea. Ads like the Dove Real Beauty campaign draw attention to one's body in a great degree. So do labels such as "plus size" (Ford 2014), perhaps especially so if the model is actually classified as normal (in the sense of BMI, such as Kate Upton, see Murphy 2012). We know from other domains that the more attention is devoted to something, the more of a source of concern it can become, and the more consumers find themselves struggling to self-regulate (Wegner et al. 1987). It is possible that efforts by those who aim to increase acceptance as well as those who stigmatize larger bodies are *both* increasing the amount of thought consumers put into their appearance, heightening the body anxiety they may already feel. Ironically, this anxiety is exactly what many "love your body" campaigns are designed to alleviate. Such anxiety is of course associated with both overeating (Polivy and Herman 2002) as well as undereating (Groesz, Levine, and Murnen 2002). Enough evidence exists from other domains to suggest that acceptance and stigmatization may not be opposite ends of a single continuum. Put another way, injunctive norm cues utilized to suggest *either* may be detrimental to public health. While

admittedly speculative, such a hypothesis seems to be a parsimonious explanation to the several findings in the literature.

As mentioned, it may be optimal from the standpoint of consumer well-being for marketers and policy makers to instead encourage the usage of images of people with a healthy weight, and refrain entirely from drawing attention to the body size issue. Such restraint may both motivate those who are unhealthily underweight and overweight to strive for something healthier. Of course, more research needs to be done to calibrate what this “healthy” image should look like and how it should be framed to increase well-being, but we speculate that explicitly presenting it (or any body) as acceptable is likely to backfire, as previous efforts seem to have. What is somewhat ironic is that in many marketers’ and policy makers’ efforts to “solve” both the body image and obesity issues, the best medicine may be to say less, rather than more to consumers. Making this issue a “top of mind” one does not seem to be working.

A related policy question is how the current findings have implications for marketing to children. Due to the rising rate in childhood obesity, a number of policies have been implemented in recent years to protect children from unhealthy foods (e.g., “Smart Snacks in School” regulation; Dority, McGarvey, and Kennedy 2010; Wilson 2013). Other work has examined the effects of food advertisements toward children on purchasing behaviors (e.g., Huang and Yang 2013). One of the unexplored areas is how marketing cues used to signal a body’s acceptability (e.g., the Lammily doll) may influence children’s food choices and health motivation in the long run. Since these “acceptance” campaigns are still relatively new, and children are exposed to these messages at a more persistent rate than earlier generations, perhaps policy makers need to pay more attention to the longer-term effects these campaigns may have

on children's body image and health behaviors. Policy makers and academics could consider investing in the collection of longitudinal data in order to gain a more accurate assessment of how repeated exposures to these acceptance cues could have longer-lasting impact.

Since the current research (and other work) has demonstrated how social norms are powerful drivers of human behavior, another question stemming from this work is how consumers respond to conflicting norms. Since consumers are regularly exposed to multiple advertisements, it is important for policy makers to gain insight into the factors that may drive consumers to behave in ways that are consistent with one social norm as opposed to another social norm. This is an important question to explore because while organizations promoting social causes may all communicate messages with good intentions, the inconsistent messages (e.g., reduce personal spending vs. donate to charity) could be confusing to consumers and result in unintended consequences (e.g., increase spending on non-charity related causes). In order to maximize consumer well-being, research examining how and when organizations with social causes (non-profit or government) can work with each other to accomplish their goals is needed.

Another implication from our research is for policy makers to further explore the role that the community plays in the individual health decisions consumers make. In their efforts to combat the obesity epidemic, policy makers often propose solutions that involve one's community, including adding more public spaces for physical exercise or encouraging neighborhoods to exercise together (CDC 2011). Given social norms are created by the actions of the social environment one is in, these strategies make sense. However, based on research in social norms, the *actual* creation of these communities may not be needed for behavior to change: even implicit or subtle suggestions of what others are doing (e.g., McFerran et al. 2010a)

can be sufficient in shaping consumer behavior. Of course, well-intentioned programs may also fail if there is no perception that others view the program positively.

Future Research and Limitations

This research offers several potential future directions beyond answering more conclusively our above conjecture. While we replicated our effects on food choice in studies 1 and 2, the choices were somewhat different between the two studies. In study 1, participants ate chocolates in a fairly “mindless” setting. That is, they likely consumed the chocolates with little conscious awareness. We did not ask participants to recall how many chocolates they consumed, but research has shown that people often do not realize what they are eating when doing other tasks (Wansink 2006). The effect also held in study 2 when participants were more explicitly asked to think about and make food selections. This begs the question: do the outcomes of accepting operate through an unconscious or conscious process (e.g., an active decision not to regulate consumption)? If it is the former, it is possible accepting results in a temporary change in implicit social comparison to the target model(s). If it is the latter, it is possible accepting licenses participants to eat more food through an active social comparison process (e.g., “it’s not a problem since I’m the same size as others”; Rook and Fisher 1995). Future work could be done to tease these apart.

Future research could also further explore how priming (i.e., how exposure to cues can activate certain semantic concepts and goals; see Bargh et al. 2001; Sela and Shiv 2009) contributed to the current findings. Previous work has shown that priming individuals with cues such as images (e.g., Apple logo) or words (e.g., the word “elderly”) resulted in behavioral changes even if the primes were only subtly introduced (e.g., more creative, Fitzsimons,

Chartrand, Fitzsimons 2008; walked slower, Greenwald, McGee, and Schwartz 1998). Similarly, our findings showed that priming consumers with acceptance resulted in changes in intended and actual behavior; hence, our cues likely activated concepts or affective responses in our consumers, which in turn led to the observed behavioral changes. However, since results from study 3 did not show that accepting the thin-bodied model increased consumer motivation, it is possible that larger-bodied (vs. thin-bodied) models activate thoughts asymmetrically. That is, while a larger-bodied model may have triggered more thoughts about heaviness and the acceptability of being larger, images of a thin-bodied model may have triggered other thoughts about weight and health goals (see Fishbach, Friedman, and Kruglanski 2003). With this in mind, future research could explore the cognitive concepts or affective responses that are automatically activated (e.g., Payne, McClernon, and Dobbins 2007) when consumers are exposed to acceptance cues. Since work has also shown that repeatedly training people to change the cognitive associations that are activated when they are primed with certain concepts can result in changes in behavior (Stewart et al. 2010), perhaps the same could be done with the exposure to acceptance cues used in our context.

Future work could also examine stronger cues of stigmatization against thin bodies. The tagline used in our stigma manipulation in study 3 (“Time to Slim Down”) communicated the message that being larger is not to be accepted, while allowing us to use it in both the larger and thin-bodied conditions. It would be interesting to see whether motivation would increase significantly if a stronger manipulation of stigma against thin bodies was used. For instance, recent ads by the company Protein World which featured a slim model with a tagline, “Are you beach body ready?” were mocked and even defaced by advocates who believed the company was

promoting an unrealistic standard (Sanghani 2015). As a result, articles and commentaries have also been written regarding the idea of “thin shaming”, in which people are shamed for being thinner than the average woman (Mansell 2015).

Another area that could be explored further is variation in the consumer segment companies typically target with their marketing efforts. As noted, brands such as Dove and American Eagle have been praised for their usage of larger models. What these brands have in common is that they tend to target “everyone” rather than the niche of “plus size” consumers in their ads. How our results would generalize (or not) in contexts where acceptance cues are used by a brand known for targeting plus size consumers (e.g., Lane Bryant) is an open question. In such a case, acceptance cues may not activate thoughts that being larger is more socially permissible, because those brands would be communicating to consumers who are already larger-bodied.

Research has found that people strive to be different from the majority in some cases, but also conform to the majority in others (e.g., Berger and Heath 2007; Escalas and Bettman 2005; White and Argo 2011). This tendency to conform to the majority group likely stems from people’s fundamental need for affiliation and belongingness (Baumeister and Leary 1995). Since the public has generally been receptive of the utilization of larger images in campaigns and ads, this trend of accepting larger bodies in the media is likely to continue. Given the results from this research, one strategy policy makers who still wish to utilize larger images in campaigns may employ is to pair those accepting messages with descriptive information that may motivate consumers to engage in healthier lifestyles (e.g., “the group you belong to is larger than the majority group”). This way, the negative consequences that may stem from accepting larger bodies could potentially be offset by (true) descriptive norms. The present research could also be

extended to other policy-related areas in which accepting, stigmatizing and social norms are relevant. For example, studying how these findings may apply to domains such as drug use, breastfeeding, vaccinations, HIV testing, and mental health could also broaden the contribution of the current work.

The extent to which the acceptance cues has negative implications likely depends on individual differences. For instance, “fat shaming” may also have differential outcomes depending on the culture the consumers live in. Shame and guilt are often used as motivating tools in some Asian cultures so people avoid bringing shame to their communities by working harder (Lee and Paek 2014; Tao and Hong 2014). Therefore, it would be worthwhile to identify how acceptance cues may differ in different environments, and the tools that may be best for combating obesity in each. As mentioned, the rise of larger bodies is a relatively recent and western phenomenon, especially in North America (65.4% overweight/obese), and the UK (63.4%). The rate of overweight/obesity is still significantly lower in many other nations (e.g., Japan: 24.2%, India: 22%; WHO 2014), thus suggesting a larger figure as “real” would be inconsistent from the (descriptive) norms of those societies. In these environments, the acceptance of larger bodies may actually mitigate unhealthy behaviors because it contrasts away from expected perceptions and beliefs. At the same time, because a number of other cultures are collectivistic in nature and promote the idea of conforming to the majority, this may be particularly interesting to study.

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Footnotes

¹ We use the terms overweight and obese here consistent with their medical definitions, of a BMI 25-30 and >30, respectively. We use these terms mainly to refer to individuals who have been categorized by medical practitioners and policy makers as groups that are part of the “obesity epidemic”. We acknowledge there are limitations to this measure, and that there are different medical concerns for each group. As we do not test for differences between these groups in our studies, and marketing communications rarely feature either overweight or obese models, throughout the paper, we use the term “larger” or “lager-bodied”, without making an explicit distinction between them.

² Consistent with the CDC, BMI was examined as a categorical variable. Participants’ BMI did not play a moderating role in our effects and manipulation checks but we did find main effects of BMI in the pilot study and in study 3. Specifically, participants who were higher in BMI perceived being overweight or obese as more socially acceptable (pilot study) and were more motivated to engage in a healthier lifestyle (study 3). Similar results were also found when we treated BMI as a continuous variable.

Figures

Figure 1. Effects of Type of Advertisement on Total Caloric Count and Motivation to be in Better Shape (Study 2)

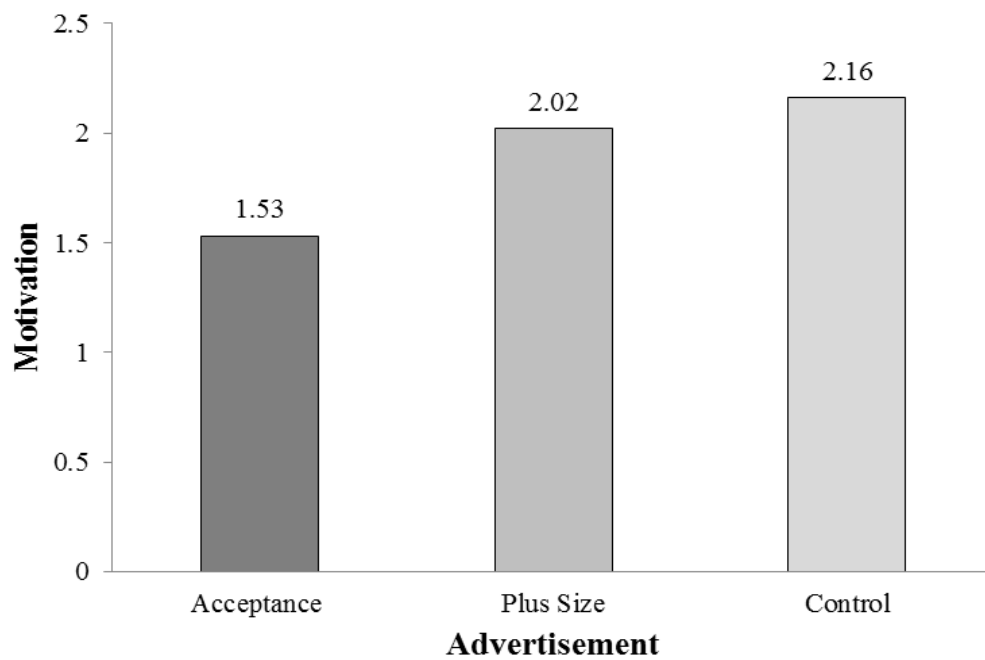
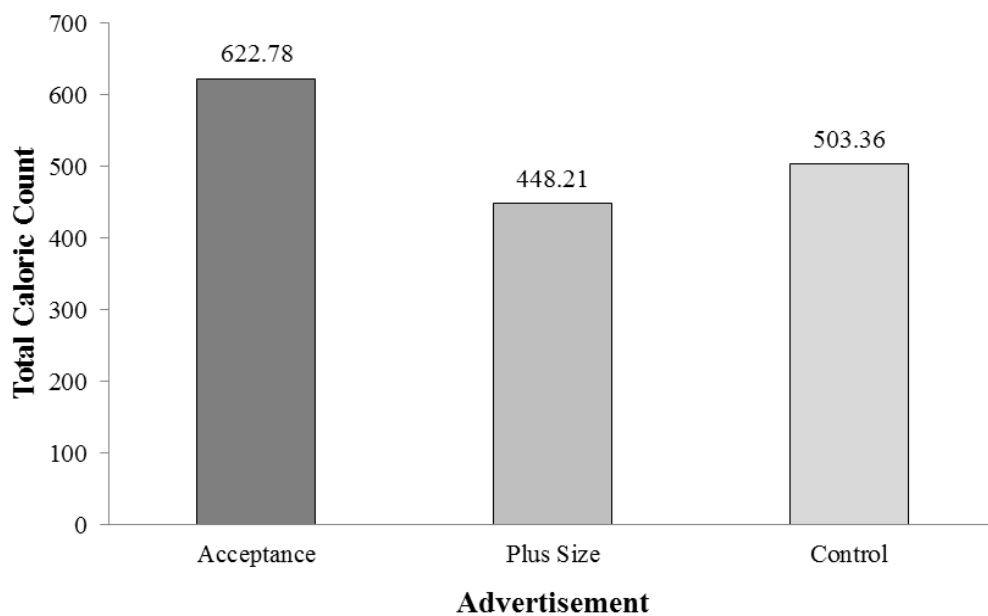


Figure 2. Effects of Type of Advertisement and Size of Model on Motivation (Study 3)

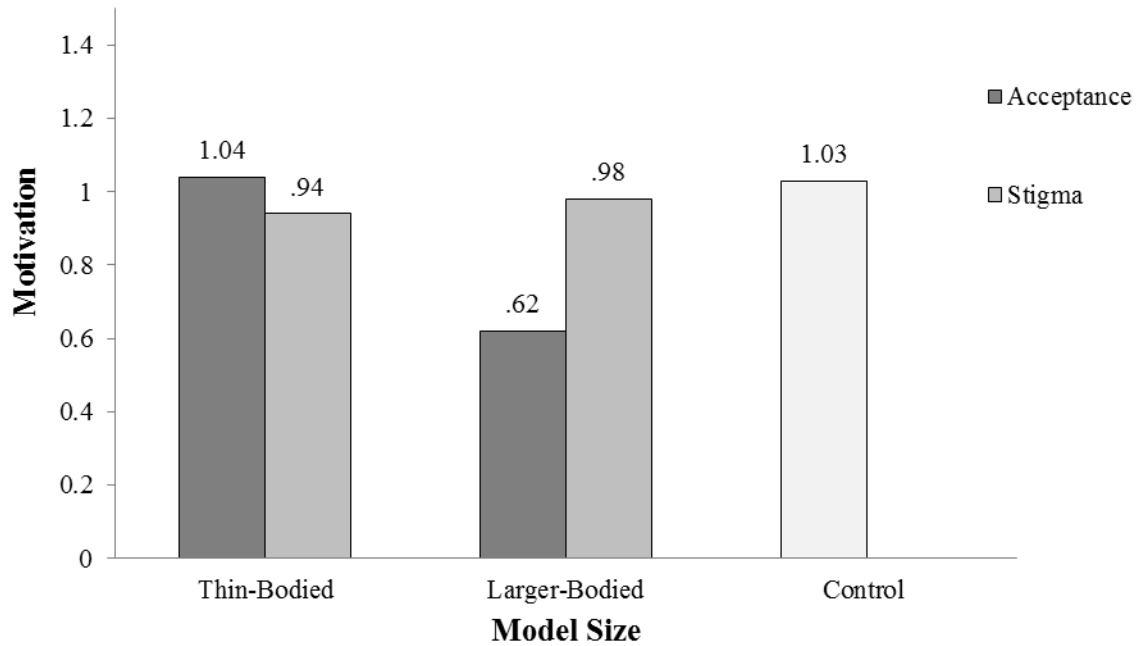
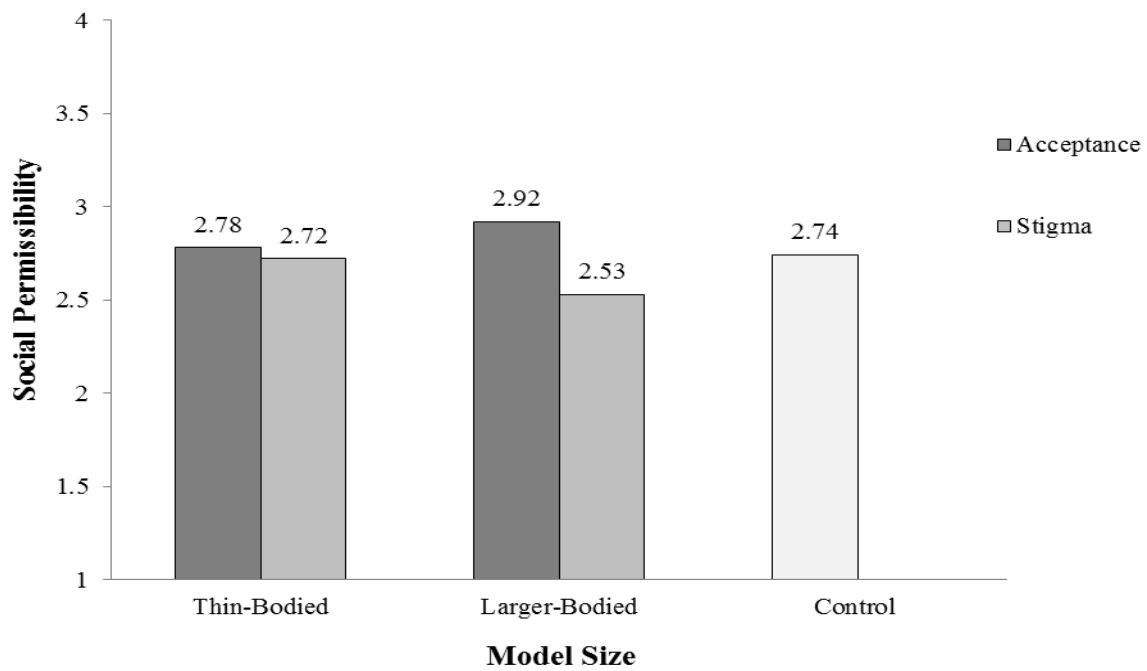


Figure 3. Effects of Type of Advertisement and Size of Model on Social Permissibility (Study 3)



WEB APPENDIX**The (Ironic) Dove Effect: Usage of Acceptance Cues for Larger Body Types Increases****Unhealthy Behaviors**

LILY LIN

BRENT MCFERRAN

Web Appendix A. Manipulation of Mannequin Size (Pilot Study)**Larger-Bodied**

vs.

**Thin-Bodied***Web Appendix B. Manipulation of Type of Advertisement (Study 1)*



Acceptance

vs.

Plus Size

vs.

Control

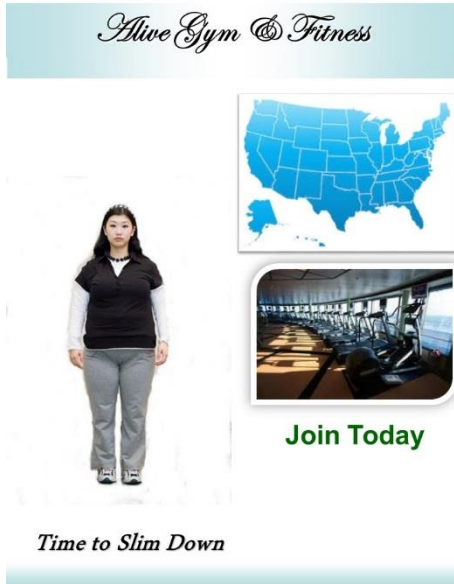
Web Appendix C. Manipulation of Type of Advertisement and Size of Model (Study 3)



Larger-Bodied & Acceptance

Thin-Bodied & Acceptance

Alive Gym & Fitness



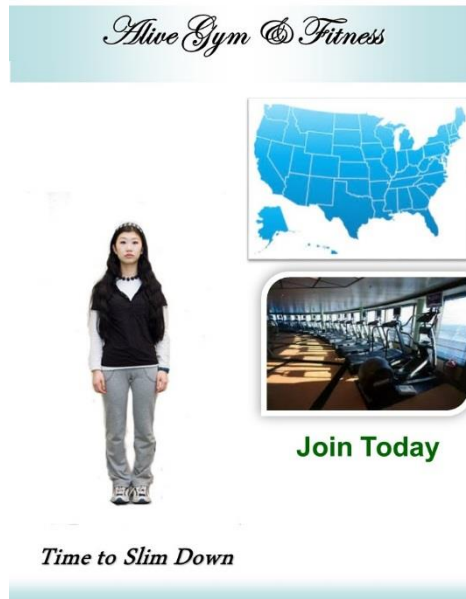
Time to Slim Down

Join Today

This advertisement features a larger-bodied woman standing in a black and white athletic top and grey pants. To her right is a blue map of the United States and a photograph of a gym interior with treadmills. The text 'Time to Slim Down' is at the bottom left, and 'Join Today' is at the bottom right.

Larger-Bodied & Stigma

Alive Gym & Fitness



Time to Slim Down

Join Today

This advertisement features a thin-bodied woman standing in a black and white athletic top and grey pants. To her right is a blue map of the United States and a photograph of a gym interior with treadmills. The text 'Time to Slim Down' is at the bottom left, and 'Join Today' is at the bottom right.

Thin-Bodied & Stigma