MEDIA USE AND INTERNALIZED WEIGHT STIGMA IN A WEIGHT LOSS TREATMENT-SEEKING SAMPLE

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ABSTRACT

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Despite the fact that more than two-thirds of Americans are overweight, many members of this numerical majority are subject to a stigma that is attached to having extra body weight (Puhl & Brownell, 2003a). Weight stigma exists in all major areas of our society: stigmatized individuals face negative economic, interpersonal, mental health, and physical health outcomes (Puhl & Heuer, 2009). One possible effect of continual stigmatization is the eventual internalization of stigmatizing attitudes and beliefs (Durso & Latner, 2008; Lillis, Luoma, Levin, & Hayes, 2010). The internalization of stigma is related to poorer mental and physical health while at the same time harming an individual’s likelihood of successful health behavior change (Puhl, Moss-Racusin, & Schwartz, 2007). One specific agent for the promulgation of negative attitudes about weight is the media (Ata & Thompson, 2010). Evidence exists to show that the media, especially commercial television, is a force that shapes attitudes, values, beliefs, and even behaviors (Bryant & Oliver, 2008). This study sought to determine whether media consumption was related to internalized weight stigma in a sample of weight loss treatment seeking adults. Results indicate a small positive correlation between television use and internalized weight bias. Post hoc analyses indicate significant relationships between television use and depression, binge eating behavior, and decreased body satisfaction. Implications for models of stigma development, therapeutic interventions, and future research are discussed.
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INTRODUCTION

Current estimates are that more than 65% of adult Americans are overweight or obese (Centers for Disease Control, 2010). A person’s status as overweight or obese is normally determined by a measurement of Body Mass Index (BMI). The classification of overweight is applied to people with a BMI of 25 – 29.9 and people with BMIs of 30 or higher are considered obese. BMI is ultimately only a calculation of a height to weight ratio and some criticism has been aimed at the standards for which the overweight and obese cut-offs have been set (Lewis et al., 2009). However, BMI is strongly correlated to body fat percentage (Deurenberg, Weststrate, & Seidell, 1991) and has been shown to be a good predictor of weight related health and illness (NIH, 1998). As reported by a National Institutes of Health publication (1998), a BMI over 25 has been shown to be associated with greater morbidity for hypertension, type 2 diabetes, heart disease, stroke, gallbladder disease, osteoarthritis, and cancer of the breast, prostate, and colon (Centers for Disease Control, 2010).¹

In addition to physical health risks, there are also serious mental health concerns for people carrying extra weight. Various mental illnesses have been associated with a person’s BMI (Devlin, Yanovski, & Wilson, 2000). Obesity has been shown to be correlated to mood disorders and anxiety disorders in adult women and men (Becker, M argraf, Turke, Soeder, & Neumer, 2001; Crisp & McGuiness, 1976). Psychological distress appears to be especially common in people with more severe obesity (Onyike, Crum, Lee, Lyketsos, & Eaton, 2003). A high BMI early and throughout adulthood is also associated with the development of dementia

¹ Although the distinction between overweight and obese can be important for measurement of physical health outcomes and heavier individuals seem to face more discrimination (Puhl, Andreyeva, & Brownell, 2008), in this paper I will use the terms interchangeably except when referring to the previous research that did recognize a distinction.
(Fitzpatrick et al., 2009; Whitmer, Gunderson, Quesenberry, Zhou, & Yaffe, 2007). Although most research has found only correlations between obesity and mental illness, some studies have shown that obesity is a temporal predictor of psychological distress. For example, Roberts et al. (2003) reported results from a longitudinal study of 2123 adults showing that obesity was associated with risk for depression 5 years later, supporting the notion that obesity has clear negative mental health consequences.

**Stigma**

Generally, stigma can be defined as the negative bias against, and negative judgments about, people based on a socially devalued trait that they possess (Crocker & Major, 1989); this is the working definition used in the current study. Some researchers have noted that stigma is often conceptualized as a “designation or tag” given to a stigmatized person or that stigma should be described as synonymous with the act of discrimination (Link & Phelan, 2001). Both of these descriptions of stigma focus on the devalued trait in question and on the person doing the stigmatizing. An alternate view of stigma appeared in one of the early writings on the subject: Goffman (1963) argued that stigma must be discussed not as a negative attitude toward a person or as a devalued trait a person possesses. Rather he viewed stigma as a type of relationship between an expectation one has about a person and a devalued trait that causes that person to deviate from that expectation.

The specific traits that are devalued during stigmatization are largely socially determined, thus they are subject to change across time and across situations (Dovidio, Major, & Crocker, 2000). In contemporary American society people are commonly stigmatized because of sexual orientation, ethnicity, physical disability, mental and physical illness, and body shape (Heatherton, 2003). The consequence of possessing a devalued trait and belonging to a
stigmatized group can be a serious impairment of quality of life. For example, stigma related to mental illness has been found to negatively impact employment opportunities and income potential for individuals with a variety of mental illnesses (Sharac, McCrone, Clement, & Thornicroft, 2010). Experiencing racial stigmatization has been shown to predict later depression as well as high blood pressure in African American adults (Brown et al., 2000; Krieger, 1990). Corrigan and Morrison’s (2004) review of studies of the stigma of mental illness showed that individuals face damaging consequences associated the stigma surrounding a family member’s mental illness. Another specific stigmatized trait that has been increasingly studied is body weight.

**Weight Stigma & Discrimination**

A specific trait easily and often stigmatized in our culture is excess weight. Andreyeva, Puhl, and Brownell (2008) found the prevalence of weight based discrimination to be approximately 40% for adults whose BMIs are over 34. The same study found rates of weight discrimination that were comparable to other types of discrimination, particularly race and gender. A recent review of literature on weight stigma identified several areas of life in which weight stigma can have a powerfully negative impact (Puhl & Heuer, 2009). There is evidence suggesting that overweight people experience employment discrimination in the forms of lower wages, decreased opportunities for advancement, and disadvantages in employment acquisition (Baum & Ford, 2004; Puhl, Andreyeva, & Brownell, 2008). For example, a longitudinal study of workers in the US showed that workers who are obese earned as much as 6.3% less than obese

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2 In related research, the terms weight bias, weight stigma, and anti-fat attitudes are used interchangeably or are sometimes used to describe slightly different aspects of the same phenomenon. I will use “stigma” as a term to encompass negative attitudes and beliefs about people with extra body weight including discrimination against individuals who are overweight.
workers (Baum & Ford, 2004). Weight stigma exists in healthcare settings as well. One study measured implicit biases among a group of health professionals specializing in obesity and found they tend to hold strong negative attitudes toward overweight patients (Schwartz, Chambliss, Brownell, Blair, & Billington, 2003) Additionally, patients report feeling stigmatized by those providing health services (Puhl & Brownell, 2006). There is evidence that overweight patients actually receive poorer quality care from physicians (Bertakis & Azari, 2005). The stigma attached to weight negatively affects individuals’ friendships and romantic partnerships as well; research has consistently shown that people prefer relationship partners with various physical disabilities over obese partners (Chen & Brown, 2005; Latner, Stunkard, & Wilson, 2005). Experiencing weight stigma could also have a negative impact on weight loss efforts (Vartanian & Shaprow, 2008; Wott & Carels, 2009) as well as become a risk factor for the development of depression, decreased self-esteem, and disordered eating (Puhl, Moss-Racusin, & Shwartz, 2007).

One thing that makes weight stigma unique among other types of stigma (racial, physical disability, etc.) is that it almost universally socially acceptable. Weight stigma appears often in mainstream media (Himes & Thompson, 2007). Further evidence of the social acceptability of weight stigma can be found in the fact that it is currently legal in most parts of the United States to discriminate based upon weight (Puhl, Heuer, & Sarda, 2010). Indeed, weight stigma has been called the last acceptable form of discrimination (Brownell, Puhl, Schwartz, & Rudd, 2005).

**Internalized Weight Stigma**

Weight-based stigmatizing attitudes are exhibited as often by overweight individuals as they are by non-overweight individuals (Crandall, 1994; Latner et al., 2005). This suggests that
overweight people might not experience the psychologically protective in-group bias which buffers the distress caused by being a member of a stigmatized group (Myers, 2006; Wang, Brownell, & Wadden, 2004). This protective in-group bias may help by allowing group members to attribute stigmatizing attitudes of others to the statues of the group rather than their selves, while allowing them to focus on the things their group stereotypically does well (Crocker & Major, 1989).

With continued stigmatization and without any in-group bias, some individuals may begin to internalize the negative attitudes and even begin to view themselves as deserving of their denigrated status in society because of their body composition (Durso & Latner, 2008). Hence the term *internalized weight stigma*. This is a construct separate and different from external stigma. External weight stigma is an evaluation of others, whereas internalized weight stigma is centered on attributions about the self based on societal standards. Internalized weight stigma can be distinguished from negative body image in that a person could have poor body image and still expect and feel deserving of respect from his/her self and from others. Internalized weight bias, then, is a harmful attitude about a person’s own identity based on societal devaluation of his or her body shape and size. This kind of internalized weight stigma has been shown to be related to other psychopathology such as depression and disordered eating (Puhl, Moss-Racusin, & Schwartz, 2007).

A possible interpretation of the existence of internalized weight stigma is that it serves to motivate people to lose weight. However, individuals who express internalized stigma are less likely to employ successful weight loss strategies (Puhl et al., 2007) and are more likely to report binge eating (Carels et al., in press, Durso & Latner, 2008; Puhl et al., 2007).
Internalized weight stigma has been correlated to measures of psychological distress and poor obesity-related quality of life (Lillis et al., 2010). When compared to external weight stigma, internalized weight stigma has been shown to be a better predictor of low self-esteem and dysfunctional mood (Durso & Latner, 2008).

**Theories of Weight Stigma**

There are several theories often used to conceptualize the origin of weight stigma. Social identity theory (Tajfel, 1982) has been used to describe the process by which people develop social identities. People separate themselves into groups based on shared characteristics and prefer the members of their own group (in-group) over non-members (out-group) and hold biases against them to enhance in-group self-esteem, group cohesion, and status (Tajfel, 1982).

According to social identity theory, people who are not overweight view overweight people as part of an out-group. Unlike many stigmatized groups, overweight people do not seem to experience an in-group bias (Crocker & Major, 1989; Myers, 2006; Crandall, 1994). This might be related to the widely held and false assumption of the personal controllability of weight (Martinez, 2000; Puhl & Heuer, 2009). If obese individuals see their weight as something they could possibly change then they are less likely to identify with this group, perhaps seeing themselves as individuals who have been wrongly placed in the “obese” group (Carels et al, in press). Consistent with social identity theory, the permeability of group boundaries predicts the level of in-group bias for a lower-status group (Ellemers, van Knippenberg, De Vries, & Wilke, 1988). Thus it seems that when the perceived opportunity to change groups exists, individuals are likely to do things that will make them more like the high status group such as attempt to lose weight, hide their weight, stigmatize obese individuals, and identify more closely to non-obese individuals.
Attribution theory (Heider, 1958) describes the way individuals determine the internal and external causal factors that explain human behavior. Internal factors that affect behavior are things such as disposition and personality, whereas external factors that influence behavior are outside the person, such as the time of day. Weight stigma might be caused by individuals attributing a person’s excess body weight to an internal factor (e.g., laziness, poor self-discipline, etc.; Puhl & Brownell, 2003b). An important component of the attribution analysis of weight stigma is the assumption people have that a person’s body weight is under his or her conscious control. The attribution theory explanation of weight stigma would be supported by the finding that stigmatizing attitudes can be lessened by educating people about the genetic and biological factors that affect obesity. However, attempts to change stigmatizing attitudes toward the obese have been met with mixed results (Teachman et al., 2003; Puhl & Brownell, 2003; Wiese et al., 1992). A recent review of studies that attempted to reduce weight-based stigma in individuals found some support for interventions that used social consensus and social norm information to change attitudes, however these studies were few and had methodological problems (Danielsdottir, O’Brien, & Ciaoc, 2010).

While these theories of stigma are useful for describing the macro psychosocial systems in which weight stigma develops, it is also necessary to understand the more direct societal sources that may promote weight stigma, such as the media.

**The Media and Weight Stigma**

Television is an increasingly powerful force in the shaping of our culture and has been the subject of much research (Bryant & Oliver, 2008). Currently, the average American watches more than 35 hours of television per week and the vast majority of it includes advertising (Nielsen Company, 2010). More than 99% of Americans own a television and more than half of
US households have three or more televisions (Nielsen Company, 2009). Therefore, there is plenty of opportunity for people to be exposed to images, characters, statements, and social interactions that could fuel internalized weight stigma (Ata & Thompson, 2010).

Indeed, television programs are unfriendly to overweight people and do offer stigmatizing material (Puhl & Heuer, 2009). The news media has presented a language of blame and shame concerning obesity, most often focusing on obesity as an immoral personal choice while ignoring social and environmental causes of obesity (Boero, 2007; Lawrence, 2004). When presenting causes and solutions for obesity, television news media most often focus on personal causes and solutions for obesity. This happens while at the same time there is less mention of the social, biological, and environmental causes and solutions such as public policy aimed at changing the availability of unhealthful foods, genetic predispositions for obesity, and the modern sedentary lifestyle (Kim & Willis, 2007). One recent study analyzed 262 articles with “obese,” “obesity,” or “overweight” in the title or lead paragraph published in The New York Times and News Week from 1995 to 2005 and found that the cause of obesity was attributed to individuals’ choices 39% of the time, social-structural causes were cited 27% of the time and biological causes just 15% (Saguy, Gruys, & Gong, 2010). The same study found that individual or personal solutions to obesity were discussed in articles 56% of the time while public policy solutions were discussed in just 21% of the articles. In reality though, it seems that obesity has a complex etiology involving many causes and to offer personal choice as the only cause and the solution is highly misleading and possibly harmful.

Television advertising of weight loss related products could also be contributing to the propagation of weight stigma. For example, “before” images in weight loss commercials show overweight individuals being unhappy and dissatisfied, while in the “after” pictures, people are
commonly shown as happy (Blaine & McElroy, 2002). The resulting message is that to be fat is to be unhappy. The outrageous claims of the ease with which weight can be lost could also be contributing to the widely held belief that obesity can be easily controlled with weight loss products (Cleland, 2002; Puhl & Brownell, 2003b) and this myth of controllability of weight can bolster stigmatizing attitudes by sending the message that obesity is caused by a personal character flaw such as laziness or gluttony (Puhl & Brownell, 2003b).

While the primary message from the television news and advertising media seems to be that obesity is a controllable condition founded in personal weakness, the message being delivered by entertainment television programming is that being thin is good and being fat is bad. Greenberg et al (2003) analyzed over 1000 main characters from television programs. The overweight male characters in the sample were significantly less likely to be portrayed as people with friends or romantic relationships or to even talk about dating compared to non-overweight males. Similarly, overweight female characters were significantly less likely to be portrayed as physically attractive or to have romantic relationships. Other research has shown that the number of negative comments a female character receives from male characters can be predicted by her body weight (Fouts & Burggraf, 2000). Research on children’s programming has identified similar portrayals of overweight characters as ugly and bad compared to thin characters who are attractive and good (Klein & Shiffman, 2005; Klein & Shiffman, 2006).

One way to marginalize an already stigmatized group is through underrepresentation in the media which relegates members of the stigmatized group to just a few negatively stereotyped roles (Bryant & Oliver, 2008). The representation of obese people on television provides a clear example of this. Recent research and research dating from more than a decade ago find that overweight adults and children are vastly underrepresented in television programming.
Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003; Robinson, Callister, & Jankoski, 2008; White, Ginsburg, & Brown, 1999). An analysis of the top ten fictional television programs from 2000 showed that only 14% of female characters and 24% of male characters were overweight (Greenberg et al., 2003). In real life more than 65% of adults are overweight (Centers for Disease Control, 2010). The media’s rampant underrepresentation of the overweight population and the depiction of overweight characters as generally undesirable presents a highly stigmatized view of overweight people to the audience.

The Media’s effect on Attitudes affect

The media has been found to be an influential force contributing to the development of personal and public attitudes (Petty, Brinol, & Priester, 2009). In fact, a wide range of well studied attitudes have been shown to be related to media exposure, from political opinions and consumer product interests to racism and individuals’ body image (Bryant & Oliver, 2008).

The relationships between the weight stigma presented in the media and individuals’ stigmatizing attitudes is an area of research in need of further study (Puhl & Heuer, 2009). Although the existence of this relationship has not yet been fully tested, there is some evidence that children’s level of exposure to media is related to their negative attitudes towards overweight people (Harrison, 2000; Latner, Rosewall, & Simmonds, 2007). In laboratory experiments, media exposure can be experimentally manipulated to produce an effect on weight stigma related attitudes. McClure, Puhl, and Heuer (2010) found that by presenting a neutral news story about obesity with an unflattering photograph of an obese person they were able increase subjects’ negative attitudes towards obese people. In a different experiment, subjects shown “before and after” weight loss advertisements described body weight as being more controllable than did subjects who were show only a before or only an after photo (Geier,
Schwartz, & Brownell, 2003). This suggests that the media does impact attitudes about the controllability of obesity which are related to stigmatizing attitudes (Puhl & Brownell, 2003b).

**Summary and Conclusions**

Weight stigma is a pervasive and broadly acceptable source of discrimination and denigration of a large segment of the population of the United States. Overweight people have reported experiencing weight stigma in a wide variety of settings. Individuals report being discriminated against at work and there is evidence that there is a wage gap between overweight and normal weight workers. In healthcare people with excess weight report being mistreated by clinicians and in turn physicians, medical students, and even weight loss researchers exhibit anti-fat biases.

It may be the case that after extended exposure to stigma, individuals come to internalize weight stigma and apply the stigmatizing attitudes to their selves. Newly developed measures of internalized weight stigma have been used to show high levels of internalized weight stigma exist within samples of weight loss treatment seeking adults (Durso & Latner, 2008; Lillis et al, 2010). Internalized weight stigma is related to disordered eating and poor weight loss strategies thus high levels of internalized weight stigma could have an especially deleterious effect on overweight people attempting weight loss.

Researchers have attempted to use various theories to describe and explain weight stigma including social identity theory and attribution theory. While these theories provide useful models for conceptualizing and describing weight stigma there is still research to be done to find the immediate societal sources of weight stigma and internalized weight stigma. The media has been shown to affect other attitudes, beliefs, and behaviors and is a major purveyor of stigmatizing comments, jokes, images, and situations. The major goal of this study is to
determine whether television media consumption is related to internalized weight stigma in a sample of weight loss treatment seeking adults. This is a question that has not yet been answered by the existing research. Adults attempting to lose weight may represent a sample particularly sensitive to weight-related messages in the media and may be more focused on their body and weight than overweight individuals not actively trying to lose weight.

**Hypotheses**

**Hypothesis 1**

Participants’ internalized weight stigma will be related to hours of television watched per week. A significant positive relationship between internalized weight bias and amount of television use would provide the first link between the large amount of stigmatizing material shown on television and internalized weight stigma in adults.

**Hypothesis 2**

Participants’ internalized weight stigma will be positively related to magazine content type read (i.e. those who read beauty and fashion magazines will have higher WBIS scores that those who read primarily nature and science magazines). Similar research methods have been used to detect a relationship between magazine exposure and disordered eating in middle school girls (Vaughan & Fouts, 2004).

**Hypothesis 3**

Participants’ internalized weight stigma will be related to the type of television content most watched. For example, those who watch programs high in thinness depiction and promotion (TDP; Bissell & Zhou, 2004) will have higher scores on the WBIS. Past studies asking similar questions have measured samples of college undergraduates and measured body-image distortion and disordered eating (Harrison, 2000; Thompson & Heinberg, 1999).
has not been research that has tested whether viewing these types of programs is related to internalized weight bias in overweight adults. Data returned from participants will be explored for testable patterns that are consistent with existing theoretical models that attempt to explain the effects of television media on internalized weight stigma. For example, if patterns of reported television program preferences emerge that suggest two types of viewer (e.g. sitcoms and dramas versus sports and reality TV) then analysis of variance testing would be used to determine if one type of viewer had significantly higher WBIS scores.
METHOD

Participants

Participants were adults seeking weight loss treatment (N=62; 77.42% Female; mean age 44, range 18-65, SD = 13.3). The mean BMI of the sample was 38.9 (SD = 9.3) and ranged from 26.7 to 64. Participants were primarily white (85.5%), most had at least some college education (82.3%), and a majority were married (64.5%). All were recruited through local newspapers, university emails, and public flyers. The participants were subjects in a 12-week weight loss intervention, the results of which are not discussed here. The data for this study were collected at in-person baseline assessments before any experimental manipulation or weight loss intervention was applied. Eligible participants met the inclusion criteria of BMI ≥ 27, age ≥ 18, nonsmoking, and no existence of major medical problems (i.e., uncontrolled diabetes, uncontrolled blood pressure, severe physical disability, dementia, renal dysfunction).

Participants were asked to provide a $50 or $100 deposit to be returned upon completion of the weight loss program. All participants provided their informed consent and the procedures were approved by the university Human Subjects Review Board.

Study Design

Data were collected at an initial orientation session that was part of a larger experiment testing the effectiveness of two weight loss intervention types. All questionnaires were completed by participants on computers. Additional measures of height, weight, and body fat percentage were taken after completion of the self-report measure.

[3] One participant was provided with a paper and pencil version of the measures.
Measures

**Weight Bias Internalization Scale (WBIS).** Durso and Latner (2008) developed the WBIS as an 11 item instrument to measure internalized weight stigma in overweight adults. The creators of the WBIS operationally defined internalized weight stigma as negative attributions about oneself based on societal norms which disparage individuals who have the socially devalued trait of excess weight.

The items of the WBIS (see Appendix A) were derived from existing measures of anti-fat attitudes and internalized homonegativity (Durso & Latner, 2008; Morrison & O'Connor, 1999). Homonegativity is a construct similar in concept to internalized weight stigma but which measures the self-directed negative social perceptions of homosexuality (Szymanski & Chung, 2001). The distinct content areas Durso and Latner attempted to create within the WBIS were “acceptance of weight status, desire for change, effect of perceived weight status on mood, perceived personal value, ease of life, public appearance and social interaction, and recognition of the existence and unfairness of weight stigma.” Items were designed to be rated via self-report on a seven point Likert scale. Answer choices range from *strongly disagree* to *strongly agree*. The final 11 item scale had good internal consistency (Cronbach’s Alpha = 0.89; Durso and Latner).

Internalized weight stigma as a construct should be somewhat related to measures of weight stigma because the attitudes measured are very similar, but the target is the self instead of another person (Durso & Latner, 2008). Thus, during validation Durso and Latner measured the convergent validity by administering the Anti-fat Attitudes Questionnaire (AAQ) (Crandall, 1994). Scores on the WBIS correlated to those on the AAQ (*r* = .31, *p* < .01) suggesting that
there is some relationship between a person’s negative attributions about their own weight (as measured by the WBIS) and his or her negative attributions about the weight of others.

**Television Media Exposure.** Participants were asked to provide the number of hours per day they watch television (ranging from “0” to “More than 12” in one hour increments) for each day of the week (see Appendix B). This self-report measure was designed and administered in a manner similar to previous research measuring media consumption (Grabe & Hyde, 2009; Schooler, Monique Ward, Merriwether, & Caruthers, 2004; Vaughan & Fouts, 2004; Ward, Merriwether, & Caruthers, 2006). This self-report measure was chosen for ease and efficiency; other measures of media use, including viewing logs and diaries, have not been shown to be superior to questionnaire format self-report measures (Clark et al., 2009; Matton et al., 2007).

**Television Media Content.** As a measure of television programming content preference, a list of the top 95 television programs from the two weeks before data were collected (Gorman & Seidman, 2011). Participants were asked to mark programs they watch regularly (see Appendix C).

**Magazine Media Content.** As another measure of media content preference, participants were provided with a list of the top 100 magazine publications (Magazine Publishers of America, 2011) and asked to select those which they read regularly. Magazines were assigned one of two categories based on the primary focus of the magazine (see Appendix D). The categories were *appearance/body focused* (comprised of body building, fitness, beauty, fashion magazines etc.) and *nonappearance/nonbody focused* (comprised of all nonappearance focused magazines such as home, gardening, photography, etc.)

**Height and Body Weight.** Participants’ body weight was measured in 0.1 pound increments using a Tanita BF-350e electronic scale. Height was measured in 0.5 increments.
using a Health-O-Meter brand balance beam scale height rod. Participants’ BMIs were calculated using height and weight data obtained from these instruments.

**Measures used in Post Hoc Analyses**

Additional post hoc analyses were performed to explore the relationship between TV usage and body satisfaction, depression, and binge eating.

**Body Satisfaction.** Participants’ body satisfaction was measured by the 69 item Multidimensional Body Self-Relations Questionnaire (MBSRQ; Cash, 2000; See Appendix F). The MBSRQ is comprised of five subscales that measure various aspects of appearance. The Body Areas Satisfaction Subscale (MBSRQ-BASS) was chosen as a measure of overall body satisfaction. Cronbach’s α was 0.81.

**Depression.** Participants’ level of depression was measured using the Center for Epidemiological Studies Depression scale (CES-D; Radloff 1977). The CES-D uses 20 items to measure depression symptoms in the areas of subjective mood, lack of well-being, psychomotor retardation, and interpersonal problems (Appendix E). In the current study, Cronbach’s α was 0.93.

**Binge eating.** Participants’ binge eating behavior was measured using the Binge Eating Scale (BES; Gormally, Black, Daston, & Rardin, 1982). The BES is a 16 item questionnaire that measures self-report of both binge eating behavior and cognitions and emotions related to binge eating (e.g., loss of control, guilt) that was developed to measure binge eating pathology in an obese sample. For the current study, Cronbach’s α was 0.85.
RESULTS

Main Variable Descriptives

Internalized Weight Bias. Participants’ scores on the Weight Bias Internalization Scale were normally distributed with a mean of 49.9 and a standard deviation of 14.5 (range = 18 – 56). This level of bias for the sample was comparable to that found in previous other studies of weight loss treatment seekers (Carels et al, 2010, Carels et al, In Press). Cronbach’s Alpha for the current study sample was .89 suggesting good internal consistency. To check for items that could be removed to enhance internal reliability, a factor analysis was conducted using varimax rotation. Factor structure suggested that removal of one item would increase the alpha to .90. Because of the small difference between reliability coefficients of the original scale and the factored scale, and to remain in line with previous research, the original 11 item scale was used for further analyses.

Hours of TV per Week. Consistent with previous research (Hu et al., 2003), participants reported watching an average of 28.5 hours of television per week (SD = 12.9). Participants reported watching approximately half of their hours each week on the weekend ($M = 14.7$) and half during the week ($M = 13.8$).

Preliminary Analyses

Preliminary analyses of relationships between demographic variables and main variables (i.e., BMI, age, income, education level) indicated significant correlations between TV use and BMI ($r = .280, p = .014$) as well as between Internalized Weight Bias and Age ($r = -.329, p = .005$). The variables Age and BMI were controlled for in other analyses.
Hypothesis 1

Hypothesis 1, that participants’ internalized weight stigma would be related to hours of television watched per week was supported by a significant correlation between these two variables ($r = .25, p < .05$). Participants who watched more television were more likely to report higher levels of internalized weight bias.

Hypothesis 2

Hypothesis 2, that participants who read beauty and appearance-focused magazines would exhibit higher levels of internalized weight bias was not supported. More than half ($n = 36, 58.1\%$) of participants reported that they did not regularly read any appearance focused magazines. Of the 26 participants (41.0\%) who did report regularly reading beauty focused magazines, the average number read was 2.3 ($SD = 1.9$). For participants who did report reading some beauty focused magazines ($n = 26, 41\%; M = 2.3; SD = 1.9$), analysis of correlations between the number of magazines read and internalized weight bias revealed no significant relationship ($r = .16, p = .22$). Because of the large portion of the sample that did not read any appearance focused magazines it was decided to compare magazine readers categorically. Using ANOVA to test for differences in mean levels of internalized weight bias between participants who reported reading beauty and appearance-focused magazines ($n = 26, M = 52.3, SD = 15.6$) and those who did not ($n = 36, M = 48.3, SD = 13.6$), no significant differences were found $F(1, 60) = 1.15, p = .288$. Participants who reported regularly reading beauty and appearance-focused magazines did not show higher levels of internalized weight bias than those who did not report reading such magazines.
Exploration of Television Programs by Type

To examine differences in participants who watch various types of programming, participants were asked to indicate which of the 100 most popular television shows they watched regularly. The list of television shows was populated with programs from two weeks prior to the study. These television programs were coded for show type into the four categories Reality TV, Sitcom, Drama, Live (e.g., sports, news, documentary) based on those created by Neilson Ratings’ survey of the US national TV audience (Nielson Company, 2011). Examination of the programs listed for participants to choose from yielded no apparent patterns of programming that could be considered particularly high in weight stigma, thus analyses were conducting by types of television show (e.g., Reality TV, Drama, etc.).

**Reality TV.** Twenty-seven participants (43.5%) reported watching zero reality TV shows regularly, 17 (27.4%) watched 1 show, 14 (22.6%) regularly watched 2 shows, and 4 participants (6.5%) watched 3 reality TV shows regularly. For participants who did report watching at least some reality TV, analysis of correlations between the percentage TV watching that was made of reality shows and internalized weight bias revealed no significant relationship \( r = .05, p = .39 \). Because of the large portion of participants who do not watch reality TV shows at all, data were analyzed categorically using ANOVA by comparing those who watched one or more reality TV show to those who watch zero. Results indicate that internalized weight stigma scores were not significantly different for those who reported regularly watching \( (n = 34, M = 52.2, SD = 12.3) \) and those who did not report watching reality TV \( (n = 26, M = 47.3 \ SD = 16.6) \), \( F(1, 60) = 1.75, p = .191 \).

**Sitcoms.** Twenty-two participants (35.5%) reported watching zero sitcoms regularly, 16 (25.8%) watched 1 show, 11 (17.7%) regularly watched 2 shows, 9 participants (14.5%)
regularly watched 3 sitcoms, 2 participants (3.2%) reported watching 4 shows, and 2 participants (3.2%) reported watching 5 sitcoms regularly. For participants who did report watching at least some sitcoms, analysis of correlations between the percentage TV watching that was made of sitcoms and internalized weight bias revealed no significant relationship ($r = .10, p = .14$). Again, because of the large portion of the sample that reported watching zero sitcoms data were analyzed categorically using ANOVA by comparing those who watched one or more sitcom regularly to those who watched zero regularly. When comparing internalized weight stigma between participants who report regularly watching Sitcoms ($n = 40, M = 51.0, SD = 14.6$) to those who do not ($n = 22, M = 48.1, SD = 14.4$), no significant differences were found $F(1, 60) = .558, p = .458$.

**Dramas.** Variability in responses for Drama TV shows was greater. Only 8 participants (12.9%) reported watching zero dramas regularly, 10 participants (16.1%) reported watching 1 drama on a regular basis, 44 participants (71%) of participants reported watching between 2 and 13 dramas regularly. Number of dramas watched regularly was not related to an increase in internalized weight bias ($r = -.02, p = .43$).

**Live TV.** Twenty-eight participants (45.2%) reported watching zero regularly, 15 (24.2%) watched 1 regularly, 10 (16.1%) watched 2, 4 (6.5%) watched 3, 4 (6.5%) watched 4 regularly, and 1 participant (1.6%) watched 5 of these programs regularly. For participants who did report watching at least some live TV, analysis of correlations between the percentage TV watching that was live TV and internalized weight bias revealed no significant relationship ($r = .03, p = .41$). Again, because of the large portion of the sample that reported watching zero live TV shows regularly, data were analyzed categorically using ANOVA by comparing those who watched one or more show regularly to those who watched zero regularly. Internalized weight
bias scores of participants who reported regularly watching Live TV ($n = 34$, $M = 49.6$, $SD = 14.7$) were not significantly different than those who did not ($n = 28$, $M = 50.3$, $SD = 14.5$), $F(1, 60) = .033, p = .857$.

**Exploratory Analyses.** Additional relationships between television use and various psychosocial variables were not originally hypothesized but were explored and several significant relationships were found. Television use was related to increased depression ($r = .253, p < .05$), increased binge eating behavior ($r = .287, p < .05$), and decreased overall body satisfaction ($r = -.247, p < .05$).
DISCUSSION

Despite high prevalence, overweight and obesity are highly stigmatized conditions (Puhl & Brownell, 2003a). Weight stigma has been shown to exist in employment, education, healthcare, and interpersonal relationships (Baum & Ford, 2004; Puhl, Andreyeva, & Brownell, 2008; Schwartz et al., 2003; Bertakis & Azari, 2005; Chen & Brown, 2005; Latner, Stunkard, & Wilson, 2005). Clues to the origins of weight stigma can be found in evolutionary theories of stigma in general which suggest that overweight individuals have a visible marker of reduced health and therefore are evaluated as poorer social exchange partners to be avoided (Kurzban & Leary, 2001). While this hypothesis provides a good explanation for the ultimate origin of interpersonal stigma in general, there is also value in examining more proximal sources of weight stigma in modern society. One such source of weight stigma is the media. Empirical evidence shows that obese people are seldom shown in the media except in a denigrating manner (Himes & Thompson, 2007; Greenberg et al, 2003). At the same time, there is a measurable thin is good, fat is bad attitude that is promulgated by television and print media. Even news stories about obesity, weight loss, and health are more likely to place blame for obesity on obese individuals’ personal character rather than biological or societal causes (Boero, 2007; Lawrence, 2004).

The media has not been empirically measured as a possible source of internalized weight bias for people seeking weight loss treatment. The present study sought to examine whether media use was related to internalized weight bias in this way. Specifically, it was hypothesized that the amount of television participants watched would be related to internalized weight bias. This hypothesis was supported by a small positive correlation between hours of television watched and degree of internalized weight bias. Ample evidence exists to suggest that the media
can influence a number of attitudes and beliefs (Petty, Brinol, & Priester, 2009; Bryant & Oliver, 2008)). Additionally, several studies show that vast amounts of stigmatizing material are presented in the media (Himes & Thompson, 2007; Greenberg et al, 2003). From here, it is logical to hypothesize that there may be somewhat of a dose-response relationship between media exposure and stigmatizing attitudes, including internalized attitudes. Empirical findings from the current study offer media exposure (i.e., television use) as a potential contributor to the development of stigmatizing attitudes that are internalized.

The finding of a relationship between television use and internalized weight stigma may inform future research and development of theoretical views of stigma. For example, attribution theory has been used to explain proximal causes of other forms of stigma, such as the stigma of serious mental illness, substance abuse, and AIDS (Weiner, Bernard 1988; Corrigan, 2000). Corrigan (2000) used a model based on attribution theory to describe stereotypes about mentally ill persons (e.g., that they are dangerous) as a cognitive mediator between a stimulus that creates awareness that a person has a mental illness (e.g., seeing a person with poor hygiene talking to herself) and a stigmatizing behavior (e.g., avoiding that person on a city street). While commonly used to account for stigmatizing behaviors in response to a stigmatized out-group, attribution theory could be applied in a similar way to provide a framework for explaining weight stigma and internalized weight stigma. In the case of internalized stigma, these attitudes are applied to the self rather than another person. According to attribution theory then, individuals’ stigmatizing attitudes and negative stereotypical beliefs are the cognitive mediators in the link between stimuli (e.g., visually seeing extra body weight on a person, labeling someone as fat, etc.) and stigmatizing behaviors (e.g., blaming a person for her weight, avoiding social interactions, etc).
This significant relationship between television use and internalized weight stigma does not necessarily suggest watching television causes internalized weight stigma. It could be that individuals who experience higher levels of internalized weight stigma avoid other activities that involve more interpersonal contact and instead spend time watching more television. In such an alternative interpretation, internalized weight stigma would be causing increased television viewing. Another alternative interpretation could be that some other third variable is driving both higher television use and higher internalized weight stigma.

Future research in this area should focus on determining if there is a causal relationship between television use and internalized weight stigma. A causal link between these variables would be necessary before adding television use to any model that attempts to explain the development of stigmatizing attitudes. Longitudinal designs could be used to test for an increase in internalized weight stigma over time when television use is high. Implications of such a finding would have an impact on the development of stigma reduction strategies and weight loss treatment. Additionally, research should be done with a more generalizable sample; weight loss treatment seeking adults are a population certainly worth studying, but findings of a relationship between television use and weight stigma (and internalized weight stigma) within the broader population would be highly relevant as well.

A second hypothesis tested in the current study was that being exposed to certain types of media can influence an individual’s level of internalized weight stigma. Specifically, individuals who regularly read magazines that focus primarily on beauty and physical appearance would have higher levels of internalized weight stigma. Results did not support this hypothesis as no relationships were found between the type of media consumed and levels of internalized weight bias. However, there were important limitations that should be considered when interpreting
these results. In this study, participants were asked to simply check which magazine titles they read regularly. While this could be a valid way to measure which specific magazines participants are exposed to, it did not assess the amount of time spent reading the magazine. “Regularly” is also a term that could be interpreted very differently from person to person, some may consider once a month regularly whereas for others “regularly” is every day. Another limitation to consider when interpreting these results is the small sample size (N = 62) and the relatively low rate of magazine use within the sample (less than half the sample read beauty magazines and those who did reported reading approximately 2 magazines regularly). Both of these factors could prohibit the ability to detect differences. The finding of no relationship between magazine use and internalized weight stigma could point to magazines in general being a less frequently used source of entertainment and information (Matsa, 2011). Future research examining possible relationships between media and internalized weight stigma should explore media outlets (e.g., social networking, online news, mobile phone applications) that may have begun to replace magazines.

A third hypothesis, that the type of television show watched would be related to higher levels of internalized weight stigma was not supported. These findings are interesting in light of a significant correlation between hours of television watched and increased internalized weight stigma in this sample. One interpretation could be that it does not matter what type of programming people watch, it is merely the amount of television viewed that matters. This could be because the advertising that is shown between programing does not vary enough from show to show in its ability to stimulate internalized weight bias and it is partially the advertising that accounts for some of the relationship between television use and internalized weight stigma. It could also be that most advertising and programming has some anti-fat or pro-thin bias that
would result in the differences between types of show being null. However, such conclusions could only be drawn from additional research because there were several limitations to consider. For one, television programming type was measured by asking participants which of the most popular programs they watched regularly. If internalized weight stigma is an attitude that is thought to develop over a person’s lifetime, then the media a person is exposed to over a long period of time would be what is expected to have an influence, not that which they currently consume. A better measure then could be a long-term recording of an individual’s media diet through the use of a long-term daily diary or electronic monitoring of television use. An additional limitation is the sample measured. This small sample may not have provided enough variability in television programs viewed for a relationships to be detected. Future research should measure a larger sample that includes overweight individuals not seeking treatment for weight loss. It is also important to consider that this research was perhaps unable to identify the specific shows that most strongly present stigmatizing imagery and situations. For example, some shows might promote anti-fat attitudes, while others promote the thin ideal. Future research could correct this problem by undertaking the retrieval of more specific information about the programming and advertising that people are exposed to.

**Discussion of Exploratory Findings**

In this sample, the number of hours of television watched per week was related to an increase in depressive symptoms ($r = .25, p = .02$). There are several possible explanations for this relationship. First, some of the symptoms of depression that tend to be connected to decreased activity (e.g. having low energy, loss of interest in social activity) could lead people to stay home more and spend more time watching television. Previous research has shown that varying levels of depression are related to increased computer use (de Wit et al, 2011). Second,
it could be that individuals who are less physically mobile may be both more depressed and more likely to pursue activities that are sedentary in nature (i.e., watching tv). This might be especially true in the current study sample in which mean BMI was quite high at 38.9, a level at which most people would experience some mobility-limiting effects of weight (Mortensen et al, 2006; Calle et al, 1999). An alternative interpretation is that watching television could serve to create or contribute to poor mood by presenting viewers with large amounts of upward social comparisons of material wealth and physical beauty while simultaneously preventing activities that enhance and improve mood (e.g., exercise, development of friendships, education, hobbies; Lyubomirsky, 2008). Indeed, previous research has found that adolescent television use increases risk for developing depression as a young adult (Primack et al., 2009). Finally, it is possible that a third, unknown variable such as social phobia, physical immobility, or living in a dangerous neighborhood could cause a person to both feel depressed and engage in more television watching.

Hours of television watched per week was also negatively related to a measure of body satisfaction. This result indicates that the more hours of television a participant reports viewing, the worse his or her general body satisfaction. Much research has presented findings supporting a link between media use and body satisfaction especially in females and adolescent populations, but also in males (Tiggemann, 2003; Tiggemann, 2005; Grogan, 2008). The correlation found in the present study could represent a similar relationship between television use and decreased body satisfaction for overweight adults. Given the relatively tiny proportion of overweight individuals represented on television and the amount of stigmatization received by that small minority, one could hypothesize that watching television would have an especially strong relationship to poorer body satisfaction in this sample. However, drawing any causal
relationship between these variables based on these data would be a mistake. Similar to depression, decreased body satisfaction could be related to increased television use because of social withdrawal.

Binge eating was also related to amount of television use evidenced by a small positive correlation. Similar to the relationship between television use and depression, this relationship should be interpreted with care in order to not infer causality. However, previous research has suggested some connection between the introduction of television and an increase in disordered eating in a sample of ethnic Fijian high school girls after the introduction of Western television (Becker, 2002). Other studies have showed that media, including but not necessarily television use, has been related to eating disorder symptomology in both male and female adolescents and young adults (Harrison, K. 2000; Harrison, 1997). The implication of television use as a correlate of binge eating behavior could have an impact on the development of future behavioral weight loss interventions.

In summary, internalized weight stigma is a common experience for individuals trying to lose weight and is related to poorer psychological health and weight loss outcomes. Previous research has also suggested that the media is a purveyor stigmatizing images, behaviors, and language. Results from this study found that the amount of television participants watched was positively related to their internalized weight bias. Further empirical evidence supporting a causal link between these variables would have implications for the development of weight loss and stigma reduction programs. Exploratory analyses suggest that future research should also examine the relationship between television use and other forms a psychological maladjustment including depression and body satisfaction.
REFERENCES


Boero, N. (2007). All the news that's fat to print: The American "obesity epidemic" and the media. *Qualitative Sociology, 30*(1), 41-60.


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### APPENDIX A

**WBIS**

1. Please rate your agreement with each item.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>Slightly disagree</th>
<th>Neither agree nor disagree</th>
<th>Slightly agree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>As an overweight person, I feel that I am just as competent as anyone.</td>
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<td>I am less attractive than most other people because of my weight.</td>
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<td>I feel anxious about being overweight because of what people might think of me.</td>
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<td>I wish I could drastically change my weight.</td>
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<td>Whenever I think a lot about being overweight, I feel depressed.</td>
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<td>I hate myself for being overweight.</td>
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<td>My weight is a major way that I judge my value as a person.</td>
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<td>I don't feel that I deserve to have a really fulfilling social life, as long as I am overweight.</td>
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<td>I am OK being the weight that I am.</td>
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<td>Because I am overweight, I don't feel like my true self.</td>
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<td>Because of my weight, I don't understand how anyone attractive would want to date me.</td>
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</tbody>
</table>
### APPENDIX B

#### TELEVISION MEDIA EXPOSURE

3. About how many hours of television do you watch on each of the following days?

<table>
<thead>
<tr>
<th>Day</th>
<th>0 hrs</th>
<th>1 hr</th>
<th>2 hrs</th>
<th>3 hrs</th>
<th>4 hrs</th>
<th>5 hrs</th>
<th>6 hrs</th>
<th>7 hrs</th>
<th>8 hrs</th>
<th>9 hrs</th>
<th>10 hrs</th>
<th>11 hrs</th>
<th>12 hrs or more</th>
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<tbody>
<tr>
<td>Sunday</td>
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</tbody>
</table>
# APPENDIX C

## TELEVISION MEDIA CONTENT

1. Please check any of the following programs you watch regularly:

<table>
<thead>
<tr>
<th>Channel/Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair of Kings</td>
</tr>
<tr>
<td>The Cleveland Show</td>
</tr>
<tr>
<td>90210</td>
</tr>
<tr>
<td>Raising Hope</td>
</tr>
<tr>
<td>The Defenders</td>
</tr>
<tr>
<td>Undercovers</td>
</tr>
<tr>
<td>Law &amp; Order: Los Angeles</td>
</tr>
<tr>
<td>NCIS</td>
</tr>
<tr>
<td>Family Guy</td>
</tr>
<tr>
<td>Detroit 1-8-7</td>
</tr>
<tr>
<td>Chase</td>
</tr>
<tr>
<td>CSI: Miami</td>
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<tr>
<td>Bones</td>
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<tr>
<td>The CT</td>
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<tr>
<td>Sons of Anarchy</td>
</tr>
<tr>
<td>The Apprentice</td>
</tr>
<tr>
<td>The Middle</td>
</tr>
<tr>
<td>Supernanny</td>
</tr>
<tr>
<td>Late Show with David Letterman</td>
</tr>
<tr>
<td>Desperate Housewives</td>
</tr>
<tr>
<td>House</td>
</tr>
<tr>
<td>Outlaw</td>
</tr>
<tr>
<td>The Vampire Diaries</td>
</tr>
<tr>
<td>CSI</td>
</tr>
<tr>
<td>Brothers &amp; Sisters</td>
</tr>
<tr>
<td>School Pride</td>
</tr>
<tr>
<td>Lone Star</td>
</tr>
<tr>
<td>Criminal Minds</td>
</tr>
<tr>
<td>Weeds</td>
</tr>
<tr>
<td>Saturday Night Live</td>
</tr>
<tr>
<td>Castle</td>
</tr>
<tr>
<td>Grey’s Anatomy</td>
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<tr>
<td>Hell’s Kitchen</td>
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<tr>
<td>Gossip Girl</td>
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<tr>
<td>Sunday Night Football</td>
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<tr>
<td>Dancing with the Stars</td>
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<tr>
<td>Cougar Town</td>
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<tr>
<td>The Event</td>
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<tr>
<td>Jimmy Kimmel Live</td>
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<tr>
<td>Glee</td>
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<tr>
<td>The Biggest Loser</td>
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<tr>
<td>Modern Family</td>
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<tr>
<td>How I Met Your Mother</td>
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<tr>
<td>Extreme Makeover: Home Edition</td>
</tr>
<tr>
<td>The Office</td>
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<tr>
<td>in Treatment</td>
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<tr>
<td>Survivor</td>
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<tr>
<td>Golf</td>
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<tr>
<td>America’s Funniest Home Videos</td>
</tr>
<tr>
<td>Better With You</td>
</tr>
<tr>
<td>The Good Wife</td>
</tr>
<tr>
<td>Two &amp; a Half Men</td>
</tr>
<tr>
<td>Smallville</td>
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<tr>
<td>American Dad</td>
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<tr>
<td>Nikita</td>
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<tr>
<td>Chuck</td>
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<tr>
<td>Late Late Show with Craig Ferguson</td>
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<tr>
<td>The Whole Truth</td>
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<tr>
<td>Parenthood</td>
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<tr>
<td>Conan O'Brien</td>
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<tr>
<td>Seys</td>
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<tr>
<td>Vampire Diaries</td>
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<tr>
<td>Human Target</td>
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<tr>
<td>Running Wilde</td>
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<tr>
<td>Hellcats</td>
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<tr>
<td>48 Hour Mystery</td>
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<tr>
<td>60 Minutes</td>
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<tr>
<td>NCIS Los Angeles</td>
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<tr>
<td>Undercover Boss</td>
</tr>
<tr>
<td>Rules of Engagement</td>
</tr>
<tr>
<td>Big Bang Theory</td>
</tr>
<tr>
<td>Americas Next Top Model</td>
</tr>
<tr>
<td>Mike &amp; Molly</td>
</tr>
<tr>
<td>Life Unexpected</td>
</tr>
<tr>
<td>I'm in the Band</td>
</tr>
<tr>
<td>Outsourced</td>
</tr>
<tr>
<td>The Big C</td>
</tr>
<tr>
<td>30 Rock</td>
</tr>
<tr>
<td>Community</td>
</tr>
<tr>
<td>My Generation</td>
</tr>
<tr>
<td>Baseball</td>
</tr>
<tr>
<td>The Simpsons</td>
</tr>
<tr>
<td>Gossip Girl</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Hawaii Five-O</td>
</tr>
<tr>
<td>Monday Night Football</td>
</tr>
<tr>
<td>One Tree Hill</td>
</tr>
<tr>
<td>Dateline NBC</td>
</tr>
<tr>
<td>Late Night with Jimmy Fallon</td>
</tr>
<tr>
<td>Private Practice</td>
</tr>
<tr>
<td>No Ordinary Family</td>
</tr>
<tr>
<td>America’s Most Wanted</td>
</tr>
<tr>
<td>The Mentalist</td>
</tr>
<tr>
<td>The Tonight Show with Jay Leno</td>
</tr>
<tr>
<td>Fringe</td>
</tr>
</tbody>
</table>

2. Please add any other programs you didn’t see listed above that you watch regularly.
APPENDIX D
MAGAZINE MEDIA CONTENT

4. Please check any magazines that you read regularly:

- AARP BULLETIN
- AARP THE MAGAZINE
- READER'S DIGEST
- BETTER HOMES AND GARDENS
- NATIONAL GEOGRAPHIC
- GOOD HOUSEKEEPING
- FAMILY CIRCLE
- WOMAN'S DAY
- LADIES' HOME JOURNAL
- AAA WESTWAYS
- PEOPLE
- GAME INFORMER MAGAZINE
- TIME
- PREVENTION
- TV GUIDE
- SPORTS ILLUSTRATED
- TASTE OF HOME
- COSMOPOLITAN
- SOUTHERN LIVING
- AAA VIA MAGAZINE
- SCOUTING
- TEEN VOGUE
- COTTAGE LIVING
- MARIE CLAIRE
- MAXIM
- AMERICAN LEGION MAGAZINE
- AAA LIVING
- O, THE OPRAH MAGAZINE
- GLAMOUR
- REDBOOK
- GUIDEPOSTS
- AAA WORLD
- PARENTING
- PARENTS
- ESPN THE MAGAZINE
- MARTHA STEWART LIVING
- SMITHSONIAN
- SEVENTEEN
- REAL SIMPLE
- MONEY
- US WEEKLY
- REMEDY MD
- MEN'S HEALTH
- FAMILY FUN
- COOKING LIGHT
- ENTERTAINMENT WEEKLY
- ENDLESS VACATION
- EVERYDAY FOOD
## APPENDIX E

### CES-D

1. *During the past week...*

<table>
<thead>
<tr>
<th></th>
<th>Rarely/none of the time (less than 1 day)</th>
<th>Some/a little of the time (1-2 days)</th>
<th>Occasionally/moderate amount of time (3-4 days)</th>
<th>Most/all of the time (5-7 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was bothered by things that usually don’t bother me.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I did not feel like eating; my appetite was poor.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt that I could not shake off the blues even with help from my family or friends.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt I was just as good as other people.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I had trouble keeping my mind on what I was doing.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt depressed.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt that everything I did was an effort.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt hopeful about the future.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I thought my life had been a failure.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt fearful.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>My sleep was restless.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I was happy.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I talked less than usual.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt lonely.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>People were unfriendly.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I enjoyed life.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I had crying spells.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt sad.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I felt that people dislike me.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I could not get “going.”</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
APPENDIX F

MBSRQ-BASS

INSTRUCTIONS--PLEASE READ CAREFULLY

The following page contains a series of statements about how people might think, feel, or behave. You are asked to indicate the extent to which each statement pertains to you personally.

Your answers to the items in the questionnaire are anonymous. In order to complete the questionnaire, read each statement carefully and decide how much it pertains to you personally. Using a scale like the one below, indicate your answer by entering it to the left of the number of the statement.

EXAMPLE:
___ "I am usually in a good mood."
enter a 1 if you definitely disagree with the statement;
enter a 2 if you mostly disagree;
enter a 3 if you neither agree nor disagree;
enter a 4 if you mostly agree;
enter a 5 if you definitely agree with the statement.

There are no right or wrong answers. Just give the answer that is most accurate for you. Remember, your responses are confidential, so please be completely honest and answer all items.

2. I am careful to buy clothes that will make me look my best.
3. My body is sexually appealing.
4. I constantly worry about being or becoming fat.
5. I like my looks just the way they are.
6. I check my appearance in a mirror whenever I can.
7. Before going out, I usually spend a lot of time getting ready.
8. I am very conscious of even small changes in my weight.
9. Most people would consider me good-looking.
10. It is important that I always look good.
11. I use very few grooming products.
12. I like the way I look without my clothes on.
13. I am self-conscious if my grooming isn't right.
14. I usually wear whatever is handy without caring how it looks.
15. I like the way my clothes fit me.
16. I don't care what people think about my appearance.
17. I take special care with my hair grooming.
18. I dislike my physique.
19. I am physically unattractive.
20. I never think about my appearance.
21. I am always trying to improve my physical appearance.
22. I am on a weight-loss diet.
23. I have tried to lose weight by fasting or going on crash diets.
24. I think I am:
25. From looking at me, most other people would think I am:

For questions 26-34. Use this 1 to 5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very Dissatisfied</td>
<td>Mostly Dissatisfied</td>
<td>Neither Satisfied Nor Dissatisfied</td>
<td>Mostly Satisfied</td>
<td>Very Satisfied</td>
</tr>
</tbody>
</table>

26. Face (facial features, complexion)
27. Hair (color, thickness, texture)
28. Lower torso (buttocks, hips, thighs, legs)
29. Mid torso (waist, stomach)
30. Upper torso (chest or breasts, shoulders, arms)
31. Muscle tone
32. Weight
33. Height
34. Overall appearance
APPENDIX G

BES

Below are groups of statements. Read all of the statements in each group and mark on this sheet the one that best describes the way you feel about the problems you have controlling your eating behavior.

1. Please choose the statement that best describes you.
I don’t feel self-conscious about my weight or body size when I’m with others.
I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
I do get self-conscious about my appearance and weight which makes me feel disappointed in myself.
I feel very self-conscious about my weight and frequently, I feel intense shame and disgust for myself. I try to avoid social contacts because of my self-consciousness.

2. Please choose the statement that best describes you.
I don’t have any difficulty eating slowly in the proper manner.
Although I seem to “gobble down” foods, I don’t end up feeling stuffed because of eating too much.
At times, I tend to eat quickly and then, I feel uncomfortably full afterwards.
I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I’ve eaten too much.

3. Please choose the statement that best describes you.
I feel capable to control my eating urges when I want to.
I feel like I have failed to control my eating more than the average person.
I feel utterly helpless when it comes to feeling in control of my eating urges.
Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control.

4. Please choose the statement that best describes you.
I don’t have the habit of eating when I’m bored.
I sometimes eat when I’m bored, but often I’m able to “get busy” and get my mind off food.
I have a regular habit of eating when I’m bored, but occasionally, I can use some other activity to get my mind off eating.
I have a strong habit of eating when I’m bored. Nothing seems to help me break the habit.

5. Please choose the statement that best describes you.
I’m usually physically hungry when I eat something.
Occasionally, I eat something on impulse even thought I really am not hungry.
I have the regular habit of eating foods, that I might not really enjoy, to satisfy a hungry feeling even though physically, I don’t need the food.
Even though I am not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich, that fills my mouth.
Sometimes, when I eat the food to satisfy my mouth hunger, I then spit out the food so I won’t gain weight.

6. Please choose the statement that best describes you.
I don’t feel any guilt or self-hate after I overeat.
After I overeat, occasionally I feel guilt or self-hate.
Almost all the time I experience strong guilt or self-hate after I overeat.

7. Please choose the statement that best describes you.
I don’t lose total control of my eating when dieting even after periods when I overeat.
Sometimes when I eat a “forbidden food” on a diet, I feel like I “blew it” and eat even more.
Frequently, I have the habit of saying to myself, “I’ve blown it now, why not go all the way?”
when on a diet. When that happens I eat even more.
I have a regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a “feast” or “famine.”

8. Please choose the statement that best describes you.
I rarely eat so much food that I feel uncomfortably stuffed afterwards.
Usually about once a month, I eat such a quantity of food, I end up feeling very stuffed.
I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
I eat so much food that I regularly feel quite uncomfortable after eating and sometimes a bit nauseous.

9. Please choose the statement that best describes you.
My level of calorie intake does not go up very high or go down very low on a regular basis.
Sometimes after I overeat, I will try to reduce my caloric intake to almost nothing to compensate for the excess calories I’ve eating.
I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but overeat in the evening.
In my adult years, I have had week-long periods where I practically starve myself. This follows periods when I overeat. It seems I live life of either “feast or famine.”

10. Please choose the statement that best describes you.
I usually am able to stop eating when I want to. I know when “enough is enough.”
Every so often, I experience a compulsion to eat which I can’t seem to control.
Frequently, I experience strong urges to eat which I seem unable to control, but at other times I can control my eating urges.
I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

11. Please choose the statement that best describes you.
I don’t have any problem stopping eating when I feel full.
I usually can stop eating when I feel full but occasionally overeat leaving me feeling uncomfortably stuffed.
I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal. Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feeling.

12. Please choose the statement that best describes you.
I seem to eat just as much when I’m with others (family, social gatherings) as when I’m by myself.
Sometimes, when I’m with other persons, I don’t eat as much as I want to eat because I’m self conscious about my eating.
Frequently, I eat only a small amount of food when others are present, because I’m very embarrassed about my eating.
I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a “closet eater.”

13. Please choose the statement that best describes you.
I eat three meals a day with only an occasional between meal snack.
I eat three meals a day, but I also normally snack between meals.
When I am snacking heavily, I get in the habit of skipping regular meals.
There are regular periods when I seem to be continually eating, with no planned meals.

14. Please choose the statement that best describes you.
I don’t think much about trying to control unwanted eating urges.
At least some of the time, I feel my thoughts are pre-occupied with trying to control my eating urges.
I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
It seems to me that most of my waking hours are pre-occupied by thoughts about eating or not eating. I feel like I’m constantly struggling not to eat.

15. Please choose the statement that best describes you.
I don’t think about food a great deal.
I have strong cravings for food but they last only for brief periods of time.
I have days when I can’t seem to think about anything else but food.
Most of my days seem to be pre-occupied with thoughts about food. I feel like I live to eat.

16. Please choose the statement that best describes you.
I usually know whether or not I’m physically hungry. I take the right portion of food to satisfy me.
Occasionally, I feel uncertain about knowing whether or not I’m physically hungry.
At these times it’s hard to know how much food I should take to satisfy me.
Even though I might know how many calories I should eat, I don’t have any idea what is a “normal” amount of food for me.
Informed Consent

Investigator: Robert A. Carels, Ph.D.

Description: The purpose of this research is to examine the effectiveness of a group based weight loss intervention. You will be asked to eat a self-selected, low-fat, low-calorie diet.

The exercise portion of this intervention is a gradual lifestyle approach to increased physical fitness. The exercise program will emphasize permanent lifestyle change through the engagement of a variety of physical activities that you choose and enjoy. There is no formal structured exercise that you will be required to do. An appropriate warm-up and cool-down period should accompany any physical activity that you engage in. As you feel comfortable you may decide to gradually increase your exercise. You will be taught how to monitor and compute how many calories you are expending through your exercise.

Description of the program:

You will be asked to eat a self-selected, low-fat, low-calorie diet. You may learn information on how changes in the global eating and exercise environment over the last several decades have lead to overeating and an inactive lifestyle for many Americans. You may also be taught how to develop healthy habits and disrupt unhealthy habits. Finally, you may also learn how unhealthy relationships to food, your body, and your weight may interfere with your weight loss efforts and diminish your quality of life. You will participate in weekly meetings for a total of 12 sessions. Each session will last approximately 90 minutes.

Summary of Involvement

Your involvement in this research project is approximately one year and three months. Your involvement in this study also requires that you be involved in 4 assessments. You will complete assessments at the beginning of the program, week 12, and 6 and 12 months post-treatment. During these assessments you may be required to: 1) fill out questionnaires, 2) perform some physical fitness exercises, and 3) have your body composition measured.

As part of the weight loss and exercise program you will be required to keep a diary indicating your caloric intake as well as your daily exercise and physical activity. Also, you will be asked to report your weight on a weekly basis.

All measures (questionnaires and diary) will be reported electronically. Individuals who do not have access to a computer or would prefer to complete the measures using paper and pencil, may request paper and pencil versions.

After completing the measures, remember to clear the internet browser cache and page history. Please note that some employers use software that track websites visited and keystrokes, so you may wish to complete the survey on a home computer or public computer in order to further safeguard your confidentiality.

206 Psychology Building
Bowling Green, Ohio 43403-0232
419-372-2301
fax 419-372-6913
www.bgsu.edu/departments/psych
All information collected will be strictly safeguarded. Once you complete the survey, your information is stored in a password protected electronic database until retrieved by the investigator or his assistants.

This informed consent pertains to your involvement in the baseline assessment and the intervention:

Confidentiality: The information obtained about you in this study will be kept confidential. The questionnaires and diary entries will not identify you by name and such records will be strictly safeguarded and kept in a locked filing cabinet accessible only to the primary investigator or his staff. Court order or federal agencies can subpoena research records, just as hospital records are subject to these regulations.

Alternative Treatments: The approach we use in this investigation for lifestyle change, exercise, and weight loss is an empirically validated approach to weight loss being offered in a group format. The approach emphasizes moderate, flexible lifestyle changes. Its group format encourages support and feedback from group members. Numerous books, weight loss programs offered in a variety of settings (e.g., hospitals, health clubs, commercial weight loss settings), and surgical weight loss procedures are available. These alternative approaches to weight loss have different strengths and weaknesses. Interested participants should select a program that best fits their needs. Participants may also want to consult their physician to determine the best program for them.

Potential Risk: Before you begin to exercise, you should be aware that any time that people take part in physical activity or exercise, there is always the risk for an adverse cardiac event (e.g., heart attack) as well as physical discomfort and injury secondary to exercise (e.g., sore or pulled muscles). Even though you received medical clearance from your primary care physician to participate in this investigation, no doctor can accurately predict the occurrence of cardiac events or physical injury. Physical discomfort may include mild fatigue, slight muscular soreness, slips or falls resulting in bodily injury as well as any other accidents, which may occur due to unforeseen circumstances.

The risk of cardiac problems during exercise is extremely low. One death per 2,897,057 hours of exercise was reported from a study of YMCA centers. Similarly, a study of YMCA centers reported that one individual’s heart stopped during 2,253,267 hours of exercise. In general, the risk of cardiac problems during exercise is very low.

Compensation: You will receive no compensation for your participation in the weight loss and physical activity program. You will not have to pay for the cost of any assessment procedures, such as the fitness test.

Contingency Contract: In order to increase the likelihood that you will complete the study, you will be required to deposit $100 at the beginning of the investigation. Consistent attendance is necessary to examine the effectiveness of a group-based weight loss program. You will forfeit your $100 deposit if you do not attend at least 9 of the 12 weekly classes. You will receive $50 (of the $100) after you complete the week 38 assessment. You will receive another $50 after you complete the week 64 follow-up assessment.
Benefits of the Project: For participation in the study you will receive an explanation of your physical fitness test results. The results of your fitness test will help us prescribe an exercise program that is right for you. You may grow in your future understanding of your body's responses to exercise and the role exercise plays in weight control. You may learn about the factors that contribute to lifestyle change, improved nutrition, and weight loss. It is very likely that you will lose weight and become more physically fit. Even modest weight loss and increased physical activity can significantly improve your health. The results of this investigation may contribute to improving effectiveness of weight loss and physical activity interventions.

Right to Withdraw: Your participation in this study is voluntary and you are free to refuse participation at any time. If you choose not to participate after the 1st session of the program, you will forfeit your $100 deposit.

Voluntary Consent: I agree to participate in this study. Any questions I have pertaining to the study have been answered to my satisfaction. If I have further questions regarding this research project, I know I can contact the principal investigator, Dr. Robert Carels by telephone at (419) 372-9405 or by email at rcarels@bgsu.edu or I can contact the Chair of the Human Subjects Review Board by telephone at (419) 372-7716 or by email at hsrb@bgsu.edu. I agree to voluntarily participate in the study.

Participant's Name  Date  Signature

Investigator's Name  Date  Signature