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Implicit and Explicit Prejudice toward Overweight and Average Weight Men and Women:

Testing their Correspondence and Relation to Behavioural Intentions

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## Abstract

This study examined prejudice toward overweight men and women via explicit and implicit methodologies. Seventy-six participants indicated their perceptions, attitudes, behavioural intentions, and implicit associations toward an average weight or overweight male or female. Results indicated the presence of explicit and implicit anti-fat prejudice, with males evidencing greater negativity toward overweight targets. A series of ANCOVAs indicated that overweight targets were the recipients of greater derogation in comparison to their average weight counterparts. Thus, prejudice based on weight status and gender were, for the most part, equally apportioned and comparable in negativity. With one exception, no significant relationships emerged between the explicit and implicit measures of weight bias. Limitations of the study and implications for future research are discussed.

Key words: stereotypes; prejudice; discrimination; weight bias; Implicit Association Test

## Implicit and Explicit Prejudice toward Overweight and Average Weight Men and Women:

### Testing their Correspondence and Relation to Behavioural Intentions

Myriad studies demonstrate that it is socially acceptable to express negative attitudes toward overweight men and women (e.g., Crandall, 1994; Crandall & Biernat, 1990; Morrison & O'Connor, 1999). This phenomenon is the result of weight bias or the inclination to form judgments about people based upon the perception of excessive body weight (Brownell, Puhl, Schwartz, & Rudd, 2005). Puhl and Brownell (2001) maintain that weight bias is one of the remaining acceptable forms of prejudice, a sentiment that is particularly troubling given the obesity epidemic facing much of western society. Indeed, a recent national survey found that approximately 36% of Canadian adults were overweight (i.e., body mass index [BMI] = 25-29.9) while 23% of Canadians and 30% of Americans were obese (i.e., BMI  $\geq$  30; Tjepkema, 2005).<sup>1</sup>

### *Weight-Based Prejudice and Discrimination*

Individuals who are overweight or are perceived to be overweight have been found to experience multiple forms of discrimination in areas such as employment, education, health care, and interpersonal relations (see Brownell et al., 2005; Puhl & Brownell, 2001). In an experimental study investigating discrimination directed toward overweight job applicants, university students were asked to view a simulated interview scenario in which the applicant was either male or female and of average weight or overweight (Pingitore, Dugoni, Tindale, & Spring, 1994). Results indicated that overweight job applicants were recommended for employment significantly less often than their average weight counterparts, with the job applicant's body size emerging as the most powerful predictor in the hiring decision. Further, Pingitore and colleagues found that the overweight male job applicant was recommended for employment significantly more often than the overweight female job applicant. Additional researchers (e.g., Ding & Stillman, 2005; Maranto & Stenoien, 2000; Rothblum, Brand, Miller, & Oetjen, 1990) have accumulated evidence of weight-based discrimination in the employment arena.

Regarding weight-based discrimination in education, Crandall (1991, 1995) has identified extensive biases directed toward overweight students in high-school and post-secondary educational settings. Although Crandall (1995) found that body weight was not related to high school students' educational goals, grades, enjoyment of school, or self-rated intelligence, university students were found to be thinner than peers of similar age and height, suggesting that overweight high school students may be less likely to attend college than their average weight peers. Further, Crandall (1991) investigated the sources of financial support offered to students attending various colleges

in the United States. After controlling for the variance contributed by parents' income and education levels, as well as number of children attending post-secondary, it was found that only 53% of overweight women received financial support from their parents compared to 74% of average weight women. No difference in the amount of parental financial support offered to average weight and overweight men emerged. On the basis of this research, it appears that overweight women may be accorded less financially than their average weight female and overweight male counterparts.

In addition, upon conducting content analyses of popular prime-time television shows, several researchers (e.g., Fouts & Burggraf, 1999, 2000; Fouts & Vaughan, 2002; Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003) have concluded that overweight individuals do not appear on television with notable frequency. Indeed, only 3% of women found on prime time television shows and 7% of men could be appropriately classified as obese (Greenberg et al., 2003). Similar frequencies were obtained in three additional studies wherein the presence of overweight and obese female characters ranged from 5 to 7% (Fouts & Burggraf, 1999, 2000), with a slightly higher percentage (13%) featuring overweight/obese male characters (Fouts & Vaughan, 2002). As well, when overweight individuals are presented in prime time television shows they are, for the most part, presented negatively. Greenberg and colleagues (2003) found that overweight television characters had fewer interactions with friends or romantic partners, were more likely to be seen eating or to be humiliated by others while doing so, and were less likely to help with tasks, demonstrate physical affection, date romantically, or have sexual intercourse.

Research suggests that the multiple forms of discrimination experienced by overweight individuals may, in turn, compromise their psychological and physical well-being. Overweight individuals consistently report experiencing lowered self-confidence and self-esteem, and increased stress levels, activity restrictions, and visits to health professionals (see Brownell et al., 2005). Miller (1998) emphasized that the mistreatment overweight individuals experience may actually hinder their social skill development. To test this proposition, Miller, Rothblum, Barbour, Brand, and Felicio (1990) invited overweight and average weight women to participate in a telephone conversation with another person who was unaware of their weight. Based upon the phone conversations, trained judges and the telephone partner rated these women on various traits such as likeability, sociability, and physical attractiveness. Results indicated that overweight women were rated as less likeable, socially skilled, and physically attractive than were the average weight women.

### *Anti-fat Prejudice Research*

In comparison to other forms of prejudice (e.g., racism and sexism), anti-fat prejudice is relatively understudied.<sup>2</sup> A small number of researchers (e.g., Bessenoff & Sherman, 2000; Crandall, 1994; Morrison & O'Connor, 1999; O'Brien, Hunter, & Banks, 2006; Teachman & Brownell, 2001; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003; Wang, Brownell, & Wadden, 2006), however, have documented the prevalence of *explicit* anti-fat prejudice (i.e., individuals' biases toward overweight men and women that are consciously controlled) and/or *implicit* anti-fat prejudice (i.e., individuals' biases toward overweight men and women that occur unconsciously).

*Explicit anti-fat prejudice.* Several studies have been conducted to document the prevalence of explicit (i.e., self-reported) anti-fat prejudice. For instance, Morrison and O'Connor (1999) constructed the unidimensional Anti-fat Attitudes Scale (AFAS) to measure participants' negative attitudes toward persons who are overweight. The authors found that a substantial proportion of Canadian high-school and university students endorsed attitudinal items that were blatantly pejorative; specifically, 43% of participants indicated that "*It is disgusting when a fat person wears a bathing suit at the beach*" and 21% reported that "*On average, fat people are lazier than thin people.*" According to Morrison and O'Connor, the pervasive nature of anti-fat prejudice is hardly surprising as Western cultural norms "extol the virtues of physical attractiveness" (p. 436). Results also indicated that men scored significantly higher on the AFAS than did women. Thus, for the purposes of the present study, it is hypothesized that men will score significantly higher on the AFAS than women.

Person perception research also underscores the existence of anti-fat prejudice, as well as the biases directed toward evaluative targets in relation to their perceived gender. In a classic person perception study, Harris, Harris, and Bochner (1982) presented Australian university students with descriptions of hypothetical persons that varied by gender, body weight, and the wearing of eyeglasses. Specifically, participants were asked to rate the person on several variables. Similar to Greenleaf et al. (2004), results indicated that the overweight target was deemed less active, athletic, attractive, hardworking, intelligent, successful, outgoing, and popular than the average weight target. No significant difference in the stereotypes assigned to overweight men and women was detected. Greenleaf, Starks, Gomez, Chambliss, and Martin (2004) investigated the traits people attribute to different body sizes. Undergraduate students were presented with male and female body-silhouette scales and asked to identify the body-silhouette that best reflected various personality-related terms. Results indicated that the largest body-

silhouettes were labelled most frequently as being slow, lazy, unfriendly, and boring, whereas the medium body-silhouettes were labelled most frequently as being physically fit, motivated, friendly, funny, and smart. In terms of differences based on the gender of the body-silhouettes, the large male figural drawings were assigned more negative attributes than the large female figural drawings. Further, the medium male body-silhouettes were assigned more positive attributes compared to the medium female body-silhouettes. The findings pertaining to gender are noteworthy. On the one hand, researchers (e.g., Harris et al. 1982) have found that weight-based biases are directed toward overweight men and women equally, while others (e.g., Greenleaf et al., 2004) suggest that it is overweight men who are the recipients of greater bias. For the purposes of the present study, the extent to which positive and negative traits are ascribed to overweight women and men in comparison to average weight men and women will be investigated. Specifically, it is hypothesized that participants will ascribe fewer positive traits to overweight than average weight targets, and that this effect will be more pronounced for overweight women than for overweight men. It also is hypothesized that participants will ascribe more negative traits to overweight than average weight targets, and that this effect will be more pronounced for overweight women than for overweight men. Finally, participants are expected to show fewer positive behavioural intentions toward the overweight targets compared to the average weight targets, and that this effect will be more pronounced for overweight women than overweight men.

*Implicit attitude measurement.* Traditionally, explicit (i.e., self-report/person perception) measures have been used to assess biases toward social groups along a series of dimensions such as race, sex, age, and sexual orientation. Researchers recognize, however, that study participants may consciously control their evaluations (Greenwald, McGhee, & Schwartz, 1998) and, therefore, the nature of explicit attitude measurement may be subject to social desirability concerns (Rudman, Greenwald, Mellott, & Schwartz, 1999). According to Wang, Brownell, and Wadden (2006), the validity of explicit attitude measurement may be further compromised by the wording of questionnaire items and by the fact that some individuals may not be able to clearly express their attitudes toward social group members. In contrast, implicit measures provide insight into people's attitudes that are automatically activated by the mere presence of an attitude object (Dovidio, 2001). By capturing attitudes that are activated automatically, researchers may address study participants' self-presentation biases. To enhance the validity of the present study, both explicit *and* implicit measures of weight bias will be incorporated.

When using both methodologies, a key theoretical consideration is the general degree of correspondence that exists between explicit and implicit measures. To investigate this question, Hofmann, Gawronski, Gschwendner, Le, and Schmitt (2005) meta-analytically examined the correlation between explicit measures and implicit association tests or IATs (i.e., a newly developed technique for measuring implicit attitudes). Results indicated that the measures were significantly, positively, and systematically correlated with one another. According to Hoffman et al. (2005), these correlations, however, are often highly variable due to the influence of moderator variables such as: 1) spontaneity of the explicit measures; 2) conceptual correspondence between the explicit and implicit measures; and 3) methodological characteristics of the IAT. Moreover, Hoffman et al. (2005) investigated whether the correlations between explicit and implicit measures would be smaller in magnitude when the topic under investigation was socially sensitive and triggered strong social desirability concerns. Results indicated that a correlation of smaller magnitude was not evinced, a discovery that is contrary to much of the empirical research in areas such as racism (e.g., Dovidio, 2001).

Within the anti-fat prejudice literature, the strength of correspondence between explicit and implicit measures is currently indeterminate. On the one hand, significant correlations between explicit and implicit anti-fat prejudice have been demonstrated (e.g., Bessenoff & Sherman, 2000; Teachman & Brownell, 2001; Teachman et al., 2003). For example, Bessenoff and Sherman (2000) found that high-scoring participants on Crandall's (1994) *Dislike of Fat People* subscale responded more quickly to negative words than positive words after being presented with a fat prime compared to low-scoring participants. Further, Teachman and colleagues (2001, 2003) found that a lazy-motivated weight IAT was associated with a lazy-motivated weight semantic differential scale and the *Fat Phobia Scale*. Findings from other studies, however, portray a slightly different picture. For example, Teachman and colleagues (2001, 2003) found no statistically significant relationship between a bad-good weight IAT and its related semantic differential scale or the *Fat Phobia Scale*. As interpreted by Teachman and Brownell (2001), this difference may be the result of participants' willingness to rate fat persons as lazy but not as bad. In other words, it may be seen as socially acceptable to label fat people as lazy, indicating why the explicit-implicit relation was significant for this attribute, whereas it may be seen as socially undesirable to label fat people as bad, indicating why the explicit-implicit relation in this regard was non-significant. In a more recent study, Wang et al. (2006; Study 2) hypothesized that a strong relationship between explicit and implicit measures of anti-fat attitudes would emerge due to the acceptability of expressing one's anti-fat prejudice and the consequent reduction in social sensitivity about the

topic. Their hypothesis was not confirmed. Although considerable implicit bias was found, as well as endorsement of some of the explicit scale items (i.e., overweight participants endorsed stereotypes that the overweight were lazy and unmotivated), a significant correlation between the implicit and explicit measures did not emerge. This is particularly surprising given the overlap in content between the explicit and implicit attitude measures. For the implicit measure, however, Wang et al. (2006) opted to administer a pen-and-paper IAT rather than a computerized version, an approach that is slightly less orthodox. It is possible that this method of administration contributed to the smaller degree of correspondence between the implicit and explicit measures of weight bias (see Teachman & Brownell, 2001, however, for information about the utility of pen-and-paper IATs). To augment the research to date assessing the relationship between explicit and implicit measures, the correspondence between these measures will be tested. Specifically, it is anticipated that explicit and implicit measures will be moderately correlated.

A critical avenue of inquiry for researchers is to determine which of the dual attitudes (implicit or explicit) best predicts behaviour toward the target group in question. Indeed, Dovidio (2001) states that both implicit and explicit levels of measurement represent aspects of the person's attitudes; however, the central question should be "which aspect of the attitude better predicts...behaviour?" (p. 840). To date, even outside of the anti-fat prejudice literature, there are few studies that investigate the degree to which explicit and implicit attitudes are linked and, subsequently, predict discriminatory behaviour. Moreover, O'Brien, Hunter, and Banks (2006) emphasize that this omission characterizes much of the extant anti-fat prejudice literature and these authors indicate that researchers should include a behavioural assessment to better understand its correspondence with implicit and explicit anti-fat measures. The present study extends previous anti-fat research by including a series of discrimination-proxy type items. It is anticipated that both explicit and implicit anti-fat prejudice will be inversely associated with behavioural intentions.

### *Present Study*

In summary, the following hypotheses have been generated and will be tested in the present study:

1. First, for the explicit measures, we hypothesize that male participants will evidence greater anti-fat prejudice than female participants.
2. Second, we hypothesize that participants will show evidence of anti-fat bias by ascribing fewer positive traits and more negative traits to overweight targets compared to average-weight targets.

3. Third, we further hypothesize that the ascription of positive and negative traits to the targets will be interactively determined by weight status and gender of the target, whereby participants will ascribe fewer positive traits and more negative traits to the overweight female target in particular.
4. Fourth, it is hypothesized that a similar interaction based on weight status and gender will be found for our explicit measure of behavioural intention (i.e., participants will indicate less interest in engaging in social interaction with the overweight targets, with the female target being subject to the greater discrimination).
5. Fifth, we hypothesize a moderate association to emerge between implicit and explicit indicants of anti-fat prejudice.
6. Finally, it is hypothesized that both explicit and implicit anti-fat biases will predict behavioural intentions toward the overweight targets.

## Method

### *Participants*

Seventy-six participants (61 females) were recruited from the university's general psychology participant pool. Participants ranged in age from 18 to 42 years ( $M = 20.11$ ,  $SD = 4.0$ ), with 89% ( $n = 68$ ) describing themselves as Caucasian, 8% ( $n = 6$ ) as Asian, and 3% ( $n = 2$ ) as Aboriginal. The participants' BMI, which was based upon their self-reported height and weight, ranged from 18.0 to 30.8 ( $M = 23.07$ ,  $SD = 3.07$ ), with 3% ( $n = 2$ ) of the participants being classified as underweight, 75% ( $n = 57$ ) as average weight, and 22% ( $n = 17$ ) as overweight or obese.

### *Apparatus*

The implicit measure was developed using SuperLab Pro (2002; version 2) according to the IAT methodology specifications outlined by Greenwald and colleagues (1998). Participants classified images and words appearing on a computer monitor by pressing either a left or right key on the designated response board. The remaining measures were administered via paper and pencil.

### *Measures and Design*

Participants completed a questionnaire that included the Person Perception Task (PPT), Behavioural Intentions Index (BII), and Anti-fat Attitudes Scale (AFAS). The Implicit Association Test (IAT) was completed on a computer.

*Person Perception Task (PPT).* The PPT was the first explicit measure presented. Participants were given a description of a target who was either male or female and of average weight or overweight. Participants were asked to rate this person on twelve 7-point Likert-type rating scales (*1 = strongly disagree* to *7 = strongly agree*) indicating the extent to which they agreed that the person had the following positive (*attractive, friendly, goal-oriented, happy, hard-working, intelligent*) and negative (*inactive, lazy, sloppy, undisciplined, unhealthy, unpopular*) attributes. These positive and negative attributes were selected after a thorough review of the empirical anti-fat prejudice literature. The positive and negative items were separately summed, creating two indices (PPTpos and PPTneg). The PPTpos and PPTneg scores ranged from 6 to 42, with higher scores indicating stronger ascriptions of positive traits (or negative traits) toward the target. In the current study, the PPTpos and PPTneg scales showed satisfactory scale score reliability ( $\alpha = .61$  and  $.68$ , respectively).

*Behavioural Intentions Index (BII).* Following the PPT, participants were asked 5 questions designed to assess the extent to which subjects would seek to socially interact with the target. These five items were: *How likely is it that you would: (1) want to get to know Daniel (Denise) Olson better?, (2) ask Daniel (Denise) Olson if you could copy his (her) notes from a class you missed?, (3) want to work on a class project with Daniel (Denise) Olson?, (4) invite Daniel (Denise) Olson to a study group for a Psychology exam?, and (5) want to become friends with Daniel (Denise) Olson?* Participants responded to each question using a 7-point Likert-type rating scale (*1 = very unlikely* to *7 = very likely*). Scores ranged from 5 to 35, with higher scores indicating greater likelihood that the participant was favourably inclined to engage in social interaction with the target. Cronbach's alpha for this scale was  $.86$ .

*Anti-fat Attitudes Scale (AFAS; Morrison & O'Connor, 1999).* Following the BII, participants were presented with the unidimensional AFAS, which consists of 5 items (e.g., *"It is disgusting when a fat person wears a bathing suit at the beach"*) that measure explicit anti-fat attitudes. Participants indicated how much they agreed with each statement on a 7-point Likert-type rating scale (*1 = strongly disagree* to *7 = strongly agree*). Scores ranged from 5 to 35, with higher scores indicating more negative attitudes toward overweight individuals. Morrison

and O'Connor found that the AFAS is a psychometrically sound measure that demonstrates satisfactory scale score reliability and construct validity. In the present study, Cronbach's alpha for the AFAS was .77.

*Implicit Association Test* (IAT; Greenwald et al., 1998). The IAT (Greenwald et al., 1998) measures implicit attitudes and stereotypes toward a social group by assessing individuals' automatic evaluation of that group. The underlying assumption of the IAT is that it is easier for participants to categorize two concepts using the same response key if the concepts are compatible because it is relatively automatic and effortless, whereas it is more difficult for participants to categorize two concepts using the same response key if the concepts are incompatible because of response competition (Greenwald et al., 1998). In the current study, participants completed a picture IAT. It has been established that the IAT is a sensitive measure of automatic evaluative associations, proving useful for examination of implicit prejudice and stereotyping (Greenwald et al., 1998), and the IAT has demonstrated convergent and discriminant validity (Gawronski, 2002; Greenwald et al., 1998).

The materials for the picture IAT consisted of the 6 positive and 6 negative words used in the PPT and 24 images (6 each of average weight and overweight men and women).<sup>3</sup> The picture stimuli were presented in black and white and the word stimuli were presented in black letters, both vertically and horizontally centred against a light grey background. The stimuli were presented at an inter-trial interval of 250 ms and were selected randomly without replacement. However, as recommended by Gawronski (2002), the stimuli appeared in the same order for all participants in an effort to control for general confounding due to individual differences. In completing the IAT, participants were instructed to classify stimuli appearing on the computer monitor as either an average weight or overweight person or a positive or negative attribute by pressing either a right or left response key. Each participant was instructed to go as fast as he or she could and were told that some mistakes were permissible. In the event that a participant incorrectly classified a stimulus (e.g., classified an average weight image as an overweight image, a positive word as a negative word, or vice versa), he or she was presented with a red 'X' on the screen, and was told that he or she must press the correct response key in order to move onto the next trial. Each participant progressed through the sequence outlined by Greenwald and colleagues (1998).

There were four versions of the picture IAT created in SuperLab Pro. Two of these versions presented images only of men; the other two versions presented images only of women. The male- and female-only versions controlled for the order in which the combined tasks were presented, such that in one version of the picture IAT, the overweight stereotype consistent combined task was presented first, whereas in the second version, the overweight

stereotype-inconsistent combined task was presented first. The order in which participants completed the explicit and implicit measures also was counterbalanced between participants.

### *Procedure*

At each research session, participants reviewed the consent form and were informed that their participation was strictly voluntary, that they may withdraw from the study at any time without loss of credit, and that any data they submit would remain confidential. After indicating their consent, participants were randomly assigned to a study condition. Upon completion of the study, participants were fully debriefed, thanked, and received credit for their time.

## *Results*

### *Preliminary Analyses*

*Data aggregation.* The PPTpos, PPTneg, BII, and AFAS were aggregated by summing the items to create total scores for the respective measures. The response latency data from the picture IAT were aggregated according to the improved scoring algorithm described by Greenwald and colleagues (2003). First, the response latency and error rate data were checked; the data were cleaned by deleting trials with response latencies greater than 10,000 ms. No participants responded faster than 300 ms more than 10% of the time. Due to the positive skew often observed with response latency measures, the response latency data were then log-transformed. Following this data cleaning process,  $D$  was computed as the indicator of the IAT effect (see Greenwald et al., 2003 for the improved scoring algorithm). The descriptive statistics for the measures are presented in Table 1.

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Insert Table 1 About Here

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No significant differences were found on  $D$  according to IAT order (i.e., whether participants completed the stereotype-consistent or stereotype-inconsistent tasks first) or IAT gender (i.e., whether participants saw male or female targets), all  $ts < 0.98$ , *ns*. Further, no differences were observed in participants' responses as a function of counterbalancing the presentation order of the explicit and implicit stimuli (all  $ts < 0.93$ , *ns*).

*Implicit weight stereotyping.* Participants responded faster on stereotype-consistent trials (i.e., overweight + negative or average weight + positive) than stereotype-inconsistent trials (i.e., overweight + positive or average weight + negative) on both the male IAT (untransformed mean response time on the stereotype-consistent block = 765.90,  $SD = 244.55$ ; untransformed mean response time on the stereotype-inconsistent block = 1112.27,  $SD =$

336.52),  $t(39) = 6.80, p < .01, d = 2.18$ ,<sup>4</sup> and the female IAT (untransformed mean response time on the stereotype-consistent block = 786.57,  $SD = 300.16$ ; untransformed mean response time on the stereotype-inconsistent block = 1168.17,  $SD = 435.21$ ),  $t(35) = 7.61, p < .01, d = .257$ . Thus, as expected, images of overweight individuals were more quickly associated with negative attributes and images of average weight individuals were more quickly associated with positive attributes, indicating pervasive implicit weight-based stereotyping.

*Participant characteristics.* The extent to which characteristics of the participants covaried with the dependent measures was examined. Correlations between participants' BMI and the PPTpos, PPTneg, BII, AFAS, and  $D$  were computed. No significant correlations were observed (i.e., all  $r_s < |.14|$ ,  $ns$ ). To investigate whether male and female participants differed on the key variables of interest, independent samples  $t$ -tests were conducted. These analyses revealed that female participants ( $M = 31.67, SD = 3.54$ ) had higher scores on the PPTpos than male participants ( $M = 29.67, SD = 2.80$ ),  $t(74) = 2.04, p < .05, d = .47$ ; whereas male participants ( $M = 21.20, SD = 2.93$ ) had higher scores on the PPTneg than female participants ( $M = 18.66, SD = 4.85$ ),  $t(35.46) = 2.60, p < .05, d = .87$ . Female participants ( $M = 25.33, SD = 4.42$ ) had higher scores on the BII than male participants ( $M = 22.13, SD = 4.84$ ),  $t(74) = 2.46, p < .05, d = .57$ , with male participants ( $M = 20.80, SD = 4.41$ ) scoring significantly higher on the AFAS than female participants ( $M = 16.74, SD = 5.72$ ),  $t(74) = 2.57, p < .05, d = .60$ . The latter finding serves to confirm the hypothesis that male participants would score significantly higher on the AFAS than female participants. No significant differences emerged between male participants ( $M = 0.85, SD = 0.50$ ) and female participants ( $M = 0.89, SD = 0.56$ ) on  $D$ , the indicator of the IAT effect,  $t(74) = 0.26, ns$ .

#### *Analyses of Covariance*

To determine whether participants' scores on the various measures differed as a function of the target's weight (average weight or overweight), target's gender (male or female), or an interaction between the two, analyses of covariance (ANCOVAs) were conducted. As participants' gender was found to covary with the dependent measures (PPTpos, PPTneg, BII, and AFAS), this variable was entered as a covariate.

To test whether participants' ascription of positive traits to the target varied as a function of the target's weight and gender, a 2 (Gender of Target)  $\times$  2 (Weight of Target) ANCOVA was conducted on PPTpos. A main effect of target's weight was observed,  $F(1, 71) = 4.91, p < .05, d = .06$ , indicating that participants more strongly assigned positive traits to the average weight target ( $M = 32.00, SD = 3.52$ ) than the overweight target ( $M = 30.51, SD = 3.32$ ). A main effect of target's gender was not observed,  $F(1, 71) = 0.34, ns$ , indicating that the male target

( $M = 31.03$ ,  $SD = 3.64$ ) and female target ( $M = 31.54$ ,  $SD = 3.34$ ) were similarly assigned positive traits. As predicted, a significant interaction between the target's weight and gender was observed,  $F(1, 71) = 4.13$ ,  $p < .05$ ,  $d = .06$ , indicating that participants' assignment of positive traits to the targets was interactively determined by the target's weight and gender. In accordance with predictions, pairwise comparisons revealed that the assignment of positive traits to the male target did not vary according to whether the target was described as average weight ( $M = 31.00$ ,  $SD = 3.26$ ) or overweight ( $M = 31.05$ ,  $SD = 4.09$ ),  $t(37) = 0.13$ ,  $ns$ , whereas the assignment of positive traits to the female target did vary according to whether the target was described as average weight ( $M = 33.05$ ,  $SD = 3.55$ ) or overweight ( $M = 29.94$ ,  $SD = 2.24$ ),  $t(35) = 2.97$ ,  $p < .01$ ,  $d = 1.00$ . Participants assigned more positive attributes to the average weight female target than to her overweight counterpart.

In order to determine whether participants' ascription of negative traits to the target varied as a function of the target's weight and gender, a  $2 \times 2$  ANCOVA was conducted on PPTneg. A main effect of target's weight was observed,  $F(1, 71) = 13.99$ ,  $p < .01$ ,  $d = .11$ , which indicates that participants more strongly assigned negative traits to the overweight target ( $M = 20.92$ ,  $SD = 3.79$ ) than the average weight target ( $M = 17.49$ ,  $SD = 4.79$ ). A main effect of target's gender was not observed,  $F(1, 71) = 0.60$ ,  $ns$ , indicating that the male target ( $M = 18.82$ ,  $SD = 4.94$ ) and female target ( $M = 19.51$ ,  $SD = 4.33$ ) were similarly assigned negative traits. Contrary to expectations, a significant interaction of the target's weight and gender was not observed,  $F(1, 71) = 0.22$ ,  $ns$ .

A  $2 \times 2$  ANCOVA then was conducted with the BII as the dependent variable. A main effect of target's weight was observed,  $F(1, 71) = 4.59$ ,  $p < .05$ ,  $d = .06$ , indicating that participants had more positive behavioural intentions toward the average weight target ( $M = 25.64$ ,  $SD = 4.30$ ) than the overweight target ( $M = 23.70$ ,  $SD = 4.85$ ). A main effect of target's gender was not observed,  $F(1, 71) = 0.00$ ,  $ns$ , indicating that the male target ( $M = 24.69$ ,  $SD = 4.41$ ) and female target ( $M = 24.70$ ,  $SD = 4.95$ ) evoked similar behavioural intentions from the participants. Contrary to expectations, a significant interaction of the target's weight and gender also was not obtained,  $F(1, 72) = 0.52$ ,  $ns$ .<sup>5</sup>

### *Correlation Analyses*

In order to examine the relations between the dependent measures, a series of bivariate correlations were conducted as a function of the weight of the target. The correlations for all measures can be found in Table 2.

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Insert Table 2 About Here

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Regarding participants who were presented with the average weight male or female targets, behavioural intentions correlated positively with positive person perception ratings and negatively with anti-fat attitudes ( $r_s > |.44|, p < .01$ ). As well, positive person perception ratings correlated negatively with negative person perception ratings,  $r(37) = -.42, p < .01$ . Regarding participants who were presented with the overweight male or female targets, behavioural intentions correlated positively with positive person perception ratings, and negatively with negative person perception ratings and anti-fat attitudes ( $r_s > |.53|, p < .01$ ). Further, negative person perception ratings correlated negatively with positive person perception ratings and positively with anti-fat attitudes and implicit weight stereotyping ( $r_s > |.32|, p < .05$ ). On the basis of these analyses, the hypothesis that the implicit measure of weight stereotyping would correlate moderately with the explicit measures was not supported.

### *Regression Analyses*

A series of linear regression analyses were conducted to determine the amount of variance in behavioural intentions that would be accounted for by the study's key variables of interest (i.e., positive and negative person perception ratings, anti-fat attitudes and implicit weight stereotyping).

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Insert Table 3 About Here

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For both average and overweight targets, positive person perception ratings and anti-fat attitudes significantly predicted behavioural intentions. However, neither implicit weight stereotyping nor negative person perception ratings emerged as statistically significant predictors. Thus, behavioural intentions toward both the average and overweight targets were predicted by higher positive person perception scores and weaker anti-fat attitudes. These findings do not support the hypothesis that both the set of explicit measures and the implicit weight IAT would emerge as significant predictors of behavioural intentions.

In order to explore whether these relationships were qualified by gender of the targets, additional regression analyses were conducted. Using the criterion measure and predictor variables outlined previously, four regressions were conducted (1 = Male/Average Weight; 2 = Male/Overweight; 3 = Female/Average Weight; and 4 = Female/Overweight).

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Insert Tables 4 and 5 About Here

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For the average weight male target, positive person perception ratings emerged as a significant predictor of behavioural intentions. For the average weight female target, positive person perception ratings along with anti-fat attitudes emerged as significant predictors. Consequently, willingness to interact socially with the average weight male and female targets was predicted by higher positive person perception ratings and, in the case of the average weight female target, weaker anti-fat attitudes. For the overweight male target, positive person perception ratings, anti-fat attitudes, and implicit weight stereotyping emerged as significant predictors of behavioural intentions. Thus, willingness to engage socially with the overweight male was predicted by both explicit and implicit measures; specifically, higher positive person perception ratings, weaker anti-fat attitudes, and less implicit weight stereotyping. The regression model for the overweight female target did not reach significance ( $F < 2$ ).

#### General Discussion

This study tested several empirical questions and, in so doing, extended the extant research on anti-fat prejudice. Of key interest in the present investigation was determining: 1) whether target's weight and gender were variables that influence person perception ratings and behavioural intentions; 2) whether a strong degree of correspondence between explicit and implicit measures of prejudice toward overweight individuals would emerge; and 3) whether explicit and/or implicit stereotypes of the overweight would surface as significant predictors of behavioural intentions toward the overweight. In accordance with our first hypothesis driven by previous research documenting gender differences in anti-fat attitudes (e.g., Crandall, 1994; Morrison & O'Connor, 1999; Perez-Lopez, Lewis, & Cash, 2001), we found that male participants reported more negative attitudes toward overweight individuals than female participants. In accordance with our second hypothesis, we found that overweight targets were ascribed fewer positive attributes but greater negative attributes compared to average weight targets. This finding follows previous weight-based person perception research (e.g., Greenleaf et al., 2004; Harris et al., 1982) which has demonstrated that the overweight are characterized more negatively than average weight individuals. Beyond this main effect of weight status, however, it was expected that weight status and gender of the hypothetical targets would interactively determine the assignment of positive and negative attributes to the targets. Partial support for this third hypothesis was obtained, such that a significant interaction between weight and gender of the

target was observed on the positive traits (but not on the negative traits). Here, male targets, regardless of their weight, received similarly positive trait ascriptions, whereas the overweight female target received less positive ascriptions than the average weight female target. However, upon inspection of the means, it appears that the overweight female target ( $M = 29.94$ ;  $SD = 3.55$ ) did not receive significantly more negative assessments than the average weight male target ( $M = 31.00$ ;  $SD = 3.26$ ) or overweight male target ( $M = 31.05$ ;  $SD = 4.09$ ). Rather, the average weight female target appeared to be the outlier. This finding reaffirms the value that is placed on physical appearance vis-à-vis individuals' assessment of women (Fredrickson & Roberts, 1997). This finding also suggests that being overweight may not be “bad” after all, as the overweight female target received a mean score comparable to the average weight and overweight male targets; instead, it appears that being “non-overweight”, for women only, is better.

When measuring ascriptions of negative person perception traits to the overweight and average weight targets, no significant interaction based on targets' weight status and gender was obtained. Essentially, regardless of the target's gender, the overweight male and female received the greatest number of negative trait ascriptions. This finding suggests that, at least in a general sense, overweight men and women are stereotyped negatively to a similar degree. The comparable levels of negativity ascribed to overweight men and women in the present study supports Harris et al.'s (1982) findings wherein the overweight evaluative targets were the recipients of the least favourable trait ascriptions. Unlike Greenleaf et al.'s (2004) study in which the overweight male body silhouettes were accorded the least favourable ascriptions in comparison to the overweight female body silhouettes, our findings indicate that the degree of negativity directed toward overweight men and women may be accorded relatively easily, equally, and comparably. That overweight male and female targets were similarly derogated on the assignment of negative attributes, but differentially favoured on the assignment of positive attributes, is an important consideration for future weight bias research.

In terms of the behavioural measure, our fourth hypothesis predicted that participants would indicate less interest in interacting with the overweight targets compared to the average-weight targets, and that this effect would be magnified for the overweight female target compared to the overweight male target. This hypothesis was based upon the premise that more negative biases toward overweight female than male targets should result in less positive behavioural intentions reported toward the overweight female (cf. Ajzen & Fishbein, 1977). However, a significant interaction based on target's weight status and gender was not observed, although a main effect for weight status

was obtained. Thus, regardless of whether the overweight target was male or female, participants indicated that they were less inclined to want to engage socially with the overweight targets. In the current study, the index of behavioural intentions was comprised of questions measuring whether participants would want to get to know the target better, would want to work on a class project with the target, borrow the target's notes if participants had missed a class, invite the target to a study group, or wish to become friends with the target. Although these questions captured participants' hypothetical future intentions, the fact that they would operate at greater social distances from the overweight male and female targets has implications for the overweight and obese in our society and, more specifically, for students who are overweight and obese at post-secondary institutions. Crandall (1991) indicates that universities and colleges have a greater number of average weight women and men in attendance compared to overweight men and women; thus, the extent to which overweight individuals are actually entering post-secondary institutions may be in question. Further, Miller et al. (1990) found that women who are overweight may experience decrements in their perceived sociability and likeability in comparison to women who are average weight. It is possible that overweight women (and men) may be viewed as less socially competent and be less sought after for friendship while attending university. The pervasive and stigmatizing effect of weight on behavioural intention has been demonstrated indirectly by Hebl and Mannix (2003), who found that participants were less likely to hire male job applicants when in the mere presence of an overweight, compared to an average weight, woman. Findings such as these suggest that there also may be consequences for college students who befriend their overweight peers.

To determine whether a significant linkage between the explicit measures used in the present study and implicit weight-based prejudice would emerge, their degree of correspondence was tested. Our fifth hypothesis predicted that explicit measures of anti-fat bias would correlate significantly with the IAT. The IAT was found to be significantly related only to the negative person perception trait ascriptions for the overweight targets. The nonsignificant correlations obtained between the IAT and the remaining explicit measures (i.e., positive person perception ratings, the AFAS, and the BII) places into question whether weight bias is perceived to be socially acceptable. Several researchers (e.g., Crandall, 1994; Puhl & Brownell, 2001) argue that weight bias is one of the last remaining acceptable forms of prejudice, and is only modestly affected by normative pressures and social desirability concerns. However, if weight bias is viewed as being socially acceptable, then individuals' explicit weight prejudice should be in alignment with their implicit weight prejudice. At the very least, participants may not

experience difficulty ascribing negative traits to the overweight which, in turn, aligns with their implicit attitudes.

To date, there are several studies that have documented significant correlations between implicit and explicit measures both within (e.g., Bessenoff & Sherman, 2000; Teachman & Brownell, 2001) and outside (e.g., Hoffman et al., 2005; McConnell & Leibold, 2001; Steffens, 2005) the area of anti-fat prejudice. Other researchers both within (e.g., Wang et al., 2006) and outside (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997) the scope of anti-fat prejudice have been unable to find significant correlations. Additional research exploring *why* this variability occurs would be advantageous.

To date, the number of studies that have investigated the degree to which explicit and implicit attitudes predict discriminatory behaviour is relatively small (for one notable exception within the anti-fat prejudice research literature, see Bessenoff & Sherman, 2000). In the present study, a regression analysis was conducted to determine the extent to which discriminatory behavioural intentions could be predicted by explicit and implicit attitudes toward overweight individuals. Our sixth hypothesis was formulated to test whether both implicit and explicit anti-fat biases would predict behavioural intentions toward the overweight targets. Explicit positive person perception ratings and anti-fat attitudes emerged as significant predictors of behavioural intentions, whereas the implicit weight stereotyping and negative person perception ratings were found to be nonsignificant predictors. In order to determine whether these relationships were qualified by gender of the target, additional regression analyses were conducted. A source of intrigue was the difference noted in terms of predictors of behavioural intentions toward the overweight male and female targets. For the overweight male, positive person perception ratings, anti-fat attitudes, and implicit weight stereotyping significantly predicted behavioural intentions, with no variables emerging as significant predictors for the overweight female. In relation to the latter model, this finding suggests that measures other than those used in the present study may be more likely to predict behavioural intentions toward the overweight female target. These findings raise the issue as to the type of image participants conjured when completing these measures. As a majority of women are considered overweight in accordance with BMI calculations, it is possible that the female target in the present study was evaluated as though she was carrying extra weight but not to an alarming degree (i.e., she may have been viewed as being in excess of her ideal body weight by a mere 10 or 20 pounds). Although the overweight male target in this study was also described as overweight, the mere inclusion of this descriptive term may have contributed to participants conjuring up images of an obese male (i.e., the overweight target may have been envisioned as being in excess of his ideal weight by 50 to 100 pounds).

In support of the contention that what is considered overweight for women may be lighter than what is considered overweight for men, Greenleaf and colleagues (2004) found that overweight women were allocated an average figure silhouette rating of 6.38 ( $SD = 1.38$ ) on a 1 (*lighter figure silhouettes*) to 9 (*heavier figure silhouettes*) scale, whereas overweight men were allocated an average figure silhouette rating of 6.87 ( $SD = 1.30$ ). Future research is needed to gauge whether individuals' perception of what it means to be "overweight" differs as a function of target's gender, and if these differences in weight perception relate to the assignment of positive and negative trait attributions. At the very least, the finding that implicit weight stereotyping did not predict behavioural intentions toward the overweight female suggests that implicit prejudice may not directly relate to behaviour. Support for this proposition can be found in research conducted by Dasgupta and Rivera (2006), where they demonstrated that automatic antigay prejudice produced biased antigay behaviour only when gender-based egalitarian beliefs and behavioural control were absent.

#### *Implications for Future Research*

This study has several implications for future research conducted in the anti-fat area. An interesting finding was that overweight men and women were similarly derogated, particularly on the negative person perception ratings. This result seems counterintuitive when compared to previous literature (e.g., Pingitore et al., 1994), which has shown that discrimination in the employment sector is due not only to weight status (e.g., average weight job applicants are more likely to be hired than overweight job applicants), but to gender (e.g., overweight male job applicants are more likely to be hired than their female counterparts). Although the present research suggests that weight bias may be an equal opportunity injustice, it would be useful to examine anti-fat prejudice within more domain-specific situations, such as job hiring and promotion.

In addition, with the exception of the regression for the overweight male target, this research did not find strong correspondence between the explicit and implicit overweight stereotyping measures, even though these measures were designed similarly through the use of identical stereotype probes. This finding may be explained by Fazio's (1990) MODE model, where *motivation* and *opportunity* are *determinants* of how attitudes will influence behaviour. When a person has the motivation and opportunity to retrieve and construct attitudes toward the behaviour, and decide upon a behavioural intention, then the automatic attitude will not necessarily relate to the behaviour. However, when a person lacks the motivation and/or opportunity to engage in the decision-making process, the relationship between one's automatic attitudes and behaviour will strongly relate. According to Fazio,

the discordance between explicit and implicit measures of stereotyping and prejudice is due to individual differences in motivation to control prejudiced reactions and differences in methodology that allow individuals the opportunity to engage in a deliberative decision-making process. Gawronski, Peters, Brochu, and Strack (2006) have recently proposed an integrated framework of prejudice whereby the correspondence between implicit and explicit prejudice is interactively determined by egalitarian goals (i.e., motivation to control prejudice) and perceptions of discrimination (i.e., belief in the extent to which members of particular social groups are socially disadvantaged). These researchers have demonstrated a positive relation between implicit and explicit racism only when a) egalitarian goals are low, and, at the same time, perceived racism is high, and b) egalitarian goals are high, and, at the same time, perceived racism is low. Brochu, Esses, and Gawronski (2006) have extended and replicated this integrated framework of prejudice within the domain of weight prejudice. Future research examining the correspondence between explicit and implicit measures of anti-fat stereotyping and prejudice may benefit from considering potential moderators of the relation, such as motivation to control prejudice and perceptions of discrimination.

Finally, the finding that male participants self-reported more negative person perception ratings, behavioural intentions, and anti-fat attitudes toward overweight men and women, but did not reveal more implicit weight biases than did female participants, is noteworthy. These results warrant further investigation to understand why men revealed stronger explicit, but similar implicit, prejudices compared to women. One possible suggestion for this difference is that women may be more susceptible to social desirability cues or more motivated to control their prejudiced reactions in relation to weight. For example, women have been shown to report higher levels of egalitarianism than men (e.g., Brochu et al., 2006; Dasgupta & Rivera, 2006). Further, the issue of weight may be a more sensitive one for women than for men, which may partially explain women's more compassionate evaluations of the overweight.

#### *Limitations of the Study*

There are some limitations of the present study that could be addressed in future research. First, the results from the picture IAT may be confounded by the perceived attractiveness of the targets in the images. Some researchers assert that anti-fat prejudice may stem from the perception of overweight individuals as unattractive or aesthetically displeasing (e.g., Morrison & O'Connor, 1999). Indeed, it was found in the pilot study of the images that participants rated the overweight targets as less attractive than the average weight targets. The possibility that

participants may perceive the overweight individuals in the images as less attractive than the average weight individuals is somewhat compromising, but may not be possible to control.

Second, although gender was taken into consideration on the PPT and IAT, the AFAS did not allow for consideration of the gender of the evaluative target. Currently, all scales designed to measure anti-fat prejudice refer to “fat individuals” in general, rather than to “fat men” or “fat women” in particular (e.g., Crandall, 1994; Morrison & O’Connor, 1999). Research in the area of sexual prejudice (e.g., Morrison & Morrison, 2002) has benefited from abandoning the generic term “homosexual” in favour of “gay men” and “lesbian women,” particularly due to the fact that people think of “gay men” most often when they hear the term “homosexual”. Although gender of target was found to be a nonsignificant factor in this study, this issue warrants consideration in future research.

A final limitation of this study is that the 12 attributes used in the person perception and implicit attitude measures confound stereotypicality and valence of traits (e.g., Chasteen, Schwarz, & Park, 2002), as the negative attributes were stereotypes of overweight individuals, and the positive attributes were non-stereotypical of overweight individuals. Regardless of this limitation, these findings contribute to the anti-fat prejudice literature by demonstrating prevalent explicit and implicit weight bias. Future research may consider examining trait stereotypicality and valence in the activation of prejudice toward overweight individuals.

### *Conclusion*

This research explored the linkage among explicit and implicit stereotypes, attitudes, and behavioural intentions toward overweight men and women. Results suggested that stereotyping of overweight men and women may be an equal opportunity injustice, as overweight men and women in comparison to average men and women were, for the most part, recipients of weight-based prejudice. As well, this study becomes part of the steadfastly accumulating evidence for nonsignificant relations between explicit and implicit measures found by other researchers. According to Steffens (2005), implicit attitudes should be related to, but not identical to, explicit attitudes. Finally, the study attempted to illuminate the relationship between behaviour and anti-fat stereotyping and prejudice. With the exception of overweight female targets, behavioural intentions were predicted to some degree by explicit measures.

A further series of studies should assess the influence of weight and gender in more domain specific contexts. Also, the correspondence between explicit and implicit measures of anti-fat prejudice should be examined in relation to weight-based discriminatory behaviour. It may well be the case that weight bias is shifting from

blatant intolerance to a more subtle form, which can be better documented using implicit weight-based measurement techniques. Overall, researchers should attempt triangulating the cognitive, affective, and behavioural data sources to better understand anti-fat stereotyping, prejudice, and discrimination and to advance the development of informed weight bias reduction strategies.

## Notes

1. The most common computation of BMI is the Quetelet index, which is calculated using body weight in kilograms divided by height in meters, squared ( $\text{kg/m}^2$ ; Jacobson & DeBock, 2001). BMI categories are as follows: less than 18.5 = underweight; 18.5-24.9 = average weight; 25-29.9 = overweight; 30-34.9 = mildly obese; 35-39.9 = moderately obese; and 40 or greater = morbidly obese (Jacobson & DeBock, 2001).
2. The term “fat” and/or “anti-fat” is used frequently by researchers when discussing stereotyping, prejudice, and discrimination toward individuals who are overweight or obese. In an effort to promote consistent usage of the nomenclature, the authors in the present study have adopted these terms and are, by no means, using them in a pejorative sense.
3. These images were selected from 40 pictures of average weight and overweight men and women pilot-tested using 26 participants (13 females). After viewing each image, these participants were asked to indicate the gender, perceived body size (i.e., average or overweight), and whether they recognized the person in the image. In addition, each participant rated how attractive they thought the person was, how friendly they looked, as all persons were smiling, how willing they would be to work with the person on a group task, and the quality of the image. Images were removed if: 1) any of the participants reported that they recognized the person; 2) more than 60% of participants did not appropriately identify the gender or the weight status of the person (Ernst, Godfrey, Silva, Pouget, & Welkowitz, 1994); and 3) the mean rating of the image on the quality variable was below the midpoint, indicating poor image quality. The exemption of images according to these criteria resulted in 6 images from each gender-weight category being retained. As well, paired *t*-tests were conducted on the selected images according to attractiveness. The images of average weight men and women were judged to be more attractive than the images of overweight men and women, all *ts* (12)  $\geq 3.06$ ,  $p < .01$ . Since overweight individuals are judged as less attractive than average weight individuals (Tovée & Cornelissen, 2001), these differences between the images of average weight and overweight individuals are not surprising. The interested reader may obtain additional information about the piloting of all stimuli by contacting the researchers.
4. Effect size conventions for *d* are such that small = .20, medium = .50, and large = .80 (Cohen, 1988).
5. A 2 (Gender of Target) x 2 (Weight of Target) ANCOVA also was conducted using the AFAS as the dependent variable. No significant main effects or interaction were observed (all *F*s < 2).

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Table 1

*Means, Standard Deviations, Minima, and Maxima for Measures (N = 76)*

Measure	Mean	SD	Minimum	Maximum
<i>Person Perception Task, Positive</i>	31.28	3.48	23.00	41.00
<i>Person Perception Task, Negative</i>	19.16	4.64	9.00	27.00
<i>Behavioural Intentions Index</i>	24.70	4.65	11.00	35.00
<i>Anti-Fat Attitudes Scale</i>	17.54	5.70	5.00	29.00
<i>Implicit Association Test (D)</i>	0.88	0.55	-0.78	2.18

*Note.* The minima and the maxima in the table represent the obtained scores. The possible range of scores for the Person Perception Task - Positive (PPTpos) and the Person Perception Task - Negative (PPTneg) subscales is 6 to 42; for the Behavioural Intentions Index (BII), the possible range is 5 to 35; and for the Anti-Fat Attitudes Scale (AFAS), the possible range is 5 to 35. For the Implicit Association Test (*D*), positive scores indicate stronger associations between overweight individuals and negative traits (and average weight individuals and positive traits).

Table 2

*Intercorrelations Among Variables by Weight Status of Presented Target (N = 76)*

Variable	PPTpos	PPTneg	BII	AFAS	<i>D</i>
Average Weight Targets ( <i>n</i> = 39)					
PPTpos	--	-.42**	.63**	-.20	.22
PPTneg		--	-.23	.11	-.02
BII			--	-.45**	.21
AFAS				--	.10
Overweight Targets ( <i>n</i> = 37)					
PPTpos	--	-.65**	.54**	-.23	-.09
PPTneg		--	-.60**	.53**	.33*
BII			--	-.58**	-.17
AFAS				--	.21

*Note.* PPTpos = Positive Attributes as measured by the Person Perception Task; PPTneg = Negative Attributes as measured by the Person Perception Task; BII = Behavioural Intentions Index; AFAS = Anti-Fat Attitudes Scale; *D* = Implicit Association Test (IAT) effect.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 3

*Summary of Simultaneous Regression Analyses for Variables Predicting Behavioural Intentions by Weight Status of Presented Target (N = 76)*

Average Weight Targets (n = 39)		
Variable	$\beta$	t
Person Perception Task, Positive	.60	4.53**
Person Perception Task, Negative	.09	.70
Anti-Fat Attitudes Scale	-.34	-2.84**
Implicit Association Test (D)	-.13	-1.08
Overweight Targets (n = 37)		
Variable	$\beta$	t
Person Perception Task, Positive	.37	2.33*
Person Perception Task, Negative	-.13	-.74
Anti-Fat Attitudes Scale	-.48	-3.24**
Implicit Association Test (D)	-.20	-1.59

*Note.*

$F(4, 34) = 9.43, p < .001; R^2 = .53$ ; Adjusted  $R^2 = .47$  for the average weight target analysis.

$F(4, 32) = 9.77, p < .001; R^2 = .55$ ; Adjusted  $R^2 = .49$  for the overweight target analysis.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 4

*Summary of Simultaneous Regression Analyses for Variables Predicting Behavioural Intentions by Average Weight Status and Gender of Target (N = 76)*

Average Weight Male Target ( <i>n</i> = 20)		
Variable	$\beta$	<i>t</i>
Person Perception Task, Positive	.57	2.72*
Person Perception Task, Negative	.06	.27
Anti-Fat Attitudes Scale	-.27	-1.47
Implicit Association Test ( <i>D</i> )	-.33	-1.86
Average Weight Female Target ( <i>n</i> = 19)		
Variable	$\beta$	<i>t</i>
Person Perception Task, Positive	.62	3.60**
Person Perception Task, Negative	.06	.74
Anti-Fat Attitudes Scale	-.55	-3.28**
Implicit Association Test ( <i>D</i> )	.18	.35

*Note.*

$F(4, 15) = 5.31, p < .01; R^2 = .59$ ; Adjusted  $R^2 = .48$  for the average weight male target analysis.

$F(4, 14) = 6.34, p < .01; R^2 = .64$ ; Adjusted  $R^2 = .54$  for the average weight female target analysis.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 5

*Summary of Simultaneous Regression Analyses for Variables Predicting Behavioural Intentions by Overweight Status and Gender of Target (N = 76)*

Overweight Male Target (n = 19)		
Variable	$\beta$	t
Person Perception Task, Positive	.60	2.48*
Person Perception Task, Negative	.31	.76
Anti-Fat Attitudes Scale	-.58	-.4.17**
Implicit Association Test (D)	-.30	-2.45*
Overweight Female Target (n = 18)		
Variable	$\beta$	t
Person Perception Task, Positive	.36	.20
Person Perception Task, Negative	-.29	.31
Anti-Fat Attitudes Scale	-.41	.24
Implicit Association Test (D)	-.17	.50

*Note.*

$F(4, 14) = 15.9, p < .001; R^2 = .82$ ; Adjusted  $R^2 = .77$  for the overweight male target analysis.

$F < 2; R^2 = .32$ ; Adjusted  $R^2 = .11$  for the overweight female target analysis.

\*  $p < .05$ . \*\*  $p < .01$ .