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# The Weight of Obesity in Evaluating Others: A Mere Proximity Effect

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*Previous research demonstrates that we tend to derogate individuals who are perceived to be in a social relationship with stigmatized persons. Two experiments examined whether this phenomenon also occurs for individuals seen in the presence of an obese person and whether a social relationship is necessary for stigmatization to spread. The results from both experiments revealed that a male job applicant was rated more negatively when seen with an overweight compared to a normal weight female and that just being in the mere proximity of an overweight woman was enough to trigger stigmatization toward the male applicant. Experiment 2 examined possible moderating effects of the proximity finding. Applicants seated next to heavy (vs. average-weight) individuals were denigrated consistently regardless of the perceived depth of the relationship, the participant's anti-fat attitudes or gender, and whether or not positive information was presented concerning the woman. The profound nature of the obesity stigma and implications for impression formation processes are discussed.*

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Tell me the company you keep and I'll tell you who you are.

—Cervantes (1607)

In his influential book titled *Stigma: Notes on the Management of Spoiled Identity*, Goffman (1963) defined “courtesy stigma” as the tendency for individuals who associate with stigmatized individuals to face negative interpersonal and professional outcomes. Goffman proposed that this threat leads many nonstigmatized individuals to avoid those who are stigmatized. Although a body of research has shown that people do avoid and terminate interactions sooner with stigmatized than nonstigmatized individuals (e.g., Snyder, Kleck, Strenta, & Mentzer, 1979; Swim, Ferguson, & Hyers, 1999; Word, Zanna, & Cooper, 1974), only a handful of studies have examined the phenomenon of stigma spreading and virtually none

has tested its potential presence with respect to obesity, a stigma that is particularly pernicious to its bearers (e.g., Miller & Downey, 1999; Roehling, 1999). The current study fills this void by examining whether the presence of an obese individual taints impressions of those who appear in close proximity to the obese person.

The few empirical studies conducted on courtesy stigmas consistently reveal that relatives of stigmatized individuals are negatively affected. For example, individuals are more likely to experience social rejection, get teased, and be judged as having their own set of problems if they are perceived to be related to stigmatized individuals than if they are not (e.g., Birenbaum, 1992; Levinson & Starling, 1981; Mehta & Farina, 1988). Roommates of individuals who are gay and lesbian are also negatively evaluated (Sigelman, Howell, Cornell, Cutright, & Dewey, 1990), and Neuberg, Smith, Hoffman, and Russell (1994) found that friends of gay men experience denigration, or a “stigma by association.” Underlying all of these past studies is the implicit assumption that a relationship (e.g., family member, roommate, friendship) is necessary for the person perception effects of a stigma to spread to associates. The validity of this assumption has never, to our knowledge, been directly tested. Is it possible that a person merely seen in the presence of an individual known to be gay would experience stigmatization simply as a function of his or her mere proximity to the

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stigmatized individual? The current study varies the nature of the social relationship perceived to exist with an obese individual and examines the implications of the nature of this association on person perception outcomes. In Experiment 2, potential moderators of the stigma-by-association effect are explored.

This research assesses the importance of appearance cues in impression formation processes. Certainly, a body of research has revealed that people use appearance cues of targets to judge targets (e.g., Esses & Webster, 1988; Rothblum, Miller, & Garbutt, 1988), but the possibility that such cues might influence those in proximity to the target has not been researched (cf. Sigall & Landy, 1973). If the physical characteristics of one individual do alter impressions of another, a number of questions emerge. For instance, how closely must the two individuals be associated with each other before the traits of one “spread” to the other? Does the spreading occur across all person perception domains equally? Is the perceiver aware that the impressions of one individual are tainting his or her impressions of another individual? The current research addresses such questions.

The present research also addresses the social interactional nature and interpersonal consequences of stigma, which is an understudied phenomenon in stigma research (see Hebl & Dovidio, 2002; cf. Heather-ton, Kleck, Hebl, & Hull, 2000; Hebl & Kleck, 2002; Swim & Stangor, 1998). For a number of reasons (e.g., laws, ordinances, building codes, organizational structures rewarding diversity), stigmatized individuals are choosing to enter (rather than remain hidden from) society at unprecedented rates (see Hebl & Kleck, 2000). This increased prevalence of stigmatized individuals necessitates a better understanding of mixed interactions so that we can fully capitalize on the diversity and resources of those who may possess what are perceived to be undesirable characteristics. One such characteristic is that of obesity.

### *Obesity Stigma*

Obesity continues to remain one of the most devastating stigmas to possess, particularly for women (see Crocker, Cornwell, & Major, 1993; DeJong & Kleck, 1986; Fallon, 1990; Miller & Downey, 1999; Roehling, 1999). This is despite the fact that almost one in every two Americans adults are overweight and one quarter of Americans are obese (Flegal, Carroll, Kuczmarski, & Johnson, 1998).<sup>1</sup> Those who are heavy are perceived as less active, intelligent, hardworking, attractive, popular, successful, and athletic than people of average weight (Harris, Harris, & Bochner, 1982; Hebl & Heatherton, 1997). Heavy individuals also are viewed as weak willed, self-indulgent, and immoral—attributions that may result because most people in our society view obesity as

a condition that is controllable (Weiner, 1995). In interpersonal relationships, heavy people are trusted less and are less likely to be chosen as friends and romantic partners (DeJong & Kleck, 1986; Harris, 1990). There is also uniformity in the negative social reactions that they incur from diverse populations, including thin people, college students, health care workers, peers, parents, and even heavy people themselves (see Crandall, 1994; Friedman & Brownell, 1995; Hebl & Xu, 2001; Rothblum et al., 1988). In professional contexts, Roehling (1999) reviewed 29 studies and found evidence of discrimination at every stage in the employment cycle, from selection and placement to wages, benefits, and compensation to discipline and discharge. Furthermore, he suggested that the actual extent of discrimination may be much greater, given the fact that so few obese job applicants are likely to be hired at all (Larkin & Pines, 1979; Pingitore, Dugoni, Tindale, & Spring, 1994).

The first goal of the present research is to investigate whether impressions of an individual are influenced by the perceived weight of an associate. If impressions are indeed influenced, we will assess whether they influence different evaluative domains in the same manner and degree. That is, do stigmatized individuals solely influence associated others on interpersonal dimensions or does the influence also spread to hiring and professional competence dimensions? A second goal is to examine factors that may clarify the potential stigma-by-association effect. For instance, we manipulate the depth of the perceived relationship between the stigmatized and nonstigmatized individuals. We propose that just being proximally connected may be a sufficient condition to create a stigma spreading effect. Further devaluation may result from choosing to maintain, strengthen, or sever a relationship with a stigmatized individual (see Ruscher & Hammer, 1996); however, we do not believe the relationship element is always necessary for spreading to occur. Similarly, we explore additional factors that may clarify the extent to which the obesity stigma might spread across individuals. For instance, one factor may include gender, because research shows that weight is of differential concern to men and women (for a review, see Jackson, 1992). Another factor may be the extent to which people possess anti-fat attitudes (see Crandall, 1994), a set of beliefs that may differentiate those who use obesity as a rating cue more than others. Our third goal is to assess whether compensating information about an obese individual might offset the negative influence of the stigma in evaluating others. We particularly focus on potential moderators in Experiment 2.

As a whole, then, the first experiment assesses how impressions of obese individuals may taint the company they keep. Such an associative analysis is important given the high frequency of obese individuals in American

society and the severely negative personal and professional ramifications that they face. In the first experiment, we simply show participants photographs depicting a male target who appears with an average weight or heavy woman. We predict that the male applicants depicted in a photograph with a heavy woman will be denigrated significantly more than if they are depicted with an average-weight woman.

#### EXPERIMENT 1

##### *Method*

*Participants.* A total of 40 (20 men, 20 women) adult participants<sup>2</sup> took part in the experiment. None of these participants were suspicious of the cover story, and only 1 female participant's data were removed because she did not complete all of the dependent measures. Thus, the data analyses are based on the responses of 39 participants.

*Procedure.* Four (2 men, 2 women) experimenters each approached 10 (5 men, 5 women) individuals at a local airport terminal and asked them to participate in "a research study examining the factors that influence a prospective employer in the final stages of the hiring process." If participants gave their informed consent, they randomly received one of two sets of application materials. If any person refused, the experimenter approached another individual of the same sex until each experimenter had recruited five participants of each sex.

*Materials.* In each job application set, participants read a brief cover story, which led them to believe that they would be reviewing materials from an actual hiring decision made recently by a consulting firm. It was explained that the personnel office of the consulting firm had made its final hiring decisions following a small social reception at the firm, where the company personnel mingled, socialized, and obtained a more informal, personal impression of the applicants. This bogus information was provided to reinforce the cover story and provided a rationale as to why a photograph (ostensibly taken at the social reception) was included in the application packet. Participants were randomly assigned one of the job applicant's folders and completed a follow-up evaluation as soon as they had finished examining the materials in the folder. These materials were described as belonging to a job applicant who had made it past the initial steps of the hiring process. They included the applicant's resume, depicting a well-qualified individual, and a photograph of the applicant at the reception.

*Photographs of the applicant.* One of two photographs was used to establish the weight manipulation: A photo of the applicant seated with an average-weight woman or

one of the applicant seated next to a heavy woman. To create and standardize these stimuli, pictures were taken of two pairs of 21-year-old male and female targets, all of whom had been rated as average in attractiveness in a pretest and were dressed in "business casual" attire (dress slacks and a blazer). Two female volunteers, both of whom were an actual Size 8, were photographed first without and then with the addition of both an obesity prosthesis and comparable Women's Size 22 business casual attire. Across these different photographs, the same pose, facial expressions, and camera distance were maintained. Pretesting on 15 naïve respondents ensured us that the obese women were viewed as authentic. Similarly, all 40 of the study's participants reported believing that the overweight female targets looked natural (albeit heavy) and none of them reported any suspicions regarding the manipulation of apparent weight.

*Measures.* Participants completed a 12-item questionnaire, with items drawn from previous stigma-by-association and/or obesity research (i.e., Harris et al., 1982; Neuberg et al., 1994; Sigall & Landy, 1973). The first five items asked participants to indicate the extent to which they found the applicant likable, sociable, interpersonally skilled, enthusiastic, and driven.

We also asked participants to indicate the extent to which they would recommend hiring the individual to see if the hiring bias against those who are heavy (see Roehling, 1999) would generalize to persons seen in the presence of obese individuals. In addition, we asked participants to rate the applicant on professional qualifications, match with the corporation, corporate image, likelihood of job perseverance, and professional ethics. These ratings scales were derived from actual organizational interview materials. Finally, we had participants estimate the applicants' earning potential so that we could examine whether the socioeconomic handicaps faced by overweight individuals (e.g., Crandall, 1995; Sobal, 1991) would similarly affect associates. All 12 of these interpersonal, hiring, and professional measures were presented to participants on scales anchored by (1) *not at all* and (9) *extremely*.

##### *Results*

*Reduction of dependent measures.* A principal components factor analysis with a varimax rotation was conducted on the 12 measures previously described. Two factors emerged from this analysis, together accounting for 72% of the variance. The first factor, which we call Professional Qualities, had an eigenvalue of 6.85 and included the measures of corporate image (.87), professional ethics (.75), endurance and perseverance (.74), applicant/corporation match (.72), earning potential (.72), and qualification (.66). A reliability for these items revealed a Cronbach's alpha of .91 and so were averaged



into a composite measure. The second factor, labeled Interpersonal Skills, had an eigenvalue of 1.05 and included the measures of interpersonal skills (.92), sociable (.84), likability (.69), enthusiasm and energy (.65), and personal drive (.65). A reliability for these measures revealed a Cronbach's alpha of .89; therefore, these items were averaged into a composite. Finally, the single item that assessed participants' willingness to hire applicants had relatively low loadings on both the Professional Qualities and Interpersonal Skills factors (.52 and .50, respectively). Because the study's ostensible purpose was to make hiring recommendations and evaluate the applicants, and because the loadings on both factors were low, we decided to retain Hiring as an individual item (see also Roehling, 1999). Correlations between the composite scores were as follows: Professional Qualities and Interpersonal Skills ( $r = .79$ ), Professional Qualities and Hiring ( $r = .83$ ), and Interpersonal Skills and Hiring ( $r = .76$ ), all significant at the  $p < .05$  level.

*Confederate-pair effects.* We used two sets of photographic stimuli so that the results could not be attributed to any idiosyncrasies regarding one particular male applicant and female companion. As predicted, no significant effects emerged across the different pairs of confederates (all  $ps$  ns).

*Major analyses.* The data were analyzed using a repeated measures two-way analysis of variance with Weight (Heavy, Average) as a between-subjects factor and Dimension Rated (Hiring, Professional Qualities, Interpersonal Skills) as a within-subjects factor. An alternate analysis with three dependent variables is also possible but this would not have allowed us to specifically assess the Weight  $\times$  Dimensions Rated interaction.

As shown in the top portion of Table 1, participants were influenced by the weight of the woman in the photograph in making judgments about the qualities of the male applicant. Participants were less likely to recommend hiring applicants depicted with a heavy woman ( $M = 5.95$ ,  $SD = 1.50$ ) than those pictured with an average-weight woman ( $M = 6.90$ ,  $SD = 1.41$ ). Similarly, participants rated applicants pictured with a heavy woman ( $M = 6.03$ ,  $SD = 1.29$ ) lower on Professional Qualities than applicants pictured with an average-weight woman ( $M = 6.94$ ,  $SD = 1.20$ ). Finally, participants rated applicants depicted with a heavy woman ( $M = 6.33$ ,  $SD = 1.31$ ) lower on Interpersonal Skills than those with an average-weight woman ( $M = 6.99$ ,  $SD = 0.96$ ). Supporting these differences, the main effect of Weight was significant,  $F(1, 37) = 4.96$ ,  $p = .03$ ,  $\eta^2 = .12$ . There was no evidence that the Weight effect was different across the three dimensions rated in that the Weight  $\times$  Dimension Rated interaction did not approach significance,  $F(2, 74) = 0.52$ ,  $p = .57$ ,  $\eta^2 = .015$ .

**TABLE 1: Applicant Ratings (means and standard deviations) Broken Down by Weight of the Proximal Woman**

|         | <i>Hiring</i> | <i>Professional</i> | <i>Interpersonal</i> |
|---------|---------------|---------------------|----------------------|
| Study 1 |               |                     |                      |
| Average | 6.90 (1.41)   | 6.94 (1.20)         | 6.99 (0.96)          |
| Heavy   | 5.95 (1.50)   | 6.03 (1.29)         | 6.33 (1.31)          |
| Study 2 |               |                     |                      |
| Average | 6.25 (1.18)   | 5.73 (1.03)         | 6.05 (1.00)          |
| Heavy   | 5.71 (1.45)   | 5.32 (1.19)         | 5.52 (1.31)          |

### Discussion

The results provide evidence of a stigma-by-association effect with respect to obesity. Using standardized stimuli that differed solely in the perceived weight of a woman seated next to the job applicant, participants consistently used this weight information to make judgments about the male associate. Across the domains of Hiring, Professional Qualities, and Interpersonal Skills, the male associate was denigrated substantially more if he appeared with a heavy woman than an average-sized woman. The strength and consistency of these results are striking and provide evidence that obesity appears to affect people beyond just those who bear the obesity stigma.

It is not clear from this experiment, however, if an assumed relationship between the two individuals (applicant and heavy individual) existed in the minds of participants and to what extent this presumed relationship was a necessary ingredient of the spreading effect. That is, the results could be attributable to either this presumption of a relationship dynamic or they could be the function of a mere proximity effect. The latter explanation suggests that negative person perception consequences will accrue for job applicants merely seen in the presence of an overweight individual.

### EXPERIMENT 2

Experiment 2 directly manipulates the perceived relationship between applicant and stigmatized individual such that in one case they are portrayed as relationship partners and in the other case they are portrayed as having no association (see Sigall & Landy, 1973). A relationship-based explanation would predict a significant interaction between weight and relationship, such that applicants appearing with the heavy woman would be denigrated more than when appearing with the average-weight target, but primarily when the relationship is defined as intimate. A mere proximity effect, however, would predict a significant main effect for weight and the absence of a significant interaction. The strength of the relationship would be incidental. One of the goals of Experi-

ment 2, then, is to ascertain the impact of relationship strength on the stigma-by-association effect.

A second goal of Experiment 2 is to test the possibility that an inferential attribution process of evaluating the associate in light of the stigmatized target might explain a stigma-by-association effect. In essence, participants might adopt a “below market value” heuristic to judge the women, and thereby the man. That is, if the woman is obese, she is judged to have undesirable qualities (Allon, 1982; Roehling, 1999; but for subcultural variation, see Crandall & Martinez, 1996; Hebl & Heatherton, 1997). If a man chooses this woman as a dating partner, then he may be viewed as possessing less desirable traits as well (see Goode & Preissler, 1983). Such a “below market value” inferential attribution process shares commonalities with a rationale based on equity theory (see Fiske & Neuberg, 1990; Kunda & Sherman-Williams, 1993). Accordingly, if individuals are not matched on some characteristic (e.g., attractiveness), the one with a deficit must have a compensating strength in another sphere (e.g., intelligence, outgoing personality, financial resources, athleticism or a special talent; see Berscheid, Dion, Walster, & Walster, 1971; Kernis & Wheeler, 1981). In the current study, then, if the woman has something below market value (e.g., she is obese), then she must have something else above market value to compensate or else the associated man must have deficits as well.

One of the ways that we can test the possibility of this attributional process is to increase the market value of the woman by offering some compensating information for her obesity. In Experiment 2, we sometimes present positive information about the obese individual’s special talent (e.g., it is revealed that she has won a prestigious award) and hypothesize that such information might cancel or compensate for the negativity associated with the obesity.

A third goal of Experiment 2 is to assess whether attitudes toward obesity in general (as measured through Crandall’s [1994] Anti-Fat Attitudes [AFA] questionnaire) might influence the relation between viewing applicants depicted with differentially sized individuals and rating them on evaluation measures. Specifically, we predict that attitudes toward obesity will moderate the relationship between weight condition and ratings of the associate. This prediction arises from a number of studies conducted by Crandall and his colleagues (Crandall, 1994, 1995; Crandall & Martinez, 1996), showing that AFA is an individual difference that has predictive utility under some conditions.

Finally, it remains unclear whether the results found in Experiment 1 are limited to a paper-and-pencil methodology, in which participants have little else to go on other than two basic pieces of information (i.e., a resume and a photograph). In an actual face-to-face mixed inter-

action, the impact of the obesity stigma may be attenuated; evaluators may disassociate an applicant from a negative association more readily (see Fiske & Neuberg, 1990; Kunda & Sherman-Williams, 1993). Alternatively, the obesity stigma—a stigma that is so devastatingly strong—might actually have a more robust negative influence on associates if the visual cue of obesity is actually present. Experiment 2 will manipulate the obesity of individuals by using real-life participants who, with the use of prostheses, appear to be heavy. Thus, a final goal of Experiment 2 will be to examine the generalizability of the results of Experiment 1 as the paradigm moves from paper-and-pencil methodology to a real-life interaction.

### Method

*Overview.* Participants came individually to a laboratory experiment called “structured interviews,” in which they believed they would be making hiring recommendations. When they arrived, they found another person, ostensibly also a participant but actually a male confederate, in the waiting room. In all conditions other than the control condition, a third person (a female confederate appearing either average in size or heavy through the use of an obesity prosthesis) was present as well. The female confederate presented herself as either a girlfriend or as having no relationship with the male confederate, and favorable information was mentioned about her in half of the conditions. Thus, eight conditions involving weight (heavy, average), relation (girlfriend, no relationship), and compensatory information (positive, none) were created and an extra control (applicant alone) condition was added. Following an introduction, participants were escorted to another room, where in a pre-interview stage of the study they were asked to rate the male candidate on personal and professional measures and reported their pre-interview hiring opinions. Finally, after completing the rating task, participants were debriefed and the actual interview never took place.

*Participants.* A total of 196 (79 men, 115 women, and 2 who did not indicate their gender) undergraduate students participated in this experiment in exchange for partial course credit in their psychology classes. None were suspicious concerning the actual nature of the study.

*Confederates.* Three pairs of male and female undergraduate students served as experimental confederates. As in Experiment 1, we again used multiple confederates so that the results could not be attributed to particular idiosyncratic appearances of any one confederate or pairing. Pairs of confederates were trained thoroughly on their roles and instructed to remain consistent across

experimental sessions. Women wearing the obesity prostheses were pretested to ensure that they looked credible and were given ample time to adapt to wearing the prosthesis. No significant differences emerged across the different pairs on any of the study variables (all  $ps > .10$ ).

*Procedure.* Prior to arriving for a study titled "structured interviews," participants were assigned randomly to the control condition (no female confederate present) or to one of eight experimental conditions. In all conditions, a participant individually arrived at the waiting room of a laboratory and sat down in a chair opposite from a male confederate playing the role of another naïve participant. The male confederate was always there prior to the participant's arrival and never spoke to the participant. After approximately 1 min of having the participants wait together, the experimenter emerged from a back room of the laboratory, introduced herself, asked the participants for their names, and then began describing the procedures of the experiment. The 1-min lag time was used to ensure that the participant took notice of anyone seated in the waiting room. The female experimenter told the participant and male confederate that they would be engaging in an interview and would be randomly assigned to play the role of either an interviewer or an applicant. By having the participant first draw lots from a "rigged" hat, it was predetermined that the participant always was assigned the role of the interviewer and the male confederate to the role of job applicant.

The experimenter explained that the first part of the study involved the completion of some questionnaires so that a baseline rating could be obtained on the dependent measures of interest before the formal part of the interview commenced. For ostensible reasons of confidentiality and privacy in completing these forms, the participant and confederate were shown to separate rooms. In reality, these instructions allowed us to isolate the participant to conduct the study: The experimenter entered the room with the participant and told him or her that a second purpose of the study was to examine how accurately first impressions of applicants (before the interview) matched the ratings of the applicants after an interview. Congruent with this mission, it was described as necessary to obtain the participant's first impressions of the applicant. To reduce the influence of social desirability and kindness norms, the participant was told that in the past, other participants had been extremely successful in discriminating between excellent and poor applicants and it was assumed that he or she could do the same. Following a final set of instructions asking the participant to be as honest as possible in their ratings, the experimenter left the participant to ostensibly meet with the other "waiting participant" and deliver similar instructions. The participant completed a

questionnaire assessing the male confederate on a number of dimensions, and afterward, the participant never actually engaged in the interview. Rather, after completing the questionnaire and a suspicion and manipulation check, the participant was fully debriefed, thanked, and given partial psychology course credit.

*Experimental manipulations.* In the control condition, the procedure did not deviate from that which was described previously. However, in the experimental conditions, a second confederate (female) was present and there were three sets of manipulations. The first manipulation involved the appearance of the female confederate. In half of the conditions, female confederates appeared as they normally did, wearing Women's Size 8 clothing (average condition). In the other half of the conditions, confederates wore a professionally constructed obesity prosthesis and clothing of a Women's Size 22 (heavy condition). In both size conditions, female confederates wore comparable black slacks, a white turtle neck, and a blue pullover jacket; male confederates always wore jeans and a long-sleeved, button-down shirt. To ensure that confederates' behaviors were standardized across conditions, they followed memorized and rehearsed behavioral scripts that kept their speech to a minimum and maintained eye contact with the experimenter.

The second manipulation involved the apparent association between the female and male confederates, which was manipulated to reveal either that they were in a romantic relationship or that they were strangers. During the introductions, the experimenter asked the woman (who was seated in the chair next to the applicant) who she was. In the Relationship Association condition, she explained that she was waiting for her boyfriend (pointing to the male confederate) to finish the experiment so that they could go somewhere together afterward. To further underscore the relationship condition, she was holding hands with the male confederate when the participant arrived. In the No Association condition, she explained that she was waiting for another experimenter to arrive for a separate research study.

The third manipulation involved information presented about the female confederate. In half of the experimental sessions, positive information about the female confederate was revealed during the introductions. Specifically, following the response that the female confederate gave to the experimenter (either that she was waiting for her boyfriend or that she was a stranger waiting for another experiment), the experimenter gave a puzzled look of vague recognition to the female confederate and asked her if she was the same person who was recently featured in the school newspaper, having won a very prestigious campus award. She answered affirmatively and humbly. The experimenter continued by



congratulating her on such a noteworthy, exceptional accomplishment (“Didn’t you win the Baker Award? . . . I thought so. . . . Don’t you also speak four languages? . . . That’s really awesome, congratulations!”). This exchange and the award manipulation were intended to enhance the positivity and desirability of the woman. Pretest data had revealed that both men and women rated a college woman who had won the award and had multilingual abilities more favorably ( $M = 8.28$ ,  $SD = 0.79$ ) than they rated the average college woman ( $M = 6.64$ ,  $SD = 1.41$ ),  $t(24) = 5.70$ ,  $p < .001$ .

*Measures.* The same questionnaire used in Experiment 1 was also used in Experiment 2. Following the completion of this instrument, participants also completed manipulation checks. On an open-ended item, they were asked to indicate what they believed to be the true purpose of the study. To test the weight manipulation, participants (other than those in the control condition) rated the female confederate’s weight on a 9-point scale anchored by 1 (*not at all fat*), 5 (*somewhat fat*), and 9 (*very fat*). To test the relationship manipulation, these participants also were asked to answer a multiple-choice question about the two people in the waiting room, indicating whether they were in a relationship.

Furthermore, in the experimental conditions, participants were asked to rate, using the same scales, the female associate in terms of her (a) attractiveness, (b) wealth, (c) intelligence, and (d) kindness. These ratings of the female confederate were included to test the possibility that a destigmatization (see Neuberg et al., 1994) of the heavy woman might occur as a function of being identified as the relationship partner of a well-qualified male job candidate. Finally, the AFA (Crandall, 1994) was included to test whether participants with a strong bias against obesity might be more likely to stigmatize the associate of a heavy woman.

## Results

*Manipulation checks.* The results revealed that all manipulations were successful. First, those who participated in the experiment in the presence of an obese female confederate rated her to be significantly heavier ( $M = 5.68$ ,  $SD = 1.88$ )<sup>3</sup> than did those participating in the presence of a thin female confederate ( $M = 1.66$ ,  $SD = 0.92$ ),  $t(173) = 18.36$ ,  $p < .001$ .<sup>4</sup> Second, of the participants in the experimental conditions, 161 accurately recalled the relationship between the two confederates precisely, whereas the 16 others did not.<sup>5</sup> Third, participants were asked to indicate the award that the woman won. All 84 participants in this condition indicated that the woman received some award, although only 62 were able to specifically cite the exact name of the award. On the major study variables, no differences emerged between those who did and did not recall the

relationship precisely or between the two confederates who did and did not recall the award by name ( $ps > .10$ ).

To ensure that the confederates with positive information revealed about them were rated more favorably relative to the ones for whom no information was given, we conducted a series of  $t$  tests on all four items assessed about the confederates in this condition. No differences emerged in ratings of kindness,  $t(173) = 1.26$ ,  $p > .20$ , or attractiveness,  $t(173) = 1.15$ ,  $p > .20$ . However, women with the positive information attached to them were rated as more intelligent,  $t(172) = 3.37$ ,  $p = .001$ , and more financially advantaged,  $t(172) = 3.83$ ,  $p < .001$ , than those without any compensating information provided (Intelligence:  $M_{\text{pos info}} = 7.02$ ,  $SD = 1.45$ ;  $M_{\text{no info}} = 6.30$ ,  $SD = 1.37$ ; Wealthy:  $M_{\text{pos info}} = 6.13$ ,  $SD = 1.45$ ;  $M_{\text{no info}} = 5.28$ ,  $SD = 1.48$ ). Thus, evidence suggests that positive information is not changing the evaluations of women’s appearance.

Congruent with previous findings (e.g., Sobal, 1991), we also found evidence of a stereotypic bias against heavy women on the ratings of attractiveness and financial advantage, such that women who were of average weight were rated to be more attractive,  $t(173) = 3.37$ ,  $p < .001$ , and marginally more financially advantaged than the heavy women,  $t(172) = 3.37$ ,  $p < .06$  (Attractive:  $M_{\text{ave}} = 6.17$ ,  $SD = 1.46$ ;  $M_{\text{heavy}} = 4.58$ ,  $SD = 1.57$ ; Wealthy:  $M_{\text{ave}} = 5.88$ ,  $SD = 1.39$ ;  $M_{\text{heavy}} = 5.44$ ,  $SD = 1.64$ ). No differences emerged on ratings of kindness,  $t(173) = -0.07$ ,  $p > .90$ , or intelligence  $t(172) = -1.03$ ,  $p > .30$ . Although we also investigated the possibility of interactions between size, information, and relationship in rating the women on these four factors, no higher order interactions emerged.

*Reduction of the dependent measures.* Consistent with Experiment 1, we again retained the individual item Hirability. A principal components factor analysis with a varimax rotation on the 11 remaining individual items revealed two factors accounting for 68% of the variance. The first factor, Professional Qualities, had an eigenvalue of 6.17 and included professional ethics (.83), endurance (.80), comfort with applicant/corporation match (.77), qualifications (.74), corporate image (.66), and earning potential (.64). A reliability analysis conducted on these items revealed Cronbach’s alpha of .88; therefore, a composite was created by averaging across these items. The second factor, Interpersonal Skills, had an eigenvalue of 1.31 and included the following dependent measures: interpersonal skills (.88), sociable (.89), enthusiasm (.78), likable (.64), and will to succeed (.58). A reliability analysis conducted on these items revealed Cronbach’s alpha of .89 and an averaged composite was created. Correlations between the three composite scores were as follows: Professional Qualities and Interpersonal Skills ( $r = .69$ ), Professional Qualities and Hiring ( $r = .73$ ), and Interpersonal Skills and Hiring ( $r = .72$ ).



*Major analyses.* As in the previous experiment, we again conducted a repeated measures analysis to test whether the findings that emerged interacted with the particular dimension being rated. Thus, we specifically conducted a repeated-measures five-way analysis of variance with between-subjects factors of Weight (Heavy, Average), Relationship Strength (Romantic Partner, Stranger), Compensating Information (Positive, None), Anti-Fat Attitudes (High, Low),<sup>6</sup> and Participant Gender (Male, Female). Rated Dimension (Hirability, Professional Qualities, Interpersonal Skills) was a within-subjects factor.

As shown in the bottom portion of Table 1, the key result of Experiment 1 that participants are influenced by the size of the woman seated next to the applicant was replicated. Participants were less willing to hire applicants seated next to a heavy woman ( $M = 5.71$ ,  $SD = 1.45$ ) than applicants seated next to the average-sized woman ( $M = 6.25$ ,  $SD = 1.18$ ); rated applicants lower on Professional Qualities when they were seated next to a heavy woman ( $M = 5.32$ ,  $SD = 1.19$ ) than an average-sized woman ( $M = 5.73$ ,  $SD = 1.02$ ); and rated applicants lower in Interpersonal Skills when they were seated next to a heavy woman ( $M = 5.52$ ,  $SD = 1.30$ ) than an average-weight woman ( $M = 6.05$ ,  $SD = 1.00$ ). The main effect of Weight was significant,  $F(1, 142) = 5.47$ ,  $p = .02$ ,  $\eta^2 = .04$ . There was no evidence that the Weight effect was different across the three dimensions rated. The Weight  $\times$  Dimension Rated interaction did not approach significance,  $F(2, 284) = 0.44$ ,  $p = .65$ ,  $\eta^2 = .003$ .

In conducting the five-way analysis, we found no evidence to suggest that Relationship Strength, Compensating Information, Anti-Fat Attitude scores, or Participant Gender moderated the spread of stigma effect. That is, no two-way or higher order interactions involving Weight emerged. The only other significant effect besides the main effect for Weight was a Relationship Strength  $\times$  Participant Gender interaction,  $F(1, 142) = 3.86$ ,  $p = .05$ ,  $\eta^2 = .03$ . Male and female participants viewed applicants similarly when they were seated next to strangers. However, when the applicants were seated next to girlfriends, male participants denigrated the applicants much more than did female participants. Given the large number of tests conducted and the fact that this pattern of results was not anticipated, we feel that this effect should not be given much credence unless replicated in future studies.

We also conducted Dunnett's tests to compare the experimental conditions with that in which the applicant was depicted alone (Control Condition,  $N = 19$ ). The results revealed that those coming to the interview alone were perceived similarly to those who sat next to an average-sized woman, all  $p$ 's  $> .19$ . However, those seated with an obese woman were recommended for hire less

( $M = 5.77$ ,  $SD = 1.45$ ) than those who came alone ( $M = 6.68$ ,  $SD = 1.00$ ),  $t(97) = 2.76$ ,  $p < .01$ , and were perceived to be less professional ( $M = 5.32$ ,  $SD = 1.19$ ) than those who came alone ( $M = 5.95$ ,  $SD = 0.88$ ),  $t(97) = 2.15$ ,  $p < .04$ . No differences emerged on the perceptions of Interpersonal Skills between any of the experimental conditions ( $p > .46$ ).

### Discussion

The results replicate those found in the first study, again revealing that persons in the proximity of an overweight individual are judged more negatively than those seen with average-weight individuals. However, the current findings do not support a traditional stigma-by-association effect because the applicant with the obese girlfriend was not viewed significantly differently from the applicant depicted with the obese stranger. That is, no significant Relationship  $\times$  Size interaction emerged (all  $p$ 's  $> .10$ ). Rather, the main effect of the obesity manipulation reveals that discrimination against job applicants occurs when they are seated with heavy women regardless of whether they have a relationship with her.

The current results also reveal no evidence to suggest that presenting positive information about the woman alters participant's perceptions of the male job applicant. The manipulation checks revealed that these women were indeed rated more positively and desirably but this did not help the applicant overcome the ill effects of being seated next to her when she was heavy. This lack of compensatory effect suggests the extreme disadvantages that accrue to persons seen in the presence of obese women. Perhaps the positive information presented about the heavy woman simply was not positive or dramatic enough to compensate for the strength of the obesity stigma. Similarly, neither Crandall's (1994) AFA nor participant gender clarified this relationship.

### GENERAL DISCUSSION

Across two experiments, we found consistency in how the presence of obesity in one person can negatively influence individuals who are proximally connected to the obese person. Furthermore, no variations emerge across rating dimensions—associates are denigrated on hiring, professional, and interpersonal domains consistently. Of importance, these findings clarify the stigma-by-association phenomenon by suggesting that a relationship is not always necessary for spreading of a stigma to occur. Rather, the current results suggest that a minimal connection—even one simply linking two people together by mere proximity—is robust enough to invoke a spreading phenomenon.

Such results suggest the profound influence that features of our interpersonal environment may have on impression formation processes. That is, when we form impressions of an individual, we may be relying on all sorts of information that lie beyond the specific stimulus qualities of that person. If being seated next to a person who has undesirable characteristics has such a negative influence on how they are perceived by others, what effects do other negative environmental cues (e.g., undesirable architectural features, poor choice of clothing) have on the impressions that are formed of us? Certainly, there is a large body of research on the effects of priming and impression formation (e.g., Higgins, Rholes, & Jones, 1977; Zhong & Yang, 1998), but the current research suggests that even seemingly unconnected features can strongly influence impressions.

The current studies also support the need to conduct studies across varying stigmas before generalizing about stigma-related phenomenon (see Hebl & Dovidio, 2002). A consistent body of research suggests that the obesity stigma works differently from other stigmas (e.g., Crandall, 1994; Crocker et al., 1993; Miller & Downey, 1999). The current results partially support this in that the few past stigma-by-association studies (which have utilized other stigmatizing features) have found evidence to suggest that a relationship was necessary to trigger the stigma-by-association phenomenon (e.g., Mehta & Farina, 1988; Sigall & Landy, 1973). The current research now questions whether that relationship is really necessary and suggests that at least in the case of the obesity stigma, a proximal connection is sufficient.

#### *Future Research*

Given the absence of significant moderating effects in the present study, future research is needed to understand the mechanisms underlying the effect that we have consistently and robustly demonstrated. A number of possible explanations might account for the fact that the mere proximity effect is sufficient to produce the spreading effects of stigmatization. First, the phenomenon might be affect-driven. Perceivers may notice the obesity stigma and feel negative affect, which may transfer to others who are close in proximity. In line with this explanation, research conducted by Griffitt (1970) found that participants who were placed in an uncomfortably warm climate were particularly likely to feel negative affect toward an interactant expressing dissimilar attitudes. However, in an in-depth test of the affect explanation that we conducted, not reported in this article, we found no support for the possibility that participants experienced heightened negative affect or disgust as a function of seeing the overweight woman. Second, the mechanism may involve cognitive priming. Perceivers who notice the negative physical feature may be cognitively

primed to focus on other negative features both within that target and in others who may be near the target. This “reverse” halo effect explanation receives some support if we focus on the ratings that participants made of the woman who was obese or average. If she was obese, she was also rated to be less attractive and financially advantaged. It is possible that obesity might impact not only the target’s halo but also the halos of those in proximity. Third, the mechanism may be one involving attributional processes. Such a rationale would suggest that a person who associates or even appears in close proximity to a stigmatized individual also must have undesirable qualities. We hoped to test this possibility by presenting positive information that could overshadow the negative obesity feature, but we did not observe compensatory reactions. Our positive information manipulation may not have been strong enough. In sum, we hope that future research will address the mechanism(s) underlying this effect and more clearly identify the role of affect, priming, attributions, and other potential explanations.

Future research also might address the extent to which people recognize that they are engaging in this behavior. Past research has shown that sometimes individuals actively distance themselves from stigmatized individuals by engaging in subtle prejudice (e.g., Birenbaum, 1992; Swim et al., 1999). This prejudice, which may or may not be under people’s cognitive awareness, often leads to avoidance and further stigmatization of the target. However, if this is occurring without much recognition on the part of the perceivers, future research might manipulate the level of awareness of the obesity stigma and awareness of the extent to which judgments about associates can be influenced by the mere presence of stigmatized individuals. Research by Gilbert and Hixon (1991), for instance, suggests that when people are aware that they might be stereotyping, they are less likely to rely on their suppositions. So, too, researchers have shown that although many people hold stereotypes, individuals who are aware of these stereotypes can consciously override their displays of prejudice and discrimination (e.g., Devine, Monteith, Zuwerink, & Elliot, 1991; Dovidio, Evans, & Tyler, 1986). Moreover, if stigmatized individuals possess the knowledge that they might face discrimination, they can engage in coping and compensatory strategies (e.g., Crocker & Major, 1989; Miller, Rothblum, Felicio, & Brand, 1995).

Finally, future research might further address the impact of gender on the stigma-by-association phenomenon, particularly with respect to the obesity stigma. We found no effects of participant gender in the current study and to reduce the complexity of design, we examined only the effects of heavy women on nonheavy men. Future research also might examine whether the effects

of heavy men on nonheavy women converge with the current results. There is some evidence to suggest that men may not suffer from the ill effects of obesity as much as do women; future research might examine if such an attenuated stigmatizing feature in men similarly has attenuated effects in their associates.

### Conclusion

The current study demonstrated that impression formation processes are influenced strongly by, what seems to clearly be at times, background information. Furthermore, this information cannot be easily undermined by the presentation of positive, compensating information or clarified by relationship strength or anti-fat attitudes. Returning to the quote with which we began this article, the current results suggest that the company that people keep *does indeed* influence how they will be evaluated. We hope future research will clarify precisely how stigmas spread and attempt to identify mechanisms that might disengage associates from experiencing the effects of stigmatization.

### NOTES

1. Although we clearly recognize the medical distinction between obesity and overweight, we use the terms interchangeably along with "heavy." The distinction between these terms has not been made clear in manipulations used in past psychological studies, so it is not possible to parse out the differences in a review of the findings (see also Friedman & Brownell, 1995). Applying the medical definitions in the strictest sense to our review of past findings, however, it is fair to interpret all of the findings as being accurate for overweight individuals and sometimes accurate for obese individuals.

2. We did not ask participants to indicate their age and gender. However, all four experimenters approached five males and five females each. All of the participants were traveling in the middle of the week during business hours, appeared professional, and appeared to be middle age.

3. The mean rating of heavy confederates (5.68 out of 9) was lower than we had anticipated. The scale was anchored from (1) *not at all fat* to (9) *extremely fat*, so 5.68 does indicate more than (5) *fat*, but our manipulation may be relatively conservative for testing the effects of extreme obesity.

4. Shifts in degrees of freedom reflect the fact that occasionally a participant left an item blank.

5. Of the 16 individuals who did not answer the manipulation check precisely, 5 were in the "Relationship" condition and 11 participants were in the "No Relationship" condition. However, it was not that participants answered incorrectly about the relationship; rather, they tended to leave the item blank. We believe that the No Relationship condition failures are due to the fact that participants believed the woman was there (as she said) waiting for another experiment and so they did not consciously link the two together in a meaningful way. In line with this reasoning, 6 participants in this condition wrote in the margins "no woman was mentioned" but then correctly answered the check for the information manipulation. Similarly, 1 of the participants wrote "that woman was not part of the experiment." Because in these cases most participants were able to distinguish between some level of relationship from none, we left them in the data set. In addition and of importance, there were no changes in the pattern of data or significance of results on major variables when all 16 of these cases were eliminated.

6. Although we report Anti-Fat Attitudes Scale (AFA) analyses based on median splits to test for potential interactions, our analysis of AFA as a covariate also yielded no effects.

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