WEIGHT-RELATED HUMOR: EFFECTS ON EXPRESSION OF ATTITUDES ABOUT OBESITY

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ABSTRACT

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Having extra body fat places one in a low-status social group. People with obesity face numerous negative social consequences such as stigma and prejudice. This stigma exists in many domains including interpersonal relationships, work, school, and mass media. In television and film, characters with obesity are rare and when present they are often the targets of humor and ridicule. Research has established that attitudes toward stereotyped groups can be affected by short-term exposure to stereotypical media portrayals. Additionally, humorous presentation of disparaging stereotype-related information can alter expression of attitudes toward low-status groups. This study sought to uncover how humor and disparagement interact to affect individuals’ attitudes about people with obesity.

In Study 1, participants were randomly assigned to read a list of derogatory jokes about obesity, read a list of derogatory comments about obesity, or read jokes that were unrelated to obesity. All participants were then asked to report their 1) attitudes toward people with obesity in several domains, 2) level of belief in stereotypes about obesity and 3) judgment of the social acceptability of jokes about obesity. Participants’ scores on these dependent measures did not differ across groups. There were no significant interactions between the independent variable and any participant characteristics.

Study 2 was designed to 1) present participants with a stronger stimulus and 2) detect effects for the gender of the recipient of the derogatory humor. Participants were shown a compilation of video clips from film and television programs that featured derogatory humor targeting an obese character. They were randomly assigned to either watch videos that targeted female characters, watch videos that targeted male characters. Dependent variables were
identical to Study 1. Participants’ scores on these dependent measures did not differ across groups and there were no significant interactions between the independent variable and any participant characteristics.

These results suggest that brief exposure to derogatory weight-related humor may not affect individuals’ attitudes toward people with obesity. These results were true for both written jokes and video clips presenting weight-humor. Reasons for the unpredicted finding are discussed and include stimuli characteristics, unmeasured moderators, and prejudice norm theory.
This work is dedicated to my family. Alli, John, Athena, Sara, Megan, Suzette, Alita, Katie,
Scarlet, Michael, Dad, Mom, thank you.
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INTRODUCTION

Obesity Stigma

Research on the stigma of obesity has revealed numerous negative social consequences for individuals with obesity in a variety of life domains.\(^1\) For example, interpersonal relationships seem to be negatively affected by obesity. Daters seem to primarily rely on indicators like body type when selecting dates (Kurzban & Weeden, 2005) and people with obesity are ranked among the least desirable dating partners (Chen & Brown, 2005). In the realm of education, for women especially, having obesity has been associated with decreased chances of being accepted to top universities (Canning & Mayer, 1967), obtaining a college degree (Crosnoe, 2007; Gortmaker, Must, Perrin, Sobol, & Dietz, 1993) and being admitted to graduate school (Burmeister, Kiefner, Carels, & Musher-Eizenman, 2013). The stigma of obesity has been shown to affect employment decisions in simulated hiring scenarios (Pingitore, Bernard, Scott-Tindale, & Spring, 1994; Swami, Chan, Wong, Furnham, & Tovee, 2008) and workers with obesity face a wage penalty and fewer opportunities relative to their normal weight peers (Han, Norton, Stearns, 2009; Morris, 2006). In the health care industry, patients with obesity report feeling discriminated against by providers (Puhl & Brownell, 2006). Even researchers who specialize in the study of obesity harbor implicit negative attitudes toward people with obesity (Schwartz, Chambliss, Brownell, Blair, & Billington, 2003). Clearly, people with obesity face bias and discrimination. This is despite much evidence that obesity is a condition influenced by environmental and individual factors including an obesogenic environment (Lieberman, 2006) and addiction-like processes (Burmeister, Hinman, Koball, Hoffmann & Carels, 2013).

\(^1\) Although there are several clinical cut-offs used to demark obesity from other weight
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Theories of Stigma

Early scientific thought on stigma contended that the phenomenon was best thought of as occurring when an individual fails to meet an expected societal norm (Goffman, 1963). Goffman and more recent researchers have proposed that the characteristics that cause stigmatization and prejudice are determined at a societal level and are driven by cultural norms that change across time and place. Additional research connecting the scientific literature on prejudice to that of stigma, argue that the traits targeted by prejudice and stigma are driven by in-group/out-group processes (e.g., gender, race, social class; Dovidio, Major, & Crocker, 2000). From this perspective, stigma and prejudice are influenced by culture and prevailing societal values.

Many social stigmas also likely have a functional basis in biology (Oaten, Stevenson, & Case, 2011). That is, they represent cognitive, affective, and behavioral patterns that evolved to distance an individual from conspecifics who were poor social exchange partners due to disease or disability (Kurzban & Leary, 2001). For the condition of obesity specifically, this hypothesis has found some support. For example, a disgust reaction is widely considered to be a universal emotional experience that evolved to motivate disease avoidance (Oaten, Stevenson, & Case, 2009). In one study, individuals’ propensity for disgust was a strong predictor of their antipathy toward people with obesity (Vartanian, 2010). Another study confirmed this association between disgust and obesity stigma (Lieberman, Tybur, & Latner, 2012). In addition to this innate drive to avoid disease, there is a set of physical traits that people tend to find attractive in potential partners that includes signs of youth and reproductive health including (Buss, 1994). These traits include a low waist to hip ratio, which can be obscured by obesity. Despite research suggesting that stigma’s ultimate cause may be rooted in
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innate predispositions, it also seems that the strength of obesity stigma is augmented by social and cultural factors. The media is among these factors.

**Media Priming and Stigma**

In addition to biological drivers of stigma, cultivation theory suggests that an extended period (perhaps an entire childhood or lifetime) of continual exposure to the repeated depiction of a fictional social reality can alter individuals’ assumptions, beliefs, and attitudes in real life (Gerbner, Gross, Morgan, & Signorielli, 1986; Gerbner, Gross, Signorielli, & Morgan, 1980). Cultivation theory describes the media as the central and primary story teller in our culture. The media in this context includes newspapers, magazines, the internet, film and especially television as the source of programming that presents a consistent and common source of socialization. The messages delivered consistently define what is “normal.” From this theoretical perspective, the effects of cultivation depend less on what people specifically watch or experience when viewing because programs present a common set of themes. Cultivation theory proposes that it is the mainstream cultural milieu presented by the media that cuts across specific channels, genres, and programs to exhort its effect. From this view, it is the absorbing of a consistent pattern of themes, characters types, interactions, and social orders that ultimately shape viewers’ conception of reality (Morgan, Shanahan, & Signorielli, 2008). Some researchers critical of the unidirectional model proposed by cultivation theory have sought to measure effects of the “active viewer” whose interest and program choice influence the effect of media exposure (Bryant & Oliver, 2008). For example, factors such as viewers’ perception of a program’s realism and their level of motivation and interest in programming have been found to be relevant factors as well (Busselle, Ryabovolova, & Wilson, 2004).
Testing hypotheses generated by cultivation theory can be difficult because it predicts that prolonged exposure to the media environment (i.e., consistent exposure over months, years, and even decades) is required to create an effect (Bryant & Oliver, 2008). Additionally, the resources needed to conduct long-term prospective studies and the impracticality of assigning an entire culture to be a control group, have limited researchers to searching for associations between long-term media exposure and persistent changes in beliefs and attitudes. In empirical studies, cultivation is often measured by testing differences in the attitudes and beliefs of heavy versus light television viewers. Therefore, evidence purported to support cultivation theory has at times been refuted by more rigorous studies that included important covariates in analyses.

In a classic example, Doob and Macdonald (1979) retested a previously found relationship between television exposure and fear of crime. By including a measure of actual neighborhood crime rates as a predictor variable, the association between television use and fear of crime became nonsignificant. Their conclusion was that high crime in the area was driving citizens’ fear of crime and influencing them to stay inside their homes—and watch more television (Doob & Macdonald, 1979).

Thus the main problem for researchers studying cultivation effects has been that directionality and causation cannot be determined adequately in most empirical studies. However, Morgan and Shanahan (2010) argue in their review of cultivation theory that researchers may have to rely on convergent evidence for cultivation such as associations between viewing frequency and attitudes or beliefs. They also conclude that while the media may not often be creating stereotypes, it does work to remind viewers of stereotypes over and over again; keeping them frequent, recent, and vivid (Morgan & Shanahan, 2010).
Several studies have sought to match heavy and light viewers on as many other factors as possible in an attempt to reduce possible extraneous variables responsible for the associations between long-term exposure and attitudes. For example, Diefenbach and West (2007) found that on television, people with mental illness are inaccurately portrayed as being ten times more likely to be violent than others. The authors also presented evidence that while controlling for covariates such as income, education and ethnicity, the amount of television survey respondents watched was associated with their belief in the danger of having people with mental illness in their neighborhood (Diefenbach & West, 2007).

Much correlational research has found that when compared to light television viewers, heavy television viewers hold attitudes and beliefs more in line with what is presented in the media than what is encountered in real life (Morgan, & Shanahan, 2010). For example, Quick’s (2009) study of Grey’s Anatomy viewers found that those who watched the show regularly and believed it was credible were more likely to believe that real world doctors are courageous when compared to demographically similar nonviewers. In another study, Goidel, Freeman, and Procopio (2006) found that the amount of television news participants watched was associated with overestimation of the occurrence of crime. Similarly, Lee et al. (2009) measured heavy and light television viewers’ beliefs about the personalities of people from various ethnicities. Overall, heavy viewers reported a greater belief in negative stereotypes for all racial minority groups measured. These studies provide support for cultivation theory’s premise that frequent and unrealistic depictions in the media create a distorted perception of reality.
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Media Depictions of Obesity

The typical derision of obesity found in real life extends into the media as well. Characters with obesity are shown infrequently and when they are present, they are often depicted as sad, lonesome, and the target of jokes (Ata & Thompson, 2010). In a content analysis of 18 popular sitcoms, female characters’ weight was found to predict the number of derogatory comments they received (Fouts & Burggraf, 2000). Another study of 27 sitcoms found that male characters’ weight was associated with the number of disparaging jokes they made about their own body (Fouts & Vaughan, 2002). Both of these studies found that overweight characters were underrepresented on television when compared to real-life prevalence rates of overweight. A comprehensive content analysis of the most popular television programs found that just 24% of male characters and 14% of female characters were overweight (Greenberg et al., 2003). These percentages are remarkably lower than actual prevalence rates which are more than double these figures (Ogden, Carroll, Kit, Flegal, 2012). The same content analysis study found that overweight characters were most often the target of jokes and were less often shown with friends and romantic partners compared to thinner characters (Greenberg et al., 2003). In a more recent analysis, Himes and Thompson (2007) coded the interactions of obese characters on 35 films and television shows. They found that stigmatization mostly occurs in the context of jokes and comments made verbally and directed toward another character (Himes & Thompson, 2007). Additional studies have found that videos depicting weigh stigma are prevalent on the internet as well. Hussin, Frazier, and Thompson (2011) analyzed videos stigmatizing obesity on YouTube.com and found that the comments left by viewers were often stigmatizing of obesity.

The stigma of obesity is prevalent in the news and commercial media as well. Historic and current framing of obesity in the news tends to focus on individual character deficits as
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causes (e.g., lack of willpower) and solutions (e.g., increased exercise, diets) for obesity rather
than societal level causes and remedies (e.g. technology that promotes sedentary lifestyles, food
availability; Kim & Willis, 2007). However there is some evidence that these trends in
reporting are changing and that societal causes and solutions are being discussed more often
(Boero, 2007; Kim & Willis, 2007). In a study on 500 news stories about obesity from 1995 to
2004, Kim and Willis (2007) found that the mention of societal causes and solutions to obesity
increased rapidly in articles from the latter half of the period they studied. The authors
speculated that this change was due in part to increased awareness of such causes due to
increased research and more outspoken academics.

In the realm of commercial television, Blaine and McElroy (2002) reported on the
coded content of 18 hours of infomercials. One of their findings was that the before and after
images in weight loss commercials, like many infomercials, often depicted the overweight
“before” models as sad in contrast to the thinner “after” models who were happy. Additionally,
in a 2002 report to the Federal Trade Commission, Cleland et al. reported that weight loss
product advertisements present potential customers with a litany of anecdotal claims about
extreme weight loss that are exceptionally atypical. These ads may contribute to the public
perception that excess weight is an easily remedied condition that just requires willpower to
overcome (Puhl & Brownell, 2003). Thus the combined message presented in entertainment,
news, and commercial media tends to be that to be overweight is to have a correctable character
flaw. These messages could have an effect on the way viewers think about people with obesity
in real life by affecting their attitudes and beliefs about the causes, consequences, and potential
solutions for obesity.
Effects of Media Depictions of Obesity

The media that Americans are exposed to on a daily basis has at least some power to shape the way we think about ourselves and each other (Bryant & Oliver, 2012). The influence the media has could be attributed to its overwhelming saturation into our lives. In the last 50 years, Americans have seen the proliferation of television into virtually every home (Nielsen Company, 2011). As of 2011, 72% of Americans had at least one computer connected to the internet at home; this number jumped dramatically from just 42% in 2000 (US Census, 2011). Within the last decade, people in industrialized parts of the world have gained instant access to all of the information available on the Internet via mobile devices linked to high speed networks (ICT, 2011).

Correspondingly, the appetite for media—especially entertainment media—is large. Americans adults are now spending more than half of their leisure time watching television and this rises to over two-thirds of leisure time when videogames and computer use are added (Nielson, 2011; US Department of Labor, 2013). Youth in America have over 10 hours of media exposure every day (Rideout, Foehr, and Roberts, 2010). It is estimated that an average 18 year old has witnessed 16,000 murders and 200,000 acts of violence on television (Hatch, 1999). An average television viewer will see 2 million 30 second commercials in a lifetime (Nielson, 2011). Statistics like these remind us of the large amount of media exposure experienced by the average person.

Media effects researchers have investigated whether there are consequences of such an inundation of information. In the first half of the 20th century, researchers speculated that the media would have immensely powerful effects on everything people would think, feel, and do (Rodman, 2010). Increases in interpersonal violence, materialism, and physical health have all
been discussed as consequences of Americans’ total exposure to entertainment and commercial media (Bryant & Oliver, 2008). Research as early as the 1930s sought to determine the effects of media exposure. Research by Herbert Blumer initially pointed to a strong effect of media exposure for everything from how the viewers dressed to their ideas about the meaning of life and past violent behaviors (Blumer, 1933). These early studies utilized only respondents’ retrospective accounts and were criticized accordingly, however they laid the foundation for modern media effects research and set the stage for societal concern about the media (Sparks, 2011). Research conducted over the past several decades have found consistent and compelling effects of media on the minds and behaviors of the public (Bryant & Oliver, 2008).

Until recently, little research has examined the effects of media depictions of obesity on individuals’ expression of attitudes and beliefs. One recent study assigned participants to watch a typical episode of The Biggest Loser (Domoff et al., 2012). The episode highlighted the struggle faced by a group of people attempting weight loss. The show’s contestants were shown engaging in strenuous exercise and restricting caloric intake. They also talked about their successes and past challenges with weight loss. Results of the study indicated that participants who were shown The Biggest Loser reported a stronger belief that weight is controllable as well as a greater dislike of people with obesity relative to a control group that watched an episode of Meerkat Manor (Domoff et al., 2012).

Readers’ interpretation of the news seems also to be affected by stereotypical portrayals of people with obesity. McClure, Puhl, and Heuer (2011) asked participants to read a neutral news story about the causes of obesity that were paired with either a stereotypical negative image of a person with obesity or a more positive image. The stereotypical negative images included depictions of a woman with obesity eating junk food or wearing unflattering clothes
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that emphasized her body size while the positive depictions included images of a woman with obesity exercising or wearing flattering attire. After exposure to the news story and images, participants who viewed the stereotypical images expressed more negative attitudes toward people with obesity than those who saw the positive images.

A study of similar design found that across two experiments, participants who viewed images of people with obesity performing stereotypical, negative activities (i.e., eating junk food, watching television) versus more positive, counter-stereotypical activities (i.e., exercising, cutting vegetables) expressed less negative attitudes toward people with obesity (Pearl, Puhl & Brownell, 2012). These results demonstrate the way stereotypical portrayals in the media may be able to subtly influence how viewers think about people with obesity.

Taken together, these studies’ findings suggest that depictions of people with obesity in the media can affect viewers’ expression of their attitudes about people with obesity. These findings are consistent with priming theory of media effects which predicts that exposure to stereotypes can affect individuals’ expression of attitudes and beliefs about people from that stereotyped group.

**Media Priming**

Priming has been cited as a mechanism by which exposure to stereotypes can affect the expression of attitudes (Bargh, Chen, & Burrows, 1996). This theory of priming suggests that short-term exposure to media content activates individuals’ relevant stored knowledge in memory (Roskos-Ewoldsen, Roskos-Ewoldsen, & Carpentier, 2002). Once activated, preexisting knowledge can affect thoughts, feelings, and behaviors. Priming theory predicts that individuals rely on information that is consciously or unconsciously activated when they make judgments and express attitudes about people (Bargh & Pietromonaco, 1982). Priming
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has an effect because people do not access all stored knowledge when they are making a judgment. Instead, they rely on the information that is recently activated and readily available. Thus it is said to be the stimulation of specific and relevant information from memory that influences subsequent mental events in a manner not evident when that information has not been primed (Bargh & Pietromonaco, 1982; Roskos-Ewoldsen, Roskos-Ewoldsen, & Carpentier, 2002; Carpentier, Knobloch-Westerwick, & Blumhoff, 2007).

In media effects research, a typical media priming experiment involves exposing participants to media containing stereotypical portrayals of individuals from a social group then measuring their attitudes, beliefs, or judgments relative to participants in a control condition. For example, Johnson et al (2009) conducted an experiment to test the priming effects of stereotypical images of African Americans on participants’ support for public policies aimed at helping hurricane Katrina victims. Participants were shown either images of African Americans looting after the hurricane or control images. They were also asked to read a passage about the suffering of either African American or Caucasian evacuees. Subsequently, their support for government assistance policies for those hurricane evacuees was measured. Results showed that among participants who had seen images of African Americans looting, attitudes toward African American evacuees were worse than they were toward Caucasian evacuees—an effect not evident in the control group.

In another experiment, researchers primed participants with the stereotype that African American females are promiscuous by exposing them to either sexually explicit rap music performed by female artists, rap that was not sexual, or control music (Johnson et al., 2009). They were then presented with information about either a White or Black college-aged woman who accidentally became pregnant. Participants exposed to the sexually explicit rap were less
willing to support policies aimed at helping a pregnant Black woman. This effect was not evident for participants asked to support a pregnant White woman.

In a study of similar design, Ford (1997) presented Caucasian participants with a compilation of sketches taken from television comedies. Half of the participants watched humorous clips containing stereotypical portrayals of African Americans (i.e., showing African Americans as poor, violent, and uneducated) while the other half watched videos with neutral portrayals of African Americans. Later, they were asked to judge the guilt of the suspect in an assault case. By manipulating the suspect’s name, the description of the case subtly implied that he was either African American (Tyrone) or Caucasian (Todd). Participants’ ratings of guilt of the Caucasian suspect were not different between the two video conditions. Guilt ratings of the African American suspect however, were higher for participants who had seen the stereotypical portrayal compared to those in the neutral video condition. In line with other research, these findings suggest that exposure to stereotypical portrayals of individuals from specific social groups can prime attitudes and beliefs about members of that specific social group (Ford, 1997). Interestingly, Ford’s video stimuli which portrayed stereotypes in a humorous manner had an effect similar to research that had used more serious depictions of stereotypes.

**Disparagement Humor**

Disparagement humor is composed of jokes that ridicule or insult a target (Martin, 2007). Jokes that rely on poking fun at an undesirable stereotypical trait of a specific group typify this sort of humor. In disparagement humor, the group being targeted is typically of a lower social status than the people making the joke. For example, disparagement humor often
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relies on stereotypes about groups, such as the stereotype that lawyers are deceitful or the stereotype that Asian-American’s are bad drivers.

Although no longer politically correct, some stereotypes are still “fair game” as long as they are the subject of humorous content (Lockyer & Pickering, 2008). Limited research has studied whether humor decreases, increases, or has no effect on prejudiced attitudes (Goodwin & Whannel, 1990). Some have argued that stereotypes presented in a humorous and satirical manner will inevitably reinforce prevailing stereotypes and social hierarchies because understanding the humor requires activation of knowledge of the stereotype (Bowes, 1990). Related, although some stereotypes might be presented with the intent of highlighting social injustice (e.g., satirical commentary on racism), some viewers may not be laughing at the stereotype as intended. Instead they might interpret the humorous depiction of social stereotypes as an indication of their nonseriousness and as confirmation of the stereotype (Linn, 2003). This idea is based on what cognitive theorists have described as a core component of humor: for an event to be humorous, it must include some indication that it is nonserious enough so that concerns about the target’s welfare are allayed (Martin, 2007). Thus it could be that the message delivered via humor is that stereotypes, prejudice, and stigma are sources of amusement and they are true (Linn, 2003).

Empirical studies have investigated the possible unique effects of humorous presentations of stereotyped groups. The body of work examining disparagement humor (i.e., humor aimed at denigrating a person or a social group; Martin, 2007) has focused primarily on humor targeting women. For example, Ford, Wentzel, and Lorion (2001) exposed men to disparaging humor that targeted women by asking them to read a series of written jokes in a
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vignette. That study found that sexist men exposed to jokes about women showed less concern over a hypothetical sexist event.

Additional research by Ford (2000) asked participants to read either: sexist statements, sexist jokes, or neutral jokes. After exposure to one of the three, participants rated the offensiveness of a male character’s behavior in a vignette in which he was depicted sexually harassing a subordinate female employee. Results indicated that participants who were highly sexist and who had been exposed to sexist humor rated the supervisor’s behavior as more tolerable than otherwise. These results were expanded upon by multiple experiments in a study by Ford, Boxer, Armstrong, and Edel (2008). In one experiment, the amount of money men were willing to donate to a women’s advocacy organization was predicted by their level of sexism. But, this was only true for men exposed to sexist humor—not those exposed to neutral humor or non humorous sexist comments. In another experiment, men’s level of sexism predicted how much money they would cut from a woman’s organization when they were exposed to sexist comedy videos, but not neutral comedy videos (Ford, Boxer, Armstrong, & Edel, 2008). These findings are consistent with predictions made by theories of media priming.

Some research has tested the importance of the relative status of the social group being targeted. Olson, Maio, and Hobden (1999) conducted two experiments which did not produce changes in expressed beliefs in stereotypes toward men after presenting female participants with humor meant to disparage men. As part of the same study, a third experiment found similar results using lawyers as the target of humor. These experiments show that humor targeting a relatively high-status group (i.e., men and lawyers) may be unlikely to change the expression of negative attitudes. Disparagement humor theory suggests that people enjoy humor more when they hold negative attitudes toward the target (Zillmann & Cantor, 1996).
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Some have also proposed that humorous expressions of derogation allows one to claim that “it was just a joke” in the event that their opinion is ill-received (Martin, 2007).

Taken together, these studies provide evidence of the effect that exposure to negative stereotypes has on the expression of negative attitudes toward targeted groups. Research suggests these effects are consistent for stereotypes targeting low status groups (e.g., racial minorities and women). Evidence also suggests that when stereotypes about women are presented in a humorous manner they increase the expression of discriminatory attitudes in individuals who already hold discriminatory attitudes. These effects have not been tested with other low status groups such as those with obesity—a group against which negative attitudes are commonly held.

Summary

Theories of priming and media effects predict that exposure to stereotypical portrayals of people can affect viewers’ expression of attitudes and beliefs about stereotyped groups. The effect of short-term exposure to stereotypes on expression of attitudes toward low-status groups has been established. Previous research has also confirmed that media depictions of obesity-related stereotypes can affect viewers’ expression of attitudes and beliefs about obesity. In those studies, images representing negative stereotypes about obesity influenced the expression of attitudes and incited viewers to think of individuals with obesity more negatively. Additionally, empirical studies have demonstrated that humorous depictions may have a special effect of increasing the expression of prejudiced attitudes for some stereotyped groups.

Individuals with obesity face stigma in many areas of life and this stigma is prevalent in the media. Depictions of obesity in film and on television are based on common negative stereotypes and are frequently presented to viewers as both disparaging and humorous. Obesity
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is a trait that is widely thought of as being under the control of the affected person and jokes about people with obesity are still far more acceptable and politically correct than jokes about other minority groups. Thus the effect of such humor on individuals’ expression of attitudes is worth empirical study. This investigation seeks to uncover how humor and disparagement interact to affect viewers’ self report of attitudes about people with obesity. Study 1 was designed to test the unique and interactive effects of humor and derogation of obesity on expression of attitudes about obesity. Study 2 utilized the same dependent variables, but randomized participants to see humorous videos targeting either overweight female characters or overweight male characters.
This study was designed to measure the effect of obesity-related jokes on readers’ self-report of anti-fat attitudes, belief in stereotypes about obesity, and perceptions of the social acceptability of prejudice toward people with obesity. It was hypothesized that participants who read jokes about obesity would express greater anti-fat attitudes, greater beliefs in obesity stereotypes, and more acceptance of obesity stigmatization than participants who read neutral jokes or serious comments expressing stereotypes about weight.

Methods

Participants

Participants (N = 272), were female (64%), White (75.7%), Black (5.9%), Hispanic (5.1%), Asian (11%), other (2.2%), and their mean age was 32.74 years old (SD = 10.74). Most participants’ household yearly income was less than $55,000 (58.9%). Mean body mass index was 26.02 (SD = 6.47). They were recruited from an online participant pool (Amazon.com MTurk) and were compensated monetarily with $0.55 for completing the 12 minute long survey. Amazon.com’s Mechanical Turk (MTurk) is an online system that allows individuals to complete paid tasks online including completing surveys. MTurk has been found to provide valid data for researchers (Burmeister & Carels, 2014b; Buhrmester, Kwang, & Gosling, 2011; Downs, Holbrook, Sheng, & Cranor, 2010; Paolacci, Chandler, & Ipeirotis, 2010).

Procedure

Participants found the study advertised on the MTurk system as work involving “Reading short vignettes and provide your opinions.” After providing informed consent, participants were randomized to one of three groups. Approximately 1/3 of participants were assigned to each of the conditions including the Weight Joke condition (n = 90), to the Weight
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Comment condition ($n = 91$), and to the Neutral Joke condition ($n = 91$). Participants were asked to “Please read this story and answer the questions about it at the end.” The story participants read included the experimental manipulation. After reading the vignettes, participants were asked to complete the study’s dependent measures and they were then debriefed.

**Materials**

Vignettes. Participants read one of three vignettes that contained the experimental manipulation. Similar to the stimuli used by Ford (2000), all of the vignettes began with similar text.

Participants in the Weight Joke condition read “A group of workers were having a conversation in their office at lunch. Before long the conversation turned to a discussion of jokes. The coworkers shared a few of their favorite jokes. Here are some they told…” Following this stem, they read a series of jokes that targeted obesity. For example, “My fat friend calls herself a ‘light eater.’ As soon as it gets light out, she starts eating.”

Participants in the Neutral Joke condition read “A group of workers were having a conversation in their office at lunch. Before long the conversation turned to a discussion of jokes. The coworkers shared a few of their favorite jokes. Here are some they told…” Following this stem, they read a series of jokes that did not target obesity such as “A man went to play golf for the day—he took his golf clubs and two pairs of pants. He brought the extra pair of pants in case he got a hole-in-one.”

Participants who were randomized to the Weight Comment condition read the text “A group of workers were having a conversation in their office at lunch. Before long the conversation turned to a discussion of people who are overweight. The coworkers shared a few
of their views. Here are some of the views they shared...” This stem was followed by a series of derogatory comments about weight that were not in the form of jokes, such as “My fat friend eats all day long.” and “I think people who are overweight must be that way because they just refuse to exercise. Maybe their doctors should tell them to.”

Joke Pretest. The jokes were pretested in a sample of MTurk participants (N = 59) to confirm that the weight jokes and neutral jokes were equally funny. Participants were presented with all the jokes in randomized order and were asked to rate how funny they were on a scale from 0 to 6. Paired samples T test revealed that the jokes to be used in the weight condition (M = 2.33, SD = .93) were not significantly different than the jokes in the neutral condition (M = 2.41, SD = .78); t(58) = -.93, p = .36).

Dependent Measures. This study sought to measure the effect of reading weight jokes on participants’ self-report of their attitudes about obesity in several domains including 1) general attitudes about obese persons, 2) belief in stereotypes about obesity persons, and 3) perception of social acceptability of jokes about weight.

Attitudes about Obese Persons. Participants completed the Universal Measure of Bias (UMB; Latner, O’Brien, & Durso, 2008). This 20 item instrument was designed to measure individuals’ attitudes toward others with a stigmatizing characteristic across four domains including negative judgment, a desire for social distance, interpersonal attraction, and a desire for equal rights for the group. The UMB has returned reliable and valid data about attitudes toward obesity from samples of adults in several studies (Latner, O’Brien, & Durso, 2008; Pearl, Puhl, & Brownell, 2012; Puhl, Luedicke, & Grilo 2013). In their initial study, Latner, O’Brien, and Durso (2008) found high internal consistency and strong factor loadings for the
Cronbach’s alphas for the current study were negative judgment (.91) a desire for social distance (.84), interpersonal attraction (.92), desire for equal rights (.97).

Belief in stereotypes. Participants’ belief in the common stereotypes about individuals with obesity was measured by asking them to provide their estimate of the percentage of people with obesity who have 10 stereotypical traits such as laziness, gluttony, and poor hygiene. This measure was derived from the Obese Persons Trait Survey (Puhl, Schwartz, & Brownell, 2005). Previous studies have found higher belief in negative stereotypes as measured by the OPTS to be associated with dislike of persons with obesity (Burmeister & Carels, 2014a). In one experiment, participants’ ratings on the OPTS were sensitive to change after exposure to social consensus information about others’ beliefs about obesity (Puhl, Schwartz, & Brownell, 2005). Cronbach’s alpha for the current study was .95.

Acceptability of weight stigmatization. Using a 6 point Likert scale, Participants were also asked to rate their agreement with the following statements: “It is acceptable for people to make comments about other people’s body weight. It is acceptable for people to make jokes about other people’s body weight. It is acceptable for people to tease others about their body weight.” These questions are modified versions of those used by Aronson et al., (2007) in their assessment of college students’ acceptability of various forms of teasing. Cronbach’s alpha for the three questions was .90.

Demographic information. Participants were also asked to provide demographic information as well as information about their height and weight. Specifically, they reported their age, sex, race and/or ethnicity, family income level, weight, and height.
Results

Preliminary analyses revealed that demographic variables were not significantly different between groups (all \( p \) values > .10) and that all scores and ratings were normally distributed. Participants who failed to answer either of two screening questions (e.g., “Please answer 6 for this question”) and those who did not answer all questions were removed from all analyses (\( n = 13 \)). SPSS 17 was used for all analyses.

Mean scores on the UMB subscales were 2.41 (\( SD = 1.05 \); negative judgment), 3.00 (\( SD = .71 \); attractiveness), 2.48 (\( SD = .99 \); social distance), and 3.89 (\( SD = 1.2 \); equal rights). These scores were in line with previous studies that found similar mean scores in similar samples of adults (Latner, O’Brien, & Durso, 2008; Pearl, Puhl, & Brownell, 2012; Puhl, Luedicke, & Grilo 2013). Participants’ average score on the measure of belief in stereotypes about obesity (OPTS) was 55.23 (\( SD = 22.02 \)). On average, participants rated the funniness of the weight jokes at 1.12 (\( SD = .82 \)) and the funniness of neutral jokes at 1.16 (\( SD = .68 \)) on a scale ranging from 0 to 4. Participants rated the acceptability of acceptability of weight stigmatization as 2.38 (\( SD = 1.13 \)) on a scale ranging from 1 to 6.

ANOVA was used to test for differences among the three conditions. A different test was conducted for each dependent variable (see Table 1). Participants’ score on the four subscales of the UMB did not differ between conditions. Participants’ belief in stereotypes about obesity did not differ between conditions. Participants’ ratings of the acceptability of jokes about obesity did not differ between conditions.

Several participant characteristics (i.e., Age, Gender, and BMI) were analyzed as potential moderators of the relationship between experimental condition and the dependent
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measures. Using a Univariate General Linear Model, no variables emerged as significant moderators of the relationship between experimental conditions and dependent measures.

**Study 1 Discussion**

The results of this study suggest that reading jokes that make fun of persons with obesity does not affect individuals’ self-report of anti-fat attitudes, belief in stereotypes, or acceptability of the stigmatization of obesity. These findings are contrary to the hypothesized connections between exposure to humorous derogation of people with obesity and individuals’ subsequent attitudes. Importantly, there were no differential effects for jokes versus comments suggesting that there is no difference between humorous jokes and serious comments when it comes to affects on attitudes about obesity. There were also no indications that participant characteristics were relevant as no significant moderators emerged.

There were some important limitations of this study. First, the study design did not allow for the detection of differential effects for humor that targets women versus men. Studies have consistently found that the stigma of obesity tends to be more relevant for women that it is for men (Puhl & Heuer, 2009). Women are susceptible to obesity stigma at lower BMI’s than men and they typically face stronger consequences than men (Puhl & Heuer, 2009). The stimuli in this study were mostly nondescript about the gender of the target. It may be that only humor targeting obese females affect attitudes.

Second, although written jokes have been powerful enough stimuli to instigate change in the expression of attitudes in other studies (Ford, 1997), they may not have been in the present study. Participants’ mean rating of the jokes was only .89 on a scale ranging from 0 to 3 which may suggest that the stimuli in Study 1 were not particularly humorous to participants. And while this study was designed to maximize experimental control by using easily created
and controlled stimuli (i.e., written jokes), it may have provided participants with a set of
stimuli that were either too weak or too unlike anything that would be encountered in the real
world to have an effect. It is possible that people are not used to reading written jokes in this
era of television and film. Also, participants were only asked to read four jokes, a process that
may have taken some participants a few seconds. Finally, written jokes may not be the best way
to present participants with information about obesity stereotypes given they are often based on
appearance.
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STUDY 2

Study 2 was designed to address two factors that may have limited the conclusions that could be drawn from the null findings of the first study. First, the humorous stimuli may not have been salient enough. Second, the gender of the target of humor was not specified. It might be the case that weight humor targeting women affects the expression of attitudes differently than that which targets men.

Thus Study 2 was designed to be similar to Study 1 with some key differences. Study 2 sought to measure whether humorous video clips would have an effect on self-reported attitudes and beliefs relative to a control. Compared to Study 1, the second experiment presented participants with stimuli that were longer in duration, more salient, and more like the kind of weight humor people would be likely to encounter on a daily basis. Second, Study 2 randomly assigned participants to view videos that targeted either obese women or obese men. It was hypothesized that participants who watched video clips containing weight-related humor would report stronger anti-fat attitudes, greater belief in stereotypes about weight, and acceptance of obesity prejudice than participants who did not watch the videos. Additionally, it was hypothesized that participants who watched videos with obese female characters as the targets of jokes would express stronger anti-fat attitudes, greater belief in stereotypes about weight, and acceptance of obesity stigmatization than participants who watched videos with obese male targets.

Methods

Participants

Participants \((N = 146)\), were female (62.6%), White (70.7%), Black (7.5%), Hispanic (3.4%), Asian (14.3%), other (4.1%), and their mean age was 33.21 years old \((SD = 11.04)\).
Their average BMI was 26.11 ($SD = 5.97$). Most participants’ household yearly income was less than $55,000 (67.4%). They were recruited from an online participant pool (Amazon.com MTurk) and were compensated monetarily with $0.55 for completing the 12 minute long survey.

**Procedure**

Participants found the study advertised on the MTurk system as work involving “*Watch video clips and provide your opinions.*” After providing informed consent, participants were randomized to one of three groups. Approximately 1/3 of participants were assigned to each of the conditions including the Female Target condition ($n = 51$), to the Male Target condition ($n = 44$), and to the No Video Control condition ($n = 51$). After watching the videos, participants were asked to complete the study’s dependent measures and they were then debriefed.

**Materials**

Video Clips. The compilation of clips comprised several scenes from popular television and film comedies. The scenes presented verbal jokes and humorous depictions of stereotypes about people with obesity. These scenes were intended to approximate the type of weight-related humor common in film and television. Previous content analysis research has created a description of typical ways in which persons with obesity are presented in the media (Himes & Thompson, 2007; Greenberg et al, 2003). Similar compilations of clips have been used in a previous study of weight-related humor (Burmeister & Carels, 2014b).

The videos were also chosen for their presentation of obesity itself as a visually comical condition rather than a dramatic or purposefully empathy evoking manner. Importantly, the videos were chosen for their depiction of stereotypes about obese individuals (e.g., lazy,
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gluttonous, shameful). Videos were divided into two groups, those that show a female character being the target of the humor and those that show a male.

One scene shown in the male target condition shows a male character who is too big to move or leave a bed. His friend hits him with a baseball bat, but he does not feel any pain because he is too fat. In another scene a character shows a photo of himself from when he used to be overweight and he says it is from “before I knew how much I hated myself.” The scenes also utilize stereotypes about obese people for their humor. For example, one of the videos shows an obese man eating a bucket of fried chicken representing the stereotype that people with obesity overeat. The stereotype that people who are overweight are lazy and unintelligent is represented in a video from the film Tommy Boy in which Tommy is carefree and dull while his thinner counterpart is intelligent and much more concerned with work.

The video clips for the female target condition also contain a variety of scenes. One scene shows a woman beginning to binge eat while in a bad mood and an overweight character complains about going to do yoga, “Me in a leotard, surrounded by skinny women? I’d rather kill us all.” Another presents a woman being told she is too large for a water slide. She then goes down the slide and has so much momentum she crashes through a wall. A scene from a television program shows a comedic montage of a woman clumsily trying to fit into jeans that are too small.

Overall these clips were chosen to represent the type of weight-related humor seen in film and television comedies while at the same time presenting some of the common stereotypes about obesity.

Dependent Measures. Study 2 used the identical measures as Study 1. This study sought to measure the effect of watching media depictions of derogatory weight-related humor
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on participants’ attitudes about obesity in several domains including 1) general attitudes about obese persons, 2) belief in stereotypes about obesity persons, and 3) the acceptability of weight stigmatization.

Attitudes about Obese Persons. Participants completed the Universal Measure of Bias (UMB; Latner, O’Brien, & Durso, 2008). This 20 item instrument was designed to measure individuals’ attitudes toward others with a stigmatizing characteristic across four domains including negative judgment, a desire for social distance, interpersonal attraction, and a desire for equal rights for the group. The UMB has returned reliable and valid data about attitudes toward obesity from samples of adults in several studies (Latner, O’Brien, & Durso, 2008; Pearl, Puhl, & Brownell, 2012; Puhl, Luedicke, & Grilo 2013). In their initial study, Latner, O’Brien, and Durso (2008) found high internal consistency and strong factor loadings for the UMB. Cronbach’s alphas for the current study were negative judgment, (.92) a desire for social distance (.88), interpersonal attraction (.92), desire for equal rights (.94).

Belief in stereotypes. Participants’ belief in the common stereotypes about individuals with obesity was measured by asking them to provide their estimate of the percentage of people with obesity who have 10 stereotypical traits such as laziness, gluttony, and poor hygiene. This measure was derived from the Obese Persons Trait Survey (Puhl, Schwartz, & Brownell, 2005). Previous studies have found higher belief in negative stereotypes as measured by the OPTS to be associated with dislike of persons with obesity (Burmeister & Carels, 2014a). In one experiment, participants’ ratings on the OPTS were sensitive to change after exposure to social consensus information about others’ beliefs about obesity (Puhl, Schwartz, & Brownell, 2005). Cronbach’s alpha for the current study was .96.
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Acceptability of weight stigmatization. Using a 6 point Likert scale, Participants were also asked to rate their agreement with the following statements: “It is acceptable for people to make comments about other people’s body weight. It is acceptable for people to make jokes about other people’s body weight. It is acceptable for people to tease others about their body weight.” These questions are modified versions of those used by Aronson et al., (2007) in their assessment of college students’ acceptability of various forms of teasing. Cronbach’s alpha for the three questions was .93.

Demographic information. Participants were also asked to provide demographic information as well as information about their height and weight. Specifically, they reported their age, sex, race and/or ethnicity, family income level, weight, and height.

Results

Preliminary analyses revealed that demographic variables were not significantly different between groups (all $p$ values $> .10$) and that all scores and ratings were normally distributed. Participants who failed to answer screening questions (e.g., “Please answer 6 for this question”) or failed to prove they could see the videos by answering questions about visual details of the scenes or those who did not answer all questions were removed from all analyses ($n = 30$). SPSS 17 was used for all analyses.

Mean scores on the UMB subscales were $2.53 (SD = 1.09; \text{negative judgment})$, $2.99 (SD = .78; \text{attraction})$, $2.46 (SD = .106; \text{social distance})$, and $4.20 (SD = 1.38; \text{equal rights})$. These scores were in line with previous studies that found similar mean scores (Latner, O’Brien, & Durso, 2008; Pearl, Puhl, & Brownell, 2012; Puhl, Luedicke, & Grilo 2013). They were also very similar to scores in Study 1 of the current investigation. Participants’ average score on the measure of belief in stereotypes about obesity (OPTS) was $56.27 (SD = 24.00)$. 
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On average, participants rated the funniness of the weight humor videos targeting women at 2.35 ($SD = 1.22$) and the funniness of videos targeting men at 2.49 ($SD = 1.24$) on a scale ranging from 0 to 4. Participants rated the acceptability of joking about weight in general as 2.32 ($SD = 1.22$) on a scale ranging from 1 to 6.

An ANOVA was used to test for differences among the three conditions. A different test was conducted for each dependent variable. Participants’ score on the four subscales of the UMB did not differ between conditions. Participants’ belief in stereotypes about obesity did not differ between conditions. Participants’ ratings of the acceptability of jokes about obesity did not differ between conditions. See table 2 for test statistics.

Several participant characteristics (i.e., Age, Gender, and BMI) were analyzed as potential moderators of the relationship between experimental condition and the dependent measures. None of these variables emerged as significant moderators.
Discussion

Taken together, the findings of the present study suggest that brief exposure to humorous stigmatization of obesity is not enough to augment individuals’ expression of attitudes toward people with obesity. Two experiments found no effects following exposure to either written jokes about obesity or video clips containing humorous media depictions of obesity. Likewise, no effect was found for stigmatizing comments that were not presented as jokes. These findings were consistent across experiments and the same results were found for a variety of dependent variables including self-report of anti-fat attitudes, belief in stereotypes, and the acceptability of obesity stigmatization.

Contrary to predictions, neither experiment resulted in an effect on anti-fat attitudes as measured by the Universal Measure of Bias (UMB). Interestingly, this measure comprises four subscales that tap into different domains in which a person could hold attitudes about people with obesity. For example, the Social Distance subscale, with items such as “I would not want to have a fat person as a roommate” was not affected by the manipulation. Neither was the Attractiveness subscale with items such as “I find fat people to be sexy.” The Equal Rights subscale of the UMB measures a somewhat different area of attitudes toward obese individuals with items that ask participants how much they want people with obesity to have their rights, privileges, salaries, etc protected legally. Participants’ ratings on this scale were not affected by exposure to weight-related humor in either experiment.

Likewise, the UMB Negative Judgment subscale, with items such as “Fat people are sloppy” and another dependent measure—the Obese Persons Trait Survey—were not affected by the manipulations. Both of these scales measure individuals’ belief in stereotypes about people with obesity.
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These findings are inconsistent with predications made based on previous empirical findings which have shown that stereotyped information that is presented to individuals can affect their self-reported attitudes about stigmatized groups. One previous study had found that exposing people to stereotypical comedic depictions of African Americans had an effect on individuals’ judgments of how guilty an African American was in a story about assault (Ford, 1997). In that study, participants viewed sketches from a television show that depicted African American characters as poor, uneducated, criminal, and violent—all within comedic sketches. Subsequently, participants rated the guilt of either a Caucasian or African-American suspect. Results showed that those exposed to the stereotypical comedic sketches rated an African-American suspect as guiltier than those in a control group who viewed a neutral comedic sketch. Similarly, Johnson et al (2009) found that images that portrayed stereotypes of black men and women had an effect on participants’ willingness to support public policies that would help black persons-in-need.

The findings of the present study indicate no such effects. One explanation for this could be that attitudes toward obesity are simply not affected by brief exposure to stigmatizing information whether presented humorously or not. Thus, unlike race, the media may not have the power to affect attitudes toward obesity after short exposure. Several studies however, would suggest that attitudes can be affected. For example, Domoff et al (2012) found that watching an episode of The Biggest Loser changed viewers’ attitudes about the controllability of weight as well as engendered greater dislike of people with obesity. Other studies have shown that looking at images of people with obesity performing stereotypical actions (e.g., eating, watching tv) can affect attitudes toward people with obesity (Pearl, Puhl & Brownell,
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2012; McClure, Puhl & Heuer, 2011) perhaps suggesting that the stimuli in the current investigation were not sufficiently powerful or long enough in duration to impact attitudes.

Study 1 utilized only written jokes and comments about obesity and may have lacked a necessary visual component used in previous research. Participants rated the jokes’ funniness at 1.12 and 1.16 (weight jokes and neutral jokes, respectively) on a scale from 0 to 4 indicating that they may have not found the jokes funny enough make them comfortable expressing their more negative attitudes. They were also asked only to read five jokes about obesity. Although this number is similar to other studies that have utilized written jokes (Ford, 2000), it may simply not have been enough. Study 2, however did use a somewhat stronger manipulation: video clips. Again, the video clips did not affect attitudes about people with obesity compared to a control group either. Thus, if visual stimuli are a necessary component for obesity stereotypes to affect attitudes, then stimuli used in Study 2 were certainly not sufficient.

Participants’ ratings of the videos do suggest that they may have thought they were funnier as mean ratings did appear to be somewhat higher (1.94 for the average of the videos versus 1.12 for the weight jokes). However, the video compilations used in Study 2 were short in duration at less than 2 minutes which may not have been long enough. Although not studying humor, previous research found effects on viewers’ attitudes about weight used an entire 40 minute episode of The Biggest Loser (Domoff et al, 2012). It is also possible that the video clips were too weak of a manipulation. That is, the content may have not been stigmatizing enough to affect attitudes in the predicted manner. However, previous research would suggest that the clips were representative of the type of weight humor common in the media. That is, the clips used in the present study were similar in content to the type found to be most prevalent in a content analysis conducted by Himes and Thompson (2007).
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Ultimately, Study 2 may not have been an ideal follow-up to Study 1. The design of Study 1 allowed for a well controlled contrast of the effects for stigmatizing information about people with obesity delivered either as a joke or as a nonhumorous comment. An experiment very similar in design to Study 1, but with video stimuli that were identical to each other in all ways except for the humorous delivery of the stigmatizing information would be a better test of whether humorous media depictions of obesity stereotypes can affect attitudes. Sufficiently powerful video stimuli would perhaps need to be at least the length of a full television episode. This is a logistical problem as the resources required to produce programming that is on par with that of film and television studios would be far outside the scope of the present investigation. However, if one were to be able to produce several versions of a sitcom (i.e., one filled with stigmatizing comments about obesity, a second filled with stigmatizing jokes about obesity, a third filled with neutral comments not about obesity, and a fourth with neutral jokes not about obesity), it would be possible to more directly measure the effects that Study 1 and Study 2 of the present research sought to investigate.

Study 2 was also designed to explore whether the gender of the target of humor was a relevant variable. Given that women seem to be more relevant targets for anti-fat attitudes than men (Puhl & Heuer, 2009), it was predicted that humor that targeted women would have a greater effect. No such relationship was found. Again, this could be due to a true negative result. However, it could also be due to other factors such as a weak manipulation (i.e., the difference between men and women targets was not salient enough). Future studies could include more thoroughly controlled video stimuli as well. Those used in the current study were from popular comedy films and television programs and although they represented the weight-related humor found in the media they were not standardized across conditions. That is, the
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clips varied across groups on more factors than just the gender of the target of humor. Future research could utilize custom made video clips that depict the same scenes with identical dialogue with the only difference between groups being the gender of the target. That level of experimental control was not possible using clips from actual programs.

Another explanation for the null findings in general could be that presentation of the dependent measures was not subtle enough. Previous studies of the way media affects attitude expression have used less conspicuous measures of subtle prejudice. For example, Ford et al (2008) asked participants how much money they would allocate for a various nonprofit organizations, one of which was a woman’s advocacy group (the dependent measure) and Ford (2000) asked participants to rate a character’s sexist behavior in a vignette. The present studies used much more straight forward assessments of participants’ attitudes and beliefs about people with obesity. Social desirability could have been a factor influencing participants’ responses in the current study. Like studies by Ford (2001) and Johnson et a. (2009), the effects of weight humor may be easier to detect by subtle measures of behavior.

The dependent measures used in the current studies were relatively overt measures on participants’ attitudes rather than behavioral expression of them. An improved dependent variable could be a measure of actual behavior measured in an in-person laboratory experiment. For example, one could measure the physical distance of a participants’ choice of seat from an obese confederate as a behavioral indicator of the construct of desired social distance. Alternatively, participants could be asked to rate obese job applicants in simulated hiring scenarios. Future research in this area should attempt to measure subtle changes in participant behavior and judgment due to stereotype priming.
Several potential moderator variables were also explored, but none were found to be significant moderators of the experimental effect. Namely, participant gender and body mass index (BMI) were two factors that one might suspect to be important interaction variables. Neither was significant or even nearly significant moderators in the analyses conducted. Many might assume gender would moderate an experimental effect in the present study because of previous research that has found men to have stronger anti-fat attitudes than women in general (Puhl & Heuer, 2008).

BMI may have been predicted to be a significant moderator because one could expect a viewer’s own body weight and shape to affect how they perceive jokes and comments that ridicule others with extra body weight. This was not the case in the present study. Even when comparing participants in the highest and lowest BMI categories, no interactions were found in either of the two experiments.

An essential moderator that was not measured in the present study is participants’ level of preexisting anti-fat attitudes. Prejudiced norm theory developed by Ford and Ferguson (2004) suggests that stereotyped information about a stigmatized group presented in a humorous manner can make individuals with high levels of prejudice toward that group more willing to express those attitudes. Their research on sexist stereotypes has found that for men already high in hostile sexist attitudes, sexist humor (but not sexist comments or neutral humor) seems have a “prejudice releasing” effect (Ford & Ferguson, 2004). It may be the case that humor about stereotypes creates an atmosphere in which individuals feel more at ease expressing their attitudes which they would have otherwise censored. Future studies will need to test for baseline level of anti-fat attitudes to be able to measure whether stigmatizing humor helps people with higher anti-fat attitudes feel more comfortable expressing their attitudes.
Another explanation for the nonsignificant findings could be that participants’ levels of anti-fat attitudes were already near their maximum when they began their participation and the manipulation may not have been able to drive them further. For example, among all participants in Study 1, only 16% strongly disagreed with statements such as “It is ok to tease people about their weight.” A biological drive to avoid persons with markers of disease as suggested by Kurzban and Leary (2001) and a lifetime of learning stereotypes about obesity might have prevented the manipulations from having any additional effect. Importantly, it does not seem to be the case that current study participants had abnormally high anti-fat attitudes. The data showed mean anti-fat attitude scores (i.e., UMB subscale means) that were comparable to those obtained by previous researchers in other samples (Durso & Latner, 2008).

Future studies in this area should also explore how humor about weight functions in individual relationships. Although the current experiments found media depictions of humor seem to have no momentary affect on the expression of attitudes toward people with obesity in general, there may still be a change in the way people think about specific obese people they know. Similarly, it would be interesting to develop an understanding of how individuals with obesity use humor about their own body weight. One might expect some people with obesity to use humor about their weight as a way to cope with stigma. Alternatively, others may avoid humor and resent jokes about weight. The stereotype of the “funny fat person” may or may not reflect a real type of person who uses humor to bring levity to an often stigmatized trait.

Future research could seek to determine whether individuals like a person with obesity more if they show themselves to be humorous, light-hearted, and willing to laugh at their own physical condition. Priming the stereotype of the “funny fat guy” could have a more positive effect than priming stereotypes about laziness and poor health. That is, viewers might think
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better about people with obesity after seeing a person light-heartedly joke about their weight and they may think worse of people with obesity after seeing an obese person being depicted as comically lazy or gluttonous. These factors could be important variables worth studying in future research. Additionally, the present study focused on the effect of directly reading or viewing humor targeting obesity. However, humor may function differently in social contexts than it does in the context of a viewer-media interaction. Future studies could investigate how people (especially those with extra body weight) are affected by hearing jokes about weight in real life social situations.

The potential impact of jokes about stigmatized groups on individuals’ attitudes is largely unstudied. The present study sought to determine whether jokes about obese people had an effect on recipients’ expression of anti-fat attitudes. Although the results suggest there may be no effect, there are still several important avenues open for further inquiry. Primarily, subtle measures of priming effects should be utilized in future studies. Also, longitudinal studies might be necessary to detect effects of long term exposure to humorous stereotypes about weight as predicted by cultivation theory. Prejudiced norm theory would support the notion that only individuals who already have strong anti-fat attitudes will be affected by humor about weight. Finally, there are many questions to be answered about the idiographic and interpersonal functions of disparaging humor targeting body weight.
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WEIGHT HUMOR


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Universal Measure of Bias
Rate statements from disagree (1) to agree (7):

1. Fat people tend toward bad behavior
2. Fat people are sloppy
3. Sometimes I think that Fat people are dishonest
4. Fat people have bad hygiene
5. In general, Fat people don’t think about the needs of other people
6. I would not want to have a Fat person as a roommate
7. I like Fat people.
8. I don’t enjoy having a conversation with a Fat person
9. I would be comfortable having a Fat person in my group of friends.
10. I would like having a Fat person at my place of worship or community center.
11. I find Fat people attractive.
12. Fat people make good romantic partners.
13. I find Fat people to be sexy.
14. Fat people are a turn-off
15. I try to understand the perspective of Fat people.
16. I find Fat people pleasant to look at.
17. Special effort should be taken to make sure that Fat people have the same rights and privileges as other people.
18. Special effort should be taken to make sure that Fat people have the same salaries as other people.
19. Special effort should be taken to make sure that Fat people have the same educational opportunities as other people.
20. Special effort should be taken to make sure that Fat people have the same housing opportunities as other people.
**Obese Person Trait Survey**

*For each of the following traits, please estimate the percentage (any number from 0 to 100) of Obese People whom you think possess this particular trait.*

<table>
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<tr>
<th>Trait</th>
<th>Percentage</th>
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<tr>
<td>Humorous</td>
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<td>Lazy</td>
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<tr>
<td>Self-Indulgent</td>
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<td>Sociable</td>
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APPENDIX C

Demographics

What is your age?

How do you describe yourself?
African American/Black
Caucasian/White
Hispanic/Latino/Latina
Asian/Pacific Islander
Native American
Other

What is your sex?

What is your yearly household income (if a dependent, this would mean your parents’ or guardians’ household income)?

Under $15,000
$15,000 - $35,000
$36,000 - $55,000
$56,000 - $75,000
$76,000 - $95,000
Over $95,000
I Don't Know

What is your current height?

What is your current weight?
DATE: April 9, 2014

TO: Jacob Burmeister, MA
FROM: Bowling Green State University Human Subjects Review Board

PROJECT TITLE: [528199-2] Weight Humor in Entertainment Media: Effects on Attitudes about Obesity
SUBMISSION TYPE: Revision

ACTION: APPROVED
APPROVAL DATE: April 8, 2014
EXPIRATION DATE: January 29, 2015
REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Revision materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The final approved version of the consent document(s) is available as a published Board Document in the Review Details page. You must use the approved version of the consent document when obtaining consent from participants. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please add the text equivalent of the HSRB IRBNet approval/expiration date stamp to the "footer" area of the electronic consent document.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

You have been approved to enroll 500 participants. If you wish to enroll additional participants you must seek approval from the HSRB.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on January 29, 2015. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or hsrb@bgsu.edu. Please include your project title and reference number in all correspondence regarding this project.
### Table 1. Study 1 Means and Results of Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Group Means and Standard Deviations</th>
<th>ANOVA Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>Weight Humor</td>
</tr>
<tr>
<td>UMB Negative Judgment</td>
<td>2.41 (1.05)</td>
<td>2.35 (1.04)</td>
</tr>
<tr>
<td>UMB Attraction</td>
<td>3.00 (0.71)</td>
<td>2.94 (0.71)</td>
</tr>
<tr>
<td>UMB Social Distance</td>
<td>2.48 (0.99)</td>
<td>2.41 (0.98)</td>
</tr>
<tr>
<td>UMB Equal Rights</td>
<td>3.89 (1.20)</td>
<td>3.95 (1.15)</td>
</tr>
<tr>
<td>Obese Persons Trait Survey</td>
<td>55.23 (22.02)</td>
<td>54.25 (22.26)</td>
</tr>
<tr>
<td>Acceptability of Weight Stigma</td>
<td>2.38 (1.13)</td>
<td>2.38 (1.09)</td>
</tr>
<tr>
<td>Vignette Humorousness</td>
<td>0.89 (0.82)</td>
<td>1.12 (0.82)</td>
</tr>
</tbody>
</table>

Note. Each row represents a separate analysis testing mean differences between conditions; Mean (Standard Deviation); N = 271 for all comparisons.
Table 2. Main Variables' Means and Standard Deviations by Condition

<table>
<thead>
<tr>
<th></th>
<th>Group Means and Standard Deviations</th>
<th>ANOVA Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>Female Target</td>
</tr>
<tr>
<td>UMB Negative Judgment</td>
<td>2.53 (1.09)</td>
<td>2.43 (1.05)</td>
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<tr>
<td>UMB Attraction</td>
<td>2.99 (0.78)</td>
<td>2.97 (0.72)</td>
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<tr>
<td>UMB Social Distance</td>
<td>2.46 (1.06)</td>
<td>2.49 (1.05)</td>
</tr>
<tr>
<td>UMB Equal Rights</td>
<td>4.20 (1.38)</td>
<td>4.28 (1.31)</td>
</tr>
<tr>
<td>Obese Persons Trait Survey</td>
<td>56.27 (24.00)</td>
<td>54.90 (24.68)</td>
</tr>
<tr>
<td>Acceptability of Weight Stigma</td>
<td>2.32 (1.22)</td>
<td>2.35 (1.22)</td>
</tr>
<tr>
<td>Video Humorousness</td>
<td>1.94 (1.12)</td>
<td>1.77 (1.10)</td>
</tr>
</tbody>
</table>

*Note.* Each row represents a separate analysis testing mean differences between conditions in Study 2; Mean (Standard Deviation); N = 146 for all comparisons.