

BRIEF
REPORT

Unprompted generation of obesity stereotypes

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ABSTRACT. *Prejudice towards obese people is widespread and has negative consequences for individuals with obesity. The present study covertly examined whether participants spontaneously generate different written transcript content (i.e., more negative stereotypes) when presented with a picture of an obese person or a normal-weight person. Two pictures of young women were computer generated to appear identical in all features except for body shape, which was either obese or normal-weight. Forty-nine women blind to the nature of the study were randomized to receive either the obese or normal-weight picture and asked to write a free-response description of a typical "day in the life" of the woman depicted. Independent coding of the transcripts revealed more frequent negative stereotypes and more negative valence generated by participants asked to describe a typical day of the obese target. These differences are consistent with the prevalent negative stereotypes of obese individuals.*

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INTRODUCTION

Recent reviews suggest that prejudice against overweight and obesity is common (1), harmful (2), and increasing (3). Typically, obese people are described as physically lazy, gluttonous, unattractive, and are less likely to be selected for a relationship or as a friend (4). However, this research has almost exclusively used methods (both qualitative and quantitative) that prompt participants to describe or rate their attitudes and beliefs about obese people, often guided by researcher prescribed stereotypes and characterization. Such approaches can limit the scope of responses, and due to their less than covert approach, are subject to response bias (5). Studies using more subtle, and arguably more accurate, free-response formats are rare (6). However, such studies are required if researchers are to better characterize, understand, and address the growing problem of prejudice towards obese people.

A common problem encountered when examining explicit attitudes toward stigmatized groups is socially desirable responding (7). Recently, researchers have begun to employ implicit measures of prejudice (8). A relatively new, but popular, measure of implicit prejudice is the Implicit Association

Test (IAT). The IAT bypasses the problem of socially desirable responding by instead measuring the strength of the automatic associations that one holds in memory between certain attributes (e.g., positive and negative attitudes and beliefs), and specific objects or targets (e.g., obese individuals). However, these types of measures also appear to suffer from validity issues, and are constrained in terms of the depth and descriptive quality of the attitude information they yield (9).

One study that has used a more covert and naturalistic free-response methodology asked participants to write a story about a drawing of a woman who was presented as either obese or normal-weight (6). Responses were coded specifically for the affective valence of the story, rather than analyzing freely generated beliefs, characteristics, or behaviors attributed to the obese or normal-weight target. The study found that respondents spontaneously generated significantly more gloomy and unpleasant stories, indicating more negative valence, for the obese target relative to the normal-weight target (6). This free response approach has proven similarly effective in research on other stereotyped groups. For example, Macrae et al., (10) asked participants to write about a typical "day in the

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life” of a “Skinhead”. The resulting descriptions allowed a more detailed analysis of the negative stereotypes, characteristics, and behaviors attributed to that target group.

The present study sought to use this more covert, naturalistic, and less constrained method to investigate free-response descriptions of a typical “day in the life” of either an obese or a normal-weight woman. Specifically, we examined differences in the content and valence of written descriptions of an obese or normal-weight target stimulus. Because obese individuals have previously been stereotyped as physically inactive, less liked as friends and partners, unattractive, and having different eating patterns, it was hypothesized that these four types of stereotypes would be spontaneously produced more frequently for obese than for normal-weight targets. It was also hypothesized that obese targets would be described with greater negative valence than normal-weight targets.

METHODS

Participants

Forty-nine Caucasian women aged 18–45 years, from Christchurch, New Zealand, participated in this study. Participants were blind to the purpose of the study and were told the study was designed to examine “writing abilities”.

Materials and procedure

An Internet computer program (www.myvirtualmodel.com) was used to create full-page black and white figures of an obese and normal-weight Caucasian female target. The height and weight entered for each figure was 160 cm and 113 kg for the obese target and 160 cm and 60 kg for the normal-weight target. The www.myvirtualmodel.com website does not allow specific age assignment, instead offering a younger vs. older model. The authors chose to use the younger model option, which was judged (authors consensus) to appear approximately 25 years old. Aside from weight status, the target stimuli were identical in all aspects of appearance [i.e., clothing, hairstyle, age (younger model), and facial features] (Fig. 1).

Upon arrival, participants were randomized to receive either the obese (N=24) or normal-weight (N=25) target picture. Each participant received one of the two target stimuli along with a blank writing booklet. Participants were asked to write open-ended descriptions about the obese or normal-weight target stimulus, using the following instructions: “Please look at the picture supplied to you. Please spend the



FIGURE 1
Computer generated pictures of the normal-weight and obese target stimuli.

next 5 minutes writing a description of what you think would be a typical Sunday for the person portrayed. There are no right or wrong answers to this task; we are just interested in your thoughts about how this person may spend their day”.

A post-study question sheet, asking participants to write what they thought was the true purpose of the study, confirmed that the participants were unaware of the true nature of the study. This study was approved by the University of Canterbury Ethics Board.

Content analysis

Two independent female coders, blind to the aim and experimental conditions employed in the study, were asked to code the participant transcripts and record counts of four common stereotypes identified in the obesity prejudice literature (1). Specifically, coders were asked to identify the occurrence of common stereotypes in the transcripts where the following four domains were mentioned: 1) Activities, 2) Attractiveness/Appearance, 3) Relationships, and 4) Eating behaviors. When a single statement contained references to more than one stereotype domain (e.g., “she and her boyfriend may go out for a light meal”, the statement was coded as containing a description in each rele-

vant domain (e.g., the Relationships and the Eating domain). Coders were also asked to identify specific sub-themes within each of the four broad stereotype domains. Sub-themes identified more than once within a single transcript were recorded as one count, so that transcript counts measure the occurrence/non-occurrence of the stereotype for each participant. Where differences occurred between coders, the relevant passage was discussed by the coders until agreement was reached.

Affective valence

To assess the affective valence (negative or positive tone) of participants' written responses, the technique described by Hiller (6) was used. Here, two different independent coders rated the valence of each complete written description of targets provided by participants on a Likert scale (1=extremely negative tone and 7=extremely positive tone). These coders were also blind to the aim and experimental conditions employed in the study. The coders' valence scores for the participants' transcripts were averaged to give a single score for each transcript.

RESULTS

Content analysis

Chi-square tests for independence were performed to examine differences between obese and normal-weight targets regarding the domains of Activities, Attractiveness/Appearance, Relationship, and Eating behaviors. All descriptors that occurred fit into one of these four domains. The coders agreed 90% of the time about the occurrence of descriptions in the obese condition, and 84% of the time about the occurrence of specific descriptions in the normal-weight condition. Following discussion and resolution of differences, agreement between coders reached 100% for both targets.

Activities

Four consistent sub-theme descriptions emerged related to activities (Table 1). The obese target was less likely than the normal-weight target to be described as sleeping late in the morning and going shopping, and more likely to be described as having relaxed at home. Although there was no significant difference in the frequency of descriptions of the obese and the normal-weight target stimulus regarding doing chores/housework, this activity was described more frequently for the obese target stimulus.

TABLE 1
Frequency of the categories mentioned within the domains of Activities, Relationships, Appearance/Attractiveness, and Eating behaviors.

Domain	Normal-weight woman (N=24)	Obese woman (N=25)	χ^2
Activities			
Sleeping late	10	14	3.95*
Relax/read	11	19	3.47*
Chores/housework	12	17	1.64
Go shopping	14	5	7.58*
Relationships			
Children	3	10	4.75*
Boyfriend/partner	11	1	6.65*
Friends	17	11	3.68
Appearance/Attractiveness			
Personal grooming	10	2	7.51*
Eating behaviors			
Eat at home	11	19	1.14
Eat out	15	4	11.15*
Cooking for others	4	9	1.37

* $p < 0.05$.

Relationships

The existence of a boyfriend or romantic partner was mentioned significantly less often for the obese target, despite a more frequent description of the obese target having children. Although friends were mentioned more frequently for the normal-weight target than for the obese target, this difference only approached significance.

Appearance/Attractiveness

The obese target stimulus received significantly fewer descriptions about enhancing their attractiveness through personal grooming than the normal-weight target stimulus.

Eating behaviors

The normal-weight target was more frequently described as having eaten out in cafés or restaurants than the obese target. There were no significant differences in the frequency of descriptions of eating at home and being a non-healthy eater, although the obese target stimulus was given each of these descriptions more frequently (4 vs. 2 counts). The obese weight target was described more often as cooking for others, which was also not significant.

Affective valence

The inter-rater reliability of the coders for affective tone was $r = 0.66$, $p < 0.01$ for the nor-

mal-weight picture and $r=0.49$, $p<0.05$ for the obese picture. An independent-samples t-test compared the coders' mean valence ratings of the descriptions of obese and normal-weight targets. Ratings of affective tone were lower, indicating a more negative tone, for the obese target than for the normal-weight target [$t(47)=4.86$, $p<0.001$; means=2.98 vs. 4.68].

DISCUSSION

Respondents painted significantly different portraits of the lives of the obese and normal-weight target stimuli. Obese women were more often characterized as resting at home and having children and less often characterized as shopping, sleeping late, having a romantic partner, grooming themselves, or eating out. Additionally, descriptions of the obese target were rated as being significantly more negatively valenced than those of the normal-weight target. The present results are consistent with past findings that obese people are viewed as having less pleasant and rewarding lives (6). Importantly, the emergence of significant differences in participants' descriptions of the obese vs. normal-weight targets is striking given that figures were identical in all aspects of appearance except weight. For example, while participants described the normal-weight target as having "spent time getting dressed and doing her hair (with product)" and being "tidy, well presented and fashionable including hairstyle", they viewed the obese target as someone who "does not spend long on her appearance, i.e. clothes are not important to her". Thus, using a free-response method where participants were not prompted to generate stereotypes and were unaware of the purpose of the study, typically negative stereotypes about activities, attractiveness, relationships, and eating behaviors, emerged for obese targets regardless.

These results are consistent with previous findings that individuals judged as attractive are ascribed more positive qualities (11) and more favorable impressions and judgments (12). Given the inverse correlation between body weight and judgments of attractiveness (13, 14) people may believe that obese individuals do not participate in rewarding relationships or activities (e.g., dining out, shopping). Furthermore, obese women have been labeled as being both less desirable and less capable in intimate relationships (15). Unfortunately, such perceptions may be based on reality; for example, obese adolescent girls are less likely to have dated than their normal-weight peers (16). Even though the obese targets in the present study

were less often described as having a romantic partner, they were more often described as having children, suggesting that they may perhaps have been perceived as being somewhat older than the matched but normal-weight target.

The present work links well with and supports past research where stigmatized individuals have described coping with the rejection and marginalization that results from being overweight or obese (17). For example, obese individuals may use the coping strategies of avoidance, withdrawal, and eating. Avoidance and withdrawal may be implicit in the characterization of the obese woman as spending more time staying at home and less time going out shopping. Dysfunctional eating habits are another coping strategy that obese individuals use in response to stigma and discrimination (18). Though the present study did not find any descriptions of disordered eating, the obese target was described significantly less often as eating in public, which may suggest avoidance behavior or secretive eating.

The present study represents preliminary work aimed at exploring more novel methodological approaches to the studying of anti-fat attitudes and as such has some limitations. Notably, the study was comprised of a relatively small sample of exclusively Caucasian women. Additionally, height and weight data, and accordingly, body mass index of the participants was not gathered or calculated. Those with a lower body weight may have generated more negative stereotypes, which has been reported in the literature in the past (19). However, despite these limitations, particularly in regards the small sample size, meaningful effects were found. It is also possible that a broader range of categories and sub-themes could emerge in a larger and more diverse sample. For example, the present methodology might yield quite different sub-themes in a sample of health professionals, with likely more mention around the eating behaviors and health status for obese targets. Future research should explore the use of free-response methods in more diverse samples and examine the effects of ethnicity, sex, age, and weight on obesity stereotypes. The present study illustrates the utility of free-response designs in examining the domains most affected by the widespread prejudice against obese individuals.

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