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Discrimination against Obese Exercise Clients: An Experimental Study of Personal Trainers

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ABSTRACT

International Journal of Exercise Science 11(5): 116-128, 2018. The aim of the study was to compare exercise recommendations, attitudes, and behaviors of personal trainers toward clients of different weight statuses. Fifty-two personal trainers participated in the study. The data collection was organized into two phases. In phase one, trainers read a profile and watched the video displaying an interview of either an obese or an average-weight client. Profiles and video interviews were identical except for weight status. Then, trainers provided exercise recommendations and rated their attitude toward the client. In phase two, trainers personally met an obese or an average-weight mock client. Measures were duration and number of advices provided by the trainer to a question posed by the client and sitting distance between trainer and client. There were no significant differences in exercise intensity (p = .94), duration of first session (p = .65), and total exercise duration of first week (p = .76) prescribed to the obese and average-weight clients. The attitude of the personal trainers toward the obese client were not significantly different from the attitude of personal trainers toward the average-weight client (p = .58). The number of advices provided (p = .49), the duration of the answer (p = .55), and the distance personal trainers sat from the obese client (p = .68) were not significantly different from the behaviors displayed toward the average-weight client. Personal trainers did not discriminate against obese clients in professional settings.

KEY WORDS: Weight bias, weight prejudice, fitness training, exercise

INTRODUCTION

Weight bias is widespread across a multitude of social settings. The media portrays obese individuals more negatively (10), children characterize obese peers as stupid, mean, and sloppy (20), and a significant share of health professionals such as dietitians, nurses, and physicians endorse negative portrayals of their obese patients as lazy and noncompliant and hold strong anti-fat bias (7, 15, 22, 23, 27). Furthermore, anti-fat bias may have pervasive consequences for overweight individuals. Higher levels of body fat are associated with lower wages (31). Obese individuals are more frequently teased about their weight, and weight teasing is associated with negative outcomes such as low self-esteem, depression, and eating

disorders (8, 11). Obese patients receive shorter consultations and fewer breast and cervical cancer screenings (15, 18).

Personal trainers, physical education teachers, and professors in physical education departments also possess a robust anti-fat bias (2, 4, 6, 21, 25). A large proportion of personal trainers reported viewing obese individuals as lazy (25). The potential negative consequences of weight bias in exercise related professions might have critical implications since regular participation in physical activity has well established mental and physical health benefits (13, 14, 16, 28). O'Brien et al. (21) explained expressions of anti-fat bias by exercise related professionals via the social identity theory (24, 29). Based on this theory, group affiliation is an important source of social identity. Religious (e.g. Christians, Muslims), race (Asians, Blacks, Caucasians, Hispanics), professional (e.g. Physician, Personal Trainer, Student), and weight based groups (e.g. average weight, overweight) are examples of possible groups a person may belong to. The self-image of a group is elevated by expressing favorable views toward in-group members and discriminating against members of other groups. As such, strong identification of exercise related professionals with peers who treasure fitness and physical attributes would explain the bias of fitness professionals against obese individuals deemed not to share the same interests. However, it is unknown if anti-fat bias held by personal trainers translates into discriminatory behaviors towards their overweight clients.

The aim of the study was to compare exercise recommendations, attitudes, and behaviors of personal trainers toward an obese and an average-weight client. Based on the social identity theory and previous evidence (1, 15, 18, 23), it was hypothesized that personal trainers would prescribe biased exercise recommendations, behave differently, and express a more negative attitude toward the obese compared with the average weight client.

METHODS

Participants

Participants were 52 certified personal trainers (34 males & 18 females, Table 1) with a mean age of 26.4 years (SD = 6.91). Educational levels ranged from high school (n = 1), partial bachelors (n = 13), bachelors (n = 19), partial masters (n = 16), to master's degree (n = 3). Participants had an average of 3.27 years (SD = 2.97) of work experience, were primarily Caucasian (n = 48, 92.3%), and had an average BMI of 25.33 (SD = 2.79). Thirty participants were trainers in community fitness centers and 22 participants were trainers at the university housing the study. To invite participants, an email was sent to all personal trainers of fitness facilities that agreed to collaborate with the study. The study was granted institutional review board approval prior to data collection. Participants read and signed informed consents before starting any experimental procedure. Detailed demographic information of participants is provided in Table 1.

Protocol

Three data collection instruments were used during the first phase of the study. The *Implicit Association Test* (IAT) is a timed test that measures implicit attitudes toward a certain group of

individuals (12). It has been used extensively to measure racial bias (9), gender bias (26), and weight bias (4, 30). This study used the paper-and-pencil IAT to examine potential implicit weight biases. The procedures were consistent with previous weight bias investigations (2, 5, 25). The weight IAT administered in this study consisted of three tasks, and each task consisted of two trials. In each trial, two pairs of words made two superordinate categories. The words used to form the superordinate categories were a combination of a target word and an attribute. The matching of targets and attributes in trial 2 was always the reversed matching of trial 1. A detailed review of the IAT is provided elsewhere (2, 5, 25). Within each trial of a task, participants had 20 seconds to classify subordinated words as quickly and as accurately as possible. This study employed the "product: square root difference scoring procedure" to account for differences between individuals in response quickness (17). The procedure was computed as a product of (greater trial score/smaller trial score) * square root of (greater trial score - smaller trial score). IAT scores for tasks showing implicit anti-fat bias consisted of a greater score for the trials where 'fat people' was paired with 'bad' and 'lazy' than the trials where 'fat people' was paired with 'good' and 'motivated' respectively. Tasks reflecting implicit preference for 'fat people' were multiplied by -1 to keep the results consistent with the IAT effect. The paper-and-pencil IAT has adequate validity to measure implicit bias (17).

Table 1. Demographic Information of Participants by Experimental Conditions.

	Obese client	Average-weight client
	Gender	
Females	9	9
Males	17	17
	Race	
African American	1	1
Asian	1	0
Caucasian	23	25
Latino	1	0
Other	0	0
	Education	
High school	0	1
Incomplete bachelor	7	6
Bachelor	11	8
Incomplete master degree	6	10
Master degree	2	1
Total frequency	26	26
	Mean (SD)	Mean (SD)
Age (years)	26.50 (7.00)	26.27 (6.94)
Working experience (years)	2.96 (2.33)	3.58 (3.51)
BMI	25.61 (2.62)	25.06 (2.98)

The *exercise prescription survey* was used to assess exercise recommendations for a client who was preparing for a 60-mile road bike race. In consultation with two exercise physiologists, researchers selected cycling on an upright bike to be the mode of exercise since the weight of the clients should not interfere with the exercise prescription of this non-weight bearing

physical activity. The survey consisted of a brief introduction and four questions. Each question inquired about a single component of the training such as exercise duration and intensity. The first question inquired about the intensity of exercise during the first session. The second question inquired about the duration of the first session. Finally, the last two questions inquired about how many more sessions should be scheduled for the remainder of the week, and how long the sessions for the remainder of the week should be. Multiplying the answers for the last two questions resulted in the total number of training minutes scheduled for the remainder of the week.

The *Attitude Toward the Client survey* (ATC) survey asked the feelings of personal trainers toward working with the client. The survey was adapted from previous research studies (15, 23). The survey consisted of four Likert-like items: (a) The amount of patience I would have working with this client; (b) The personal desire I have to help this client; (c) This sort of client would make me like my job; (d) I might enjoy working with this client. Possible answers ranged from 1 to 9. Answers were anchored by 'Not at all' = 1, 'Somewhat' = 5, and 'A lot' = 9. The ATC survey showed adequate internal consistency in the current study (Cronbach's alpha = .86).

Certain procedures in the first phase of the study were adopted in preparation for data collection. Prior to the experimental manipulation, two female actors were recruited to play the part of the obese and average-weight clients. The recruitment occurred via advertising at the department of theater of a public Midwestern University. In order to participate in the study, actors had to have a minimum of one year of acting experience, be currently taking an acting class in the department of theater, and active in a play during the time of the interview. The actors played the role of mock personal trainer clients in a video recording.

Researchers developed two separate videos with one actor playing the role of the obese personal training client and the other actor playing an average-weight client. An Ipad (model Apple MC979LL/A) recorded the videos. To make the videos as identical as possible, the videos were edited using the iMovie application (version 10.1.2). During filming, the actors sat on a chair positioned against a white wall. The actors had their backs leaning against the chair and hands crossed resting on top of their legs. The legs of the actors were filmed in two different positions. The actors crossed their legs with their feet slightly under the chair in one position and kept their legs straight with their feet contacting the floor right in front of the chair in the second position. Each actor wore a fitness outfit of the same brand and color. The actors selected the outfit during a visit made together to a sporting goods store (i.e., purple T-shirt, black pants, white socks, and gray tennis shoes). Both actors were female and Caucasian. The iMovie application was used to blur the face of the actors, so facial expressions were unrecognizable. Four questions appeared on the screen in a white font color against a black background: "(a) What is your name and how old are you? (b) What is your purpose for getting a personal trainer? (c) What types of exercise do you currently perform? (d) Do you have any medical conditions?" A verbal answer followed each question. The answers were "(a) My name is Andrea, and I'm 22 years old; (b) I'm entering in a 60-mile road bike race, and I want a personal trainer to help me prepare for it; (c) I strength train 2 times a week for one

hour each time. I also bike 3 times a week for an hour each time. I normally bike outside, but when the weather is bad, I bike at my local fitness center; (d) I have no health problems. I feel very healthy." The voice was of a third actor. The voice of the third actor was intermixed with the video of each client, so it was the same voice for the obese and average-weight clients. The clip of the actors with the legs crossed was used in combination with the first two questions and the clip of the actors with the legs straight for the last two questions. The video of each actor lasted 51 seconds.

In addition to the videos, researchers created a health and fitness profile for the clients. The profile of the obese and average-weight clients was identical with the exception of information about body composition. In the profile, the client was a 22-year-old female with excellent cardiovascular endurance (VO_{2max} = 52 ml/kg/min; HR_{max} = 198 bpm; HR_{rest} = 63 bpm) and adequate physical activity habits (Cardiovascular = I ride my bike 3 times/week for ≈1 hour each time; Strength training = I strength train 2 times/week for 1 hours each time). The client did not have any prior history of medical conditions. The BMI of the average-weight and obese clients were 19.7 and 33.3, and their %body fat were 23.3% and 39.6% respectively. Conversion of BMI to body fat percentage followed a previously established computation (3).

Other procedures were adopted during the experimental manipulation of the first phase of the study. The study employed a deception technique to avoid influencing the behaviors and attitudes of the participating fitness trainers toward the client. Thus, participants were unaware of the true purpose of the study at the onset of data collection. The participants were told that the study had a generic purpose (e.g., "The purpose of the study is to compare the viability of exercise prescriptions"), when in fact the study investigated differences of attitudes, exercise recommendations, and behaviors toward an obese compared to an average-weight client. Community trainers were randomly assigned to the average-weight ($N_{females}$ = 7; N_{males} = 8) and obese client conditions ($N_{females}$ = 6; N_{males} = 9) while the university trainers were assigned based on the time slots selected to either the average-weight weight ($N_{females}$ = 2; N_{males} = 9) or obese client conditions ($N_{females}$ = 3; N_{males} = 8).

Participants were instructed to read the profile containing demographic, body composition, cardiovascular fitness, and health status information of either the obese or average-weight client. Then, the personal trainers watched the mock interview video of the corresponding client using an Ipad (model Apple MC979LL/A). After watching the video, the trainers answered the "ATC Survey". Upon completing the ATC survey, the trainers prescribed exercise recommendations for the clients' first session (i.e., duration and intensity) and week of training (i.e., total duration of exercise). Personal trainers received their own copies of the exercise prescription survey to follow while an investigator read each question aloud.

Upon completion of phase one, university personal trainers moved to phase two of the study while community personal trainers completed the weight bias IAT, answered the demographic information survey, were debriefed about the actual purpose of the study, and provided a second consent for the use of the data already collected for the research purposes. None of the community trainers withdrew from the study. All personal trainers completed

phase one of the study individually and in private rooms.

Statistical Analysis
Before performing any statistical analysis, each IAT form was checked for participants who may not have understood or attended to the task. Participants who classified fewer than four subordinated words or had an error rate higher than 35% were excluded from further data analyses. The exclusion rate reached 13.46% of the participants in the IAT good task and 7.69% of the participants in the IAT motivated task. The exclusion procedures and rates were similar to previous studies using the weight bias IAT test (2, 5, 25, 27).

A one-sample t-test assessed the overall levels of implicit bias of the sample. Two (obese vs. average-weight conditions) by two (female trainer vs. male trainer) ANOVAs checked for possible sampling differences in implicit bias. The dependent variables for each ANOVA were IAT good and IAT motivated product: square root difference scores. Two (obese vs. average-weight conditions) by two (female trainer vs. male trainer) ANOVAs assessed differences in exercise prescriptions and attitudes of the personal trainer toward clients of different weight statuses. The dependent variables for each ANOVA were target intensity, duration of first session, total duration of sessions in the remainder of the week, and ATC scores. The Scheffe post hoc comparison was the procedure selected to follow-up significant ANOVA results if necessary. Effect sizes were computed based on Cohen's d and Partial η^2 statistical procedures. Significance levels were set at .05. The IBM SPSS statistics version 22 (IBM Corp., Armonk, NY) was used to perform the statistical analyses.

METHODS: PHASE TWO

Participants
Participants were the same 22 personal trainers who participated in phase one of this study and trained clients at the university housing the study.

Protocol
Two data collection instruments were used during the second phase of the study. The first instrument was the *Mock Client Behavioral Coding*. The same two actors used to create the videos in phase one played the role of clients during mock meetings with personal trainers in this phase of the study. Coding the behavior of the actors was critical to assure that actors behaved consistently with each other and across meetings. The behavioral coding protocol was adapted from McConnel and Leibold (19) and consisted of three sections: global ratings, body posture ratings, and quantitative ratings. The global ratings consisted of three items assessing eye contact, friendliness, and overall comfort level of the actors on a 9-point Likert scale ranging from 'none = 1' to 'very much = 9'. The body posture ratings consisted of three items assessing body posture, openness, and expressiveness on a 5-point scale (e.g. the client's overall body expressiveness would equal 1 if arms did not move and equal 5 if the hands gesticulated very expressively during the meeting). The quantitative ratings recorded the number of times the mock client smiled, nodded, hesitated, and fidgeted. Three trained raters

coded the behaviors of the actors independently of one another. The raters compared results and resolved disagreements by consensus.

The second instrument was the *Behaviors Toward Obese and Average-weight Clients.* Three behaviors were measured during the mock meetings between personal trainers and clients. The behaviors consisted of the sitting distance between trainer and client, the duration of the trainers' response, and the number of advices provided to the question posed by the client. Sitting distance was the first behavior measured because Bessenoff and Sherman (1) indicated that individuals with higher levels of implicit anti-fat bias chose to sit farther away from an obese woman during a mock meeting. In the current study, the client sat in the same chair positioned in the same corner of the room throughout the study. The trainer brought a chair to the room and placed it down at will. To compute the sitting distance between trainer and client, researchers measured the distances of the right and left legs of the trainer's chair in relation to the right and left legs of the client's chair. A standard measuring tape (Stanley PowerLock 33-116) measured sitting distance to the nearest millimeter. Sitting distance consisted of the average distance between the right and left chair leg measurements. Measurement of sitting distance occurred after the trainers had left the room. The clients asked each trainer to leave the chair in place and move to the next room of the laboratory to complete the study. An investigator asked the mock clients after each interview if the trainer had moved the chair in the process of leaving the room. None of the personal trainers moved the chair during their exit of the room.

During the meetings, the mock clients asked personal trainers a question about enhancing their motivation toward exercising. An Iphone 6s fastened to the back of the mock client's chair recorded the answers using the Voice Memos recording application. Trained raters quantified the number of advices provided to the client and the total duration of each answer. Three raters, blind to the purpose of the experiment, counted the number of advices provided by the trainers. The raters transcribed verbatim the answers of the trainers and counted the number of advices provided in each answer. Researchers only counted advices that were different in nature, thus disregarding explanations of the same advice. The raters analyzed the answers independently of one another, compared ratings after each answer, and solved any disagreement by consensus. Then, the raters measured the duration of each answer. The raters did not count fillers (e.g., ok and so) or clarification questions toward the total duration of an answer. After the analysis of the audio files, researchers asked the raters the number of different voices heard throughout the recordings. Answers could range from 1, 2, 3, more than 3, or I do not know. All three raters selected the "I do not know" option.

Certain procedures in the second phase of the study were adopted in preparation for data collection. Prior to any interaction with the personal trainers planned during this phase of the study, the actors rehearsed during four one-hour long sessions. During rehearsals, the actors practiced consistency and equivalency of behaviors. The behaviors included sitting comfortably with their backs leaning against the chair, keeping their hands crossed and resting on top of their legs, making eye contact with the trainer, speaking without hesitation or fidgeting, using similar tone of voice, and avoiding smiling. The actors also wore the same

athletic clothing, no make-up, and similar hairstyles. The investigators played the part of the personal trainer during rehearsal sessions. The actors delivered the same scripted lines. The actors greeted the trainers and asked them a question ("Hi, my name is Veronica. I enjoy working out, but sometimes I lack the motivation to exercise. What suggestions do you have?"), waited for the trainer to answer the question, and thanked the trainers for their advice ("Thank you. That was helpful. Please leave the chair here and step outside to complete the next phase of the study."). The actors observed each other through a one-way glass. Practice continued until all investigators agreed that the actors were acting indistinguishably of one another.

Other procedures were adopted during the experimental manipulation of the second phase of the study. Phase two of the study compared behavioral differences between personal trainers in the obese and average-weight conditions during face-to-face interviews. Only personal trainers currently working for the hosting university participated in this phase since it was not practical for community personal trainers to commute to campus. This phase took place in a university room with one-way glass. The one-way glass allowed us to film the actors during their meetings with the personal trainers without interfering with the meeting. The one-way glass was critical to keep the personal trainers unaware that the actors were filmed during the meetings. The video served as a manipulation check to assure the actors acted alike throughout data collection.

Personal trainers met either the obese or the average-weight client depending on their assigned condition. The client waited for the trainer inside the one-way glass room. After completing phase one, the investigator asked the personal trainers to wait a moment before moving on to the next phase of the study. The investigator informed the camera operator and the actor that phase two was about to start. The actors started the Voice Memos application and fastened the IPhone to the back of the chair. Finally, the investigator told the personal trainers to walk to a new room in the lab because a client had questions about exercise. The investigator also told the trainer to grab a chair from a common area in the lab and close the door after entering the meeting room.

Upon completion of phase 2, university personal trainers took the weight bias IAT and answered the demographic survey. Then, an investigator debriefed them about the actual purpose of the study and obtained a second informed consent to keep the data for research purposes. None of the participants withdrew from the study. University personal trainers completed all phases of the study individually and in private rooms. Before completing the study, all personal trainers were asked to refrain from sharing the true purpose of the study with other colleagues. All trainers reported being blind to the true purpose of the study at the onset of data collection.

Statistical Analysis

Independent t-tests evaluated the equivalency of behaviors displayed by the obese and average-weight actors during the meetings with the personal trainers. The dependent variables used in each independent t-test were eye contact, friendliness, overall comfort level,

body posture, body openness, body expressiveness, and the number of times the actors smiled, nodded, hesitated, and fidgeted during the meeting. In addition, separate independent t-tests assessed differences between personal trainers in the obese and average-weight conditions for each dependent variable. The dependent variables were sitting distance between personal trainer and client, and the personal trainer's response duration and number of advices to the client. Effect sizes were computed based on Cohen's d and Partial η^2 statistical procedures. Significance levels were set at .05. The IBM SPSS statistics version 22 (IBM Corp., Armonk, NY) was used to perform the statistical analyses.

RESULTS

The overall sample of participants expressed significant implicit anti-fat bias in the IAT good (M = 23.4, SD = 21.33, N = 45; t_{44} = 7.36, p = .001, Cohen's d = 1.1) and IAT motivated tests (M = 24.7, SD = 18.26, N = 48; t_{44} = 9.17, p < .001, Cohen's d = 1.32). The results of the two-way ANOVAs were not significant for the interactions, main effect of the weight status of the client conditions, and main effect of gender for any of the variables investigated (Table 2).

Table 2. Two-way ANOVA results (N = 52).

	Interaction			Main effect weight condition			Main effect gender		
	F	*p*-value	Partial η^2	F	*p*-value	Partial η^2	F	*p*-value	Partial η^2
IAT good	1.23	.28	.029	.19	.66	.005	.06	.81	.001
IAT motivated	.70	.41	.016	1.16	.29	.001	.01	.92	.026
Target intensity	1.57	.22	.032	.01	.94	< .001	1.05	.31	.021
First session duration	< .001	.99	< .001	.21	.65	.004	1.72	.20	.035
Total exercise duration	.03	.87	.001	.19	.66	.004	.10	.76	.002
Attitude toward client	.20	.66	.004	.31	.58	.006	.68	.42	.014

Note. The DF were $F_{1,48}$ across all variables with the exception of the IAT good ($F_{1,41}$) and IAT motivated ($F_{1,44}$).

The behaviors of personal trainers toward the obese client were not significantly different than the behaviors of personal trainers toward the average-weight client in terms of sitting distance (p = .68, Cohen's d = .18), number of advices provided (p = .49, Cohen's d = .30), and answer duration to client inquiry (p = .55, Cohen's d = .26, Table 3). An outlier score was eliminated from a personal trainer in the obese client condition from the answer duration analysis, as it was more than four SDs above the mean. The inclusion of the outlier increased the length of time personal trainers took to answer the obese client (M = 46726 m, SD = 61872.89, N =11), but the difference between the obese and average-weight client conditions remained non-significant (p = .10).

Table 3. Comparison between the Behaviors of Personal trainers toward the Obese and Average-Weight Clients (N = 22).

	Obese	Average-weight
	M (SD)	M (SD)
Sitting distance	156.55 cm (25.36)	161.98 cm (34.20)
Number of advices	2.45 (.93)	2.18 (.87)
Answer duration	28505 ms (13986.78)[a]	24900 ms (4050.23)

[a] Sample size was equal to 10 after elimination of the answer of a personal trainer more than four SDs > mean.

It is noteworthy that the absence of behavioral differences between personal trainers in the obese and average-weight client conditions cannot be attributed to the way the clients acted during the meetings. Independent t-test results indicated that the obese and average-weight actors acted similarly during their meetings with the personal trainers for all behaviors assessed (All *p*-values > .05, Table 4).

Table 4. Comparison between the Behaviors of the Obese and Average-Weight Actors during Meetings with Personal Trainers (N = 22).

Behaviors	Obese M (SD)	Average-weight M (SD)
Eye contact	9.00 (0)	8.90 (.30)
Friendliness	7.1 (.32)	7.36 (.50)
Overall comfort level	7.00 (0)	6.91 (.30)
Nods	.40 (.52)	.18 (.60)

Note. Both actors demonstrated the exact same level of openness and expressiveness throughout data collection. In addition, neither actor smiled, hesitated, or fidgeted at any moment during the meetings with personal trainers.

DISCUSSION

Results revealed that personal trainers held a strong implicit bias toward obese individuals (Cohen's d = 1.1). These results are in consensus with previous evidence of implicit anti-fat bias by personal trainers (4, 25). The results are also in consensus with personal trainers views of obese individuals as lazy (25), and findings demonstrating that the level of implicit anti-fat bias increase as university students majoring in physical education advance through the major (5, 21). Thus, as predicted by the Social Identity theory (24, 29), strong identification with professional peers who treasure fitness and physical attributes associated with fitness may explain why personal trainers view obese individuals unfavorably.

In addition to examining weight bias among personal trainers, this study further investigated whether weight bias translated into the actions expressed by personal trainers toward obese clients. It compared exercise recommendations, behaviors, and attitudes of personal trainers toward an obese and an average-weight client. The authors hypothesized that personal trainers would prescribe biased exercise recommendations, behave differently, and have a more negative attitude toward the obese client. Previous evidence corroborates these hypotheses. For example, the rate of gynecologic screenings is lower for heavier than for normal weight women (18). College students with higher levels of implicit anti-fat bias chose to sit further away from an obese woman (1), and physicians reported plans to spend less time with heavier patients (15). Health care professionals have also reported less desire, patience, and empathy toward obese patients (15, 23).

Our findings contradict previous evidence of prejudice toward obese individuals. Exercise prescriptions to the obese client were not significantly different from those made to the average-weight client. Personal trainers correctly ignored differences in weight status when making exercise recommendations to the client considering that other aspects of the health and fitness profile of the clients were identical and upright cycling is a non-weight bearing

exercise. In addition, personal trainers expressed similar levels of patience and desire to working with the obese and average-weight clients. Trainers also displayed similar behaviors when meeting the obese and average-weight clients. Trainers sat an equivalent distance, provided a similar number of advices, and spent a similar amount of time answering the obese and average-weight clients. In summary, the actions of personal trainers were not tainted by the weight status of the client.

Based on the social identity theory, in-group members can enhance their self-esteem by discriminating against out-group members. In a weight bias test such as the IAT, obese individuals are represented in generic terms. As such, personal trainers could view obese individuals as out-group members. However, this study reproduced interactions between personal trainers and clients of different weight statuses. In addition to reading the health and fitness profile of the client, participating personal trainers watched the video interview of their client and personally interacted with the client. It is possible that personal trainers see actual clients as in-group members irrespective of their weight status. Upon considering clients in-group members, the weight status of the client should not interfere with the exercise prescriptions, attitudes, and behaviors personal trainers display toward obese clients.

This study is not without limitations. The sample of participants was primarily Caucasian. The actors may have acted differently from each other among behaviors not controlled in the study such as voice pitch. In addition, this study has several strengths. It is the first experimental study examining weight bias to reproduce authentic interactions between personal trainers and clients of different weight statuses. Different manipulation checks support the effectiveness of experimental procedures in producing unbiased results. A manipulation check confirmed that personal trainers in the obese client condition had equivalent levels of implicit anti-fat bias to personal trainers in the average-weight client condition. A second manipulation check confirmed that the actors playing the role of the obese and average-weight clients acted similarly during face-to-face meetings with personal trainers. Additional strengths include the utilization of blind raters to assess the number of advices provided by the personal trainer to the client. The videos and health profiles for the obese and average-weight clients were identical except for information identifying the weight status of the client (e.g. body silhouette and reported BMI of the actors). Personal trainers were blind to the purpose of the study until all experimental procedures were completed. A variety of manipulation checks and methodological strategies support the effectiveness of the experimental procedures.

In conclusion, personal trainers in this study prescribed unbiased exercise recommendations, had similar attitude, and behaved similarly toward the obese and average-weight clients in spite of exhibiting implicit anti-fat bias. Personal trainers did not discriminate against obese clients in professional settings. The results reflect positively toward the personal training profession. However, this is the sole study investigating potential discriminatory actions of personal trainers toward obese clients in an experimental setting. Cautiousness is recommended regarding the interpretation of the findings until the study is replicated.

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