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A Content Analysis of Weight Stigmatization in Popular Television Programming for Adolescents

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Abstract

Objective—This study provides updated information regarding the prevalence and characteristics of weight stigma in popular adolescent television programming, using a sample of favorite shows named by diverse adolescents.

Method—Participants in a large, population-based study of Minnesota adolescents ($N = 2,793$, mean age = 14.4) listed their top three favorite television shows. A coding instrument was developed to analyze randomly selected episodes from the most popular 10 programs. Weight-stigmatizing incidents were compared across television show characteristics and characters' gender and weight status.

Results—Half (50%) of the 30 episodes analyzed contained at least one weight-stigmatizing incident. Both youth- and adult-targeted shows contained weight-stigmatizing comments, but the percent of these comments was much higher for youth-targeted (55.6%) than general audience-targeted shows (8.3%). Male characters were more likely than females to engage in (72.7% vs. 27.3%), and be the targets of, weight stigma (63.6% vs. 36.4%), and there was no difference in the amount of weight stigmatizing directed at average weight females compared to overweight females. Targets of these instances showed a negative response in only about one-third of cases, but audience laughter followed 40.9% of cases.

Discussion—The portrayal of weight stigmatization on popular television shows—including targeting women of average weight—sends signals to adolescents about the wide acceptability of this behavior and the expected response, which may be harmful. Prevention of weight stigmatization should take a multi-faceted approach and include the media. Future research should explore the impact that weight-related stigma in television content has on viewers.

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Keywords

weight teasing; adolescents; media exposure; weight stigmatization

Introduction

Adolescence is a crucial time for individuals to develop a sense of identity and determine where they fit into society.¹ Social interactions and norms signal cues about one's acceptability in a social group, and social perceptions of body weight and shape may be particularly relevant to social acceptance versus stigmatization.^{2,3} Young people receive messages about weight through a variety of peer interactions. Weight stigmatization, including teasing and other types of weight-related comments, may cause adolescents to question themselves and what others think about them. Adolescents who are teased about their weight are more likely to struggle with their body image, self-esteem, depression, and disordered eating behaviors,⁴⁻⁷ and research has shown that overweight youth are teased more often about their weight than their nonoverweight peers.^{8,9}

Media use is common and frequent in today's society. According to a 2013 Nielsen report, young people aged 12–24 years spend on average almost 22 h/week watching traditional TV—more than five times as much as using the internet on a computer, seven times more than using a video game console, and more than four times as much as timeshifted TV, DVD viewing, and watching video on a mobile device combined.¹⁰ Given the prevalence of TV entertainment in young people's lives, the content of their favorite TV programming is the central component of their overall media diet (regardless of the platform through which it is accessed).

Given such high television usage among adolescents, combined with previous findings that media exposure is related to attitudes toward obesity in youth,¹¹ it is important to understand the content of the programs these audiences watch and the messages they send to young people. In the domain of body weight and shape, media messages help form societal and cultural norms, which may create unhealthy expectations of body weight¹² and contribute to teasing of both nonoverweight and overweight adolescents. Similarly, the reaction to stigmatizing comments by targeted characters, bystanders or the audience sends further messages about the acceptability of weight stigmatization and the use of teasing as humor, potentially reinforcing damaging lived experiences of young viewers.

A 2010 review of research on weight bias in the media describes several studies which have analyzed the portrayal of characters in television shows and videos for body image-related themes, finding an overall negative portrayal of overweight.¹³ For example, Greenberg et al.¹⁴ found that overweight and obese characters in primetime television shows were less likely to engage in romantic interactions and were more likely to be of an ethnic minority group, and be supporting characters instead of main characters. A few studies have also looked specifically at weight-related comments made in television shows,¹⁵⁻¹⁷ revealing that overweight characters were more likely than those of average weight to have negative comments directed toward them and such comments were typically met with positive

audience reactions (i.e., laughter).^{15,16} Several studies have found differences across gender in the portrayal of weight and related comments.^{14–16}

Existing research offers useful insight about weight-related messages conveyed by media, but is subject to several shortcomings, particularly in relation to understanding the impact of media on youth health behaviors.¹³ First, researchers have typically selected shows for analysis based on the intended audience^{14,18,19} or prime time broadcast,^{15,16,20} which may not reflect the programs actually favored by adolescents. Studies have also focused primarily on the portrayal of overweight or obese characters,^{17,21} rather than looking across the weight spectrum of television characters. An updated view of weight-related issues in popular programming is also needed, as the bulk of research on this issue relies on samples of shows from the 1990s and earlier.^{15–17,19–21}

The present study advances this line of research by addressing several limitations in the existing body of work. Research questions include: (1) What is the prevalence of weight stigmatization in different types of television programming popular with adolescents? (2) What gender differences exist in weight stigmatization? and (3) What type of reaction do characters and the audience have in response to weight stigmatization?.

Method

Description of Study Population

Adolescents ($N = 2,793$) from 20 public middle and high schools in Minneapolis and Saint Paul, Minnesota, were surveyed as part of EAT 2010 (Eating and Activity in Teens), a cross-sectional, population-based study of eating, physical activity, and other weight-related behaviors in adolescents.²² The sample included students from grades 6 through 12 with a mean age of 14.4 years ($SD = 2.0$); 46.1% of students were in middle school (6th–8th grades) and 53.9% in high school (9th–12th grades). There was a similar percentage of male (46.8%) and female (53.9%) participants. Participants were of diverse racial and ethnic backgrounds—18.9% white, 29.0% African American or Black, 19.9% Asian American, 16.9% Hispanic, 3.7% Native American, and 11.6% mixed or other.

Study Design

Surveys were completed by adolescents in school classrooms during the 2009–2010 school year. Participants were asked to list their top three favorite television shows in an open-ended question. At least one favorite television show was listed by 2,357 students while 350 indicated they do not watch television at all. The 653 unique television shows were ranked using a weighted system which counted the first listed show (i.e., the participant's favorite) more highly than the second listed show, which counted more than the third listed show. If participants listed a television network (e.g., Nickelodeon, MTV) or a broad topic area (e.g., football, music videos) rather than a specific show, those answers were disregarded and coded as missing. Shows which have several variations (e.g., *CSI*, *CSI-New York*, *CSI-Miami*) were combined and totaled under the original version of the show because the major themes and messages of the shows were very similar.

The top 10 most popular shows were used in the present study. Three episodes from the most recently completed season of each show (following survey data collection) were randomly selected for coding and analysis. The episodes were accessed via online services (e.g., Netflix, Hulu, network website) or were purchased as individual episodes via iTunes. Each show set was randomly assigned to one of three graduate student coders. Analyzing three episodes allowed the assessment of a typical portrayal of themes and circumstances across the different episodes of the shows. The University of Minnesota's Institutional Review Board's Human Subjects Committee approved all protocols used in Project EAT and determined that the present analysis was exempt from review.

Coding Instrument Development

The research team developed a coding instrument and codebook to analyze the shows for content related to weight stigmatization. The formatting of the instrument was based on a coding instrument developed by one of the authors (S.G.) for a magazine content analysis of the portrayal of obesity.²³ The process of developing categories and individual items for the coding instrument began by researching other types of television and print media content analysis projects in order to gain a better understanding of what information to collect and where the gaps in previous research existed. Items used in the present study were drawn from existing content analysis instruments examining similar themes,^{14–16,18,19,22} and also included show information (e.g., type of show, episode length) and character demographics. The codebook explained in detail what each coding item was intending to capture and how to appropriately code each instance. For example, an on-screen incident was coded as weight-related stigmatization if it “pertained to the weight or shape of a character (e.g., fatty, scrawny)” and as nonweight-related if it “pertained to character’s appearance but not about their weight (e.g., character’s clothing, hair, facial blemishes).”

Multiple iterations of the coding instrument were developed before finalizing. Three graduate student coders in public health graduate programs were trained on the protocol for coding and analyzing the television shows. Using a draft of the coding instrument, three practice rounds of coding were completed using selected shows from the top 10 list from older seasons. For each round of pilot coding, three episodes were chosen. Coders first analyzed the television shows independently. Coders then met with each other and two faculty members to discuss what was coded for each episode, discuss issues and challenges, draw conclusions about how instances should be appropriately coded, and revise the instrument and codebook as needed. Finally, the same shows were re-coded a final time. A final, fourth practice round was completed in which the data were compiled to calculate intercoder reliability (described below).

The final coding instrument contained eight show information items, 11 character demographic items, and 19 fat stigmatization items. In addition to the information collected in the coding instrument, the TV Parental Guide ratings were collected for each show. Information about the television ratings was collected from the show’s website, the Internet Movie Database (IMDb) website, Netflix, and iTunes. Rating categories were collapsed to Youth Audience (TV-Y and TV-G), General Audience (TV-PG), and Older Audience (TV-14 and TV-MA) for analysis.

Defining Coding Categories

The main characters for each show were defined prior to beginning the analysis. To aid in identifying each of the main characters in the shows, a list was compiled with their names, pictures, and pre-assigned character ID numbers. Supporting characters were defined as characters with at least two speaking roles in an episode and involvement with an incident in at least one section of the coding instrument. The supporting characters could be unique to an individual episode of the show or could play a recurring role in that season. A character ID number was assigned to each main and supporting character which was then used to link all instances of stigmatization back to specific characters.

To determine weight status of television characters, a simple, four-level classification was used. Categories included “thin/underweight,” “average/normal weight,” “heavier than normal/overweight,” or “very overweight”— with an undeterminable category for instances when characters were referred to, but not shown on screen, and could therefore not be classified. The default weight status for characters was “normal or average weight.” The character was classified as “thin/underweight” if he/she was depicted as being underweight or thinner than normal with obvious clavicle, facial, rib cage, or other bones protruding. Characters were classified as “heavier than normal/overweight” if he/she appeared to have excess body fat. The “very overweight” category was used for characters carrying an obviously excessive amount of weight such that, if calculated, their BMI would fall much above 30 kg/m². The coders were trained extensively on how to accurately code characters according to the above classifications, and as described below, the intercoder reliability for this classification was high.

The weight stigmatization comments section of the coding instrument captured incidences that were either (a) weight or shape related or (b) appearance-related (but not referencing weight or shape). If the incident was weight or shape related, then further information about the incident was collected such as gender and weight status of the commentator and target as well as the target and audience response to the incident. In addition, information was collected on whether the stigmatizing incident was direct (i.e., made directly to an individual or the subject matter was directly implied to the character it concerned) or indirect (i.e., did not apply directly to another character) and verbally expressed or nonverbally expressed (i.e., the weight stigmatization was implied through gestures or other methods). Table 1 lists examples of the different types of stigmatizing incidents.

The target’s response to the incident was coded as being humorous/positive (e.g., laughing with commentator), emotionally hurt/negative (e.g., looking sad, crying, escaping from situation), or no response/neutral (or undeterminable if the target was not shown). A separate item for the audience response of laughter was coded yes or no.

Data Collection and Intercoder Reliability

A multiple-pass approach was used to collect data on each episode. In the first pass, the coders determined characters involved in the episode and any content relevant to this analysis. In the second pass, the coders recorded and coded for all identified instances of teasing using a paper/pencil form of the coding instrument. A final pass was made to ensure

all relevant information was captured and appropriately coded. Once data collection was completed, data were manually entered by each coder into a spreadsheet and then compiled into a final database.

Intercoder reliability was calculated using Cohen's kappa statistic, which measures interrater reliability for categorical variables while adjusting for chance.²⁴ Mean kappas for the coding instrument were character demographics $\kappa = 0.81$ (including body weight, $\kappa = 0.86$) and weight stigmatization $\kappa = 0.91$. Landis and Koch²⁴ classify kappa statistics of 0.61–0.80 as having “substantial reliability” and > 0.81 as “almost perfect.” Individual items which had kappa statistics < 0.70 were reviewed and revised to finalize the coding instrument used for the final data collection.

Data Analysis

Frequencies and means are reported to describe the type of shows included in the analysis as well as the prevalence and characteristics of teasing incidents. Generalized estimating equations were used to test for differences in the presentation of stigmatizing incidents across show characteristics (i.e., show type and intended audience) and characteristics of stigmatizing incidents (e.g., gender and weight of target). This approach clustered different episodes of the same show ($n = 10$) to permit accurate inference (proc GENMOD in SAS version 9.3). Because the sample size of shows and weight-related teasing incidents was small ($n = 22$), a p value $< .10$ was considered suggestive of an association.

Results

Summary of Shows

The 10 television shows named by adolescents, in order of popularity, were *Family Guy*, *The Simpsons*, *SpongeBob SquarePants*, *CSI*, *iCarly*, *South Park*, *Two and a Half Men*, *That 70s Show*, *The Game* and *George Lopez*. Of these shows, five were live action sitcoms, three were animated sitcoms, one was a youth cartoon, and one was a drama. Eight of the shows originally aired during primetime network viewing (7–11 p.m. Central Standard Time). Three shows aired on cable television networks whereas seven shows aired on noncable networks. Based on the TV Parental Guidelines (www.tvguidelines.org) and the researchers' judgment of the overall content and themes of the shows, two were targeted toward a youth audience (under age 14) while eight were targeted to older audiences.

Prevalence of Appearance and Weight Stigmatization

Throughout the 30 episodes analyzed, there were 66 total appearance- or weight-related stigmatizing incidents, and at least one such incident occurred in 76.7% ($n = 23$) of the episodes viewed (frequency ranged from 0 to 14/episode). Fifty percent ($n = 15$) of the episodes analyzed contained at least one incident specifically related to weight (frequency ranged from 0 to 4/episode). One-third ($n = 22$) of the incidents focused on weight. Almost all (95.5%, $n = 21$) of the weight-stigmatizing incidents were verbally expressed while one incident (4.6%) was nonverbal. Direct weight stigmatizing made up 68.2% ($n = 15$) of the incidents and 31.8% ($n = 7$) were indirect.

Table 2 summarizes total and weight-related stigmatizing incidents by the show category and audience type. Overall, there were differences for the total number of instances by show type: animated sitcoms ($n = 3$) had 10.7 stigmatizing incidents, on average, which was significantly more than the 5.6 in sitcoms ($n = 5$; $z = -2.65$, $p = .008$). The one youth cartoon included six incidents and the one drama did not include any stigmatizing incidents. The number of weight-specific stigmatizing incidents did not vary across show types. On average, 43.3% of all stigmatizing incidents were weight-related (range = 7.1–75.0%); this proportion did not differ significantly across show types. Shows targeting general audiences ($n = 8$) contained 8.1 stigmatizing incidents, on average, which was significantly greater than the 4.5 incidents in youth-rated shows ($n = 2$; $z = 2.12$, $p = .034$); the mean number of weight-specific incidents did not differ across adult vs. youth-rated shows. However the proportion of stigmatizing incidents that related to weight was higher in youth-rated shows (58.3%) than in shows for general audiences (38.3%, $z = -1.83$, $p = .067$).

Characteristics of Weight-Stigmatizing Incidents

Males were more commonly the targets of weight-stigmatizing incidents (63.6%) than females (36.4%). Men initiated 72.7% ($n = 16$) of the weight-stigmatizing incidents, whereas women initiated 27.3% ($n = 6$). For both male and female commenters, approximately two-thirds of comments were directed toward male targets and one-third toward females. These percentages are proportional to the representation of male vs. female characters in the selected episodes (65.0% vs. 34.2%).

Overall, fifty percent ($n = 11$) of the targets of weight stigma were classified as overweight and 40.9% ($n = 9$) were classified as average weight; this is in contrast to the character sample overall, which included 19.5% overweight or very overweight and 78.0% average weight characters (the target's weight status could not be determined for 9.1% [$n = 2$] of the incidents because the target was off-screen). When men were the target of weight stigmatization, 42.9% ($n = 6$) were classified as average weight and 57.1% ($n = 8$) were classified as overweight, more than double the 24.1% of male characters who were overweight in this sample of shows. For female targets whose weight status could be determined, 50.0% ($n = 3$) were average weight and 50.0% ($n = 3$) were overweight, over four times the 11.9% of female characters who were overweight. The proportions of targeted males and females who were overweight were not significantly different ($z = 0.28$, $p = .777$).

Weight stigmatizing comments were made by characters of average weight (77.3%, $n = 17$) and by overweight characters (22.7%, $n = 5$). Overweight targets were more often stigmatized by nonoverweight individuals (63.6%, $n = 7$) than overweight individuals (36.4%, $n = 4$); among nonoverweight targets, this difference was even more pronounced (88.9%, $n = 8$ vs. 11.1%, $n = 1$; $z = -1.51$, $p = .132$).

Targets of the weight-related incidents never had a humorous or positive response (e.g., laughing or smiling) to stigmatizing comments, 31.8% ($n = 7$) of the targets reacted negatively or as being emotionally hurt (e.g., acting sad, crying), 36.4% ($n = 8$) had no response or reaction; in the remaining 31.8% ($n = 7$) the target was not on-screen so no response was shown. There was an audience response (laughter) to 40.9% ($n = 9$) of the weight-stigmatizing incidents. When women were targeted, 62.5% ($n = 5$) of the incidents

received audience laughter. When men were targeted, 28.6% ($n = 4$) were met with laughter; this difference in audience response by gender was not statistically significant ($z = 1.37$, $p = .171$).

Discussion

Weight stigmatization can be harmful to young people, and findings from the present study indicate that these hurtful messages are prevalent in popular television programming that reaches a very large volume of youth, consistent with previous findings.¹³ Stigmatization specific to weight or body shape made up a substantial proportion of overall appearance-related stigmatizing incidents, and importantly, this proportion was higher in shows targeting a youth audience versus a general audience. In general, stigmatizing instances included male and female characters in proportion to their overall representation in the sample of shows. However, half of the targets were overweight, even though only about one in five characters were overweight across shows. Targets of weight stigmatization showed a negative response in only about one-third of cases; however, audience laughter was the response in over 40% of these incidents.

Our results are consistent with the findings introduced by Himes and Thompson (2007), in which a majority of the weight-related stigma on television tended to be verbally expressed and made directly to an individual or group. This type of clear and direct weight stigmatization sends an important message about the normality and acceptability of such remarks—they are not presented as a shameful or reprehensible behavior to be hidden, but rather are openly presented and most commonly not characterized as hurtful through a negative reaction from the target character. In addition, the presence of audience laughter frequently supported this behavior rather than demonstrating dissatisfaction (or even neutrality). Although audience laughter may have been added during production (e.g., a “laugh track”), prompted during studio taping, or may have arisen organically from audience members, for the young viewer, any type of humorous response may reinforce weight-based victimization in today’s society. Regardless of the source of the laughter, such instances paint a picture of the social acceptability of weight stigma as well as the expectation that people should tolerate these abuses without comment, perhaps even to the amusement of others.

According to the TV Parental Guidelines report, programs with the TV-Y rating are appropriate for all children and designed for a very young audience and TV-G programs are appropriate for all ages, and the report suggests parents may let children watch such shows unattended. It is concerning to see that the shows whose target audience was young children (rated TV-Y and TV-G) had higher proportions of weight-stigmatizing incidents to total appearance-related incidents than the shows targeting older audiences. As young people are especially attuned to the behaviors of peers or the “superpeer” portrayed in media,²⁵ the normalization of weight stigma in this context may be particularly damaging. Furthermore, the list of favorite shows identified in the present study suggest that young people often view programming that is intended for older audiences; with an average age of 14, approximately half the participants were below the intended audience of 80% of these popular shows. It may also be the case that even younger children watch shows designated for a young

adolescent audience. If so, displays of weight stigmatization may be part of the media diet even for very young children.

Weight stigmatization was disproportionately directed at overweight characters in this sample of shows, as has been seen previously.^{15,16} However, it is important to note that in approximately 40% of cases, weight stigma was directed at characters of average weight, and fully half of incidents directed at women targeted those of average weight. The current results reflect a society that is overly critical about body shape and size, particularly for females, even for those of a healthy weight status. This stigmatization sends a message to young people that no matter what their weight, their bodies are not good enough. Such a social norm is expected to contribute to body dissatisfaction and associated health problems such as disordered eating and depressive symptoms.

Strengths and Limitations

This study has several strengths that enhance its contribution to the existing literature. First, the shows used in the analysis were those reported as favorite television shows among adolescents. This sampling method allowed us to analyze television shows that were actually popular among adolescents rather than simply targeted toward adolescent audiences. The thorough process of creating the coding instrument and its depth are additional strengths of the study. The instrument was rigorously tested during its development, and the final coding instrument had very high inter-rater reliability and was comprehensive, encompassing a range of variables that are important to furthering our understanding of weight stigmatization content in television shows.

Despite these strengths, the results from this study are subject to some limitations. First, only the top 10 favorite television shows were included in the current analysis, and as a result the final sample size of weight-related incidents was relatively small. An increased sample of television shows or episodes per show would increase the sample of weight-specific stigmatizing incidents, and thereby improve the ability to compare presentations across different categories of shows or other characteristics. Another limitation was that extensive data on nonweight-related stigmatizing incidents was not collected, given the study's focus on weight-related issues. Because two-thirds of the incidents in the sample were appearance-related but not weight-specific, information about what type of characters were instigating or being targeted, the type of stigmatizing incident, and the target's and audience's response could have been useful to further understanding weight stigma in the broader context of stigmatizing incidents in television programming. Finally, the sample of favorite shows used here comes from a sample of adolescents in a single Midwestern state. Although these shows were all successful and long running (6–25 seasons as of 2014), adolescents in other areas may prefer other shows with a different profile of weight stigmatization.

Implications and Conclusions

Because adolescence is a crucial time for developing a sense of identity and determining where one fits into society,²⁶ weight stigmatization on television may have a great impact on how adolescents view themselves and others who may be overweight. Nonoverweight individuals may come to believe it is acceptable to stigmatize their overweight peers because

of their weight. Overweight youth may see such behaviors as a sign that they are inferior to their nonoverweight peers and they may struggle with decreased self-esteem, negative body image, and increased risk of depression.^{5,27–30} Additionally, a fear of becoming overweight may increase in nonoverweight youth who view the weight-stigmatizing incidents, possibly leading to disordered eating behaviors.³¹ This has implications for both future research and media messages.

Research has shown that weight-related stigma can lead to various negative health consequences including negative body image, decreased quality of life, poor self-esteem, depression, and disordered eating behaviors.^{5–7,9} However, little is known about the effect on adolescents of indirect exposure to weight stigmatization via the media.¹³ Future research should explore the impact of watching television shows with weight-stigmatizing incidents on young people. What is their reaction to weight-stigmatizing incidents? Are there differences in reactions or effect by viewer weight status? Are different types of response to weight stigma on screen (e.g., acceptance of stereotypes vs. confrontation)³² associated with different responses in the viewer? Future research should also assess if there is a dose-response relationship for weight stigma and weight-related comments in television shows. Does the amount of time spent watching television impact the individual's response to or internalization of appearance- or weight-related stigmatization? To what extent does watching shows with a higher concentration of appearance- and weight-related stigmatization affect adolescents? Addressing these and other similar questions would greatly enhance our understanding of the impact weight stigma in television shows has on adolescents in today's society.

The TV Parental Guidelines are very useful in determining the content and age-appropriateness of television programming. However, as our results indicate, shows receiving the TV-Y and TV-G ratings contain weight stigmatizing comments that may be harmful to youth. According to the TV Guidelines website, the programs are voluntarily rated by the television networks and program producers. Uniform ratings by an external agency would be useful to ensure the content in shows, particularly those targeting young children, is appropriate for youth. In addition to the ratings for violence, sexual situations, language, and suggestive dialogue, it would be beneficial to include a category for stigma, harassment, and/or body image issues. Children and adolescents are particularly vulnerable to and influenced by media messages about weight,^{33,34} so shows that contain such messages should not meet the rating criteria for youth television.

Clinicians working with youth should inquire about media exposure to harmful messages and work with patients and families around these issues. Strategies include limiting exposure to programming with weight stigmatization, promoting media literacy to help youth identify and deconstruct hurtful messages (which would apply to messages in movies, online videos, social media, and other media outlets as well as TV content), and covieing by parents and adolescents to provide opportunities for health-promoting conversation around weight and body image. Additionally, it is important to advocate directly with the entertainment industry, parental ratings boards and online forums to engender change in the representation of weight stigmatization on television.

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References

1. Christie D, Viner R. ABC of Adolescence: Adolescent development. *Br Med J*. 2005; 330:301–304. [PubMed: 15695279]
2. Strauss RS, Pollack HA. Social marginalization of overweight children. *Arch Pediatr Adolesc Med*. 2003; 157:746–752. [PubMed: 12912779]
3. Puhl RM, Heuer CA. The stigma of obesity: A review and update. *Obesity (Silver Spring)*. 2009; 17:941–964. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19165161>. [PubMed: 19165161]
4. Neumark-Sztainer D, Falkner N, Story M, Perry C, Hannan PJ, Mulert S. Weight-teasing among adolescents: Correlations with weight status and disordered eating behaviors. *Int J Obes Relat Metab Disord*. 2002; 26:123–131. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/11791157>. [PubMed: 11791157]
5. Eisenberg ME, Neumark-Sztainer D, Story M. Associations of weight-based teasing and emotional well-being among adolescents. *Arch Pediatr Adolesc Med*. 2003; 157:733–738. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/12912777>. [PubMed: 12912777]
6. Eisenberg ME, Neumark-Sztainer D, Haines J, Wall M. Weight-teasing and emotional well-being in adolescents: Longitudinal findings from Project EAT. *J Adolesc Health*. 2006; 38:675–683. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16730595>. [PubMed: 16730595]
7. Haines J, Neumark-Sztainer D, Eisenberg ME, Hannan PJ. Weight teasing and disordered eating behaviors in adolescents: Longitudinal findings from Project EAT (Eating Among Teens). *Pediatrics*. 2006; 117:e209–e215. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16452330>. [PubMed: 16452330]
8. Washington RL. Childhood obesity: Issues of weight bias. *Prev Chronic Dis*. 2011; 8:A94. [PubMed: 21843424]
9. Neumark-Sztainer D, Falkner N, Story M, Perry C, Hannan PJ, Mulert S. Weight-teasing among adolescents: Correlations with weight status and disordered eating behaviors. *Int J Obes Relat Metab Disord*. 2002; 26:123–131. [PubMed: 11791157]
10. The Nielsen Company. A Look Across Media: The Cross-Platform Report. 2013 Available at: www.nielsen.com.
11. Latner JD, Rosewall JK, Simmonds MB. Childhood obesity stigma: Association with television, videogame, and magazine exposure. *Body Image*. 2007; 4:147–155. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/18089260>. [PubMed: 18089260]
12. Field AE, Cheung L, Wolf AM, Herzog DB, Gortmaker SL, Colditz GA. Exposure to the Mass Media and Weight Concerns Among Girls. *Pediatrics*. 1999; 103:e36–e36. Available at: <http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.103.3.e36>. [PubMed: 10049992]
13. Ata R, Thompson J. Weight bias in the media: A review of recent research. *Obes Facts*. 2010; 3:41–46. [PubMed: 20215794]
14. Greenberg BS, Eastin M, Hofschire L, Lachlan K, Brownell KD. Portrayals of overweight and obese individuals on commercial television. *Am J Public Health*. 2003; 93:1342–1348. Available at: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1447967&tool=pmcentrez&rendertype=abstract>. [PubMed: 12893625]
15. Fouts G, Vaughan K. Television situation comedies: Male weight, negative references, and audience reactions. *Sex Roles*. 2002; 11/12:439–442.
16. Fouts G, Burggraf K. Television situation comedies: Female weight, male negative comments, and audience reactions. *Sex Roles*. 2000; 42:925–932.
17. Himes SM, Thompson JK. Social and behavioral fat stigmatization in television shows and movies: A content analysis. *Obesity*. 2007; 15

18. Robinson T, Callister M, Jankoski T. Portrayal of body weight on children's television sitcoms: A content analysis. *Body Image*. 2008; 5:141–151. [PubMed: 18456583]
19. Klein H, Shiffman KS. Thin is “in” and stout is “out”: What animated cartoons tell viewers about body weight. *Eat Weight Disord*. 2005; 10:107–116. [PubMed: 16114224]
20. Story M, Faulkner P. The prime time diet: A content analysis of eating behavior and food messages in television program content and commercials. *Am J Public Health*. 1990; 80:738–740. Available at: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1404738&tool=pmcentrez&rendertype=abstract>. [PubMed: 2343968]
21. Greenberg BS, Eastin M, Hofschire L, Lachlan K, Brownell KD. Portrayals of overweight and obese individuals on commercial television. *Am J Public Health*. 2003; 93:1342–1348. [PubMed: 12893625]
22. Neumark-Sztainer D, Wall MM, Larson N, Story M, Fulkerson JA, Eisenberg ME, et al. Secular trends in weight status and weight-related attitudes and behaviors in adolescents from 1999 to 2010. *Prev Med (Baltim)*. 2012; 54:77–81. Available at: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3266744&tool=pmcentrez&rendertype=abstract>.
23. Gollust SE, Eboh I, Barry CL. Picturing obesity: Analyzing the social epidemiology of obesity conveyed through US news media images. *Soc Sci Med*. 2012; 74:1544–1551. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/22445762>. [PubMed: 22445762]
24. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics*. 1977; 33:159–174. [PubMed: 843571]
25. Strasburger, VC.; Wilson, BJ.; Jordan, AB. *Children, Adolescents, and the Media*. 2nd. Thousand Oaks, CA: Sage; 2009.
26. Christie D, Viner R. ABC of Adolescence: Adolescent development. *Br Med J*. 2005; 330:301–304. [PubMed: 15695279]
27. Puhl RM, Latner JD. Stigma, obesity, and the health of the nation's children. *Psychol Bull*. 2007; 133:557–580. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/17592956>. [PubMed: 17592956]
28. Schwartz MB, Puhl R. Childhood obesity: A societal problem to solve. *Obes Rev*. 2003; 4:57–71. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/12608527>. [PubMed: 12608527]
29. Hebebrand J, Herpertz-Dahlmann B. Psychological and psychiatric aspects of pediatric obesity. *Child Adolesc Psychiatr Clin N Am*. 2009; 18:49–65. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19014857>. [PubMed: 19014857]
30. Vander Wal JS, Mitchell ER. Psychological complications of pediatric obesity. *Pediatr Clin North Am*. 2011; 58:1393–1401. x. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/22093858>. [PubMed: 22093858]
31. Stice E, Maxfield J, Wells T. Adverse effects of social pressure to be thin on young women: An experimental investigation of the effects of “fat talk”. *Int J Eat Disord*. 2003; 34:108–117. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/12772175>. [PubMed: 12772175]
32. Puhl R, Brownell KD. Ways of coping with obesity stigma: Review and conceptual analysis. *Eat Behav*. 2003; 4:53–78. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/15000988>. [PubMed: 15000988]
33. Field AE, Camargo CA Jr, Taylor CB, Berkey CS, Roberts SB, Colditz GA. Peer, parent, and media influences on the development of weight concerns and frequent dieting among preadolescent and adolescent girls and boys. *Pediatrics*. 2001; 107:54–60. Available at: <http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.107.1.54>. [PubMed: 11134434]
34. Field AE, Cheung L, Wolf AM, Herzog DB, Gortmaker SL, Colditz GA. Exposure to the mass media and weight concerns among girls. *Pediatrics*. 1999; 103:e36–e36. [PubMed: 10049992]

TABLE 1

Examples of weight stigmatizing incidents

Type of Comment	Example
Appearance related	“All you is, is a girl with bad advice and a bad haircut. ” ... stuck wearing garbage like that.”
Weight related	“The suspect is considered fat, pink, and dangerous.” “The chubby guy in the audience.”
Direct	“I say judging from the condition of those flabby ankles you need some physical conditioning before you step foot on a dance parquet.” “You’ve been making me feel old and fat and unattractive and worthless.”
Indirect	“The one where the black cop dresses up as his fat grandma and beats up all the criminals.” “Not all fat people are jolly.”
Verbal	“A little exercise will firm up those man bobs.” “And for god’s sake, suck in that pouch.”
Nonverbal	Cartoon character can’t fit through the doorway, so he chops it wider in order to get through Cartoon character is shown in a Darth Vader costume with fat rolls coming out of his arms, stomach, and neck

TABLE 2

Total and weight-related stigmatizing incidents by show type and intended audience

Show Characteristic	Total Stigmatizing Incidents	Weight-Related Stigmatizing Incidents	Proportion of Total Incidents That Are Weight Related
Type ^a	$z = -2.65, p = .008$	$z = -0.39, p = .699$	$z = 1.39, p = .166$
Sitcoms	5.6	2.5	51.5
Animated sitcoms	10.7	3.0	30.1
Youth cartoon	6.0	3.0	50.0
Drama	0.0	0.0	0.0
Intended audience	$z = 2.12, p = .034$	$z = 0.43, p = .668$	$z = 21.83, p = .067$
Youth	4.5	2.5	58.3
General	8.1	2.8	38.3

Note:

^aStatistical tests compare sitcoms and animated sitcoms.