Obesity Bias Among Health and Non-Health Students Attending an Australian University and Their Perceived Obesity Education

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ABSTRACT

Objective: This study compared the level of prejudice against obese individuals (obesity bias) among final-year health and non-health students, and associated obesity education.

Methods: Cross-sectional online survey of 479 final-year students (292 health and 187 non-health) from Griffith University, Australia. Implicit and explicit obesity bias was measured using validated tools, and perceived obesity education ranked from "none" to "excellent." Data were analyzed quantitatively using analysis of variance and independent sample *t* tests. Statistical significance was set at $P < .05$.

Results: Students' mean age was 26.2 ± 7.6 years and body mass index was 23.2 ± 4.7 kg/m^2. Health and non-health students exhibited significant levels of obesity bias. Non-health students were more likely to suggest that obese individuals lacked willpower ($P = .03$). Students' self-reported obesity education varied considerably. Those who reported a higher level of genetics-related obesity education were less likely to believe that obese individuals were "bad" ($P = .002$) or to show concern about putting on weight ($P = .01$).

Conclusions and Implications: Obesity bias exists in health students in Australia and is similar to non-health students' obesity bias levels. Students' self-reported genetics-related obesity education may be associated with obesity bias. Modifications to existing health curricula should be considered to reduce obesity bias among future health professionals.

Key Words: obesity, prejudice, education, university, health (*J Nutr Educ Behav*. 2014;46:390-395.)

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INTRODUCTION

Obesity is a significant public health problem and its prevalence is rising.[1] Increased availability of and accessibility to energy-dense foods, in conjunction with an increasingly sedentary lifestyle, are the key causes of the problem.[1] In 2011–2012, 63% of the Australian population was overweight, including 1 in 4 Australians classified as obese.[2]

Overweight and obese individuals experience bias, or unfair prejudice, in everyday society.[3] Obesity bias stems from a cultural emphasis on thinness[4] and a societal belief that an individual's weight is reversible and controllable.[5] These stereotypes are often portrayed in social media, which communicate this behavior to the watching audience.[6] There are 2 types of obesity bias: explicit and implicit. Explicit obesity bias can be described as a prejudice against overweight or obese people that is expressed openly and freely.[4] Implicit obesity bias can be described as a prejudice against overweight and obese people that is suggested, but may not be openly communicated.[4]

Health professionals have been shown to possess obesity bias, which is associated with their age, gender, body mass index (BMI), and experience with obese individuals.[7,8] Obesity bias may result in health professionals perceiving that obese patients are lazy and responsible for their obesity[8] and that treatment is futile, with less time and effort invested in treating the patient and monitoring treatment goals.[3,9] In turn, overweight and obese patients may avoid or delay health care because they feel uncomfortable in the health care environment, receive negative comments from health professionals, or are embarrassed about their weight.[10-12] Therefore, a high level of obesity bias in health professionals has the potential to contribute to the problem of patients not receiving health care that may assist with weight reduction and reduced risk of chronic disease.

Health students are health professionals of the future, and they also possess obesity bias.[13,14] Studies from the US and United Kingdom have investigated methods of reducing obesity bias among health students.[15,16] Education about the genetic and environmental causes of obesity has been shown to reduce implicit obesity bias in health students.[16] Conversely, in the same study, students who were tutored on the more controllable causes of obesity, diet, and exercise showed an increase in implicit bias.[16] The influence of health students' overall obesity

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education on obesity bias is less studied, as are examinations of obesity bias compared with non-health students. It was hypothesized that health students would display less obesity bias than non-health students. In addition, the authors hypothesized that students who perceived receiving more education about the uncontrollable factors of obesity would display less obesity bias. As such, this study aimed to investigate the level of obesity bias among final-year health students across a range of health disciplines, compared with non-health students. The association between obesity bias and self-reported obesity education was also explored.

METHODS

Participants

Participants were final-year undergraduate and postgraduate students studying a health degree at a university on the Gold Coast, Australia (Griffith University). Health disciplines included medicine, medical science, nursing/midwifery, pharmacy, dietetics, public health, exercise science, physiotherapy, dentistry, psychology, and human services/social work. Final-year students from the university's school of business were invited to participate in the study as a comparison group. The study protocol was approved by the Griffith University Human Research Ethics Committee.

Data Collection

The researchers used an online survey to collect data on obesity bias and demographics, as well as participants' perceived obesity education. All final-year health and business students were sent an e-mail in March, 2012, that included a description of the study and a link to the online survey. The study was described as an investigation of students' perception of health, and the description did not include statements related to obesity bias. Participants were able to access the survey at any time within a 7-week period in which the survey remained open.

The online survey was designed with 4 sections: participants' demographics, perceived level of obesity education, explicit obesity bias, and implicit obesity bias. The online survey was pilot-tested with 6 individuals to ensure clarity of the test instructions. The individuals stated that the questions were clearly interpreted. However, minor amendments were suggested, which were made before data collection. These included additional instructions to complete the test as quickly as possible and not to return to previously answered questions. Demographic characteristics included questions on age, weight, and height. Participants were then asked to rank their perceived amount of education in their university degree relating to physical activity, diet, and genetic and environmental/social causes of obesity on a 5-point Likert scale (in which 1 = none and 5 = excellent). Participants were also asked to rank their perceived level of self-education gained through media, peers, and personal reading. Explicit obesity bias was measured using the validated Anti-Fat Attitudes Questionnair.[17] Implicit obesity bias was measured using the validated Implicit Association Test (IAT).[18]

Measures

Paper-based versions of the IAT were replicated exactly into an electronic survey tool. Participants were given 20 seconds to classify as many words as possible (eg, "obese," "wonderful," "terrible," "slim") into 2 nominated columns (eg, headed either "fat"/"good" or "thin"/"bad"). Headings were then reversed (eg, "fat"/"bad" and "thin"/"good") and the test was repeated to identify differences in correct word classifications.

Instructions were initially displayed for each test, with the 20-second time limit started as soon as the participant clicked the Next button on the online survey. The insects/flowers IAT was initially administered to participants as a familiarization test before participants were asked to complete both the "Good/Bad" and "Lazy/Motivated" IAT.

Each IAT was scored by subtracting the total number of correctly classified words when "fat people" was paired with positive attributes ("good" or "motivated") from the total number of correctly classified words when "fat people" was paired with negative attributes ("bad" or "lazy"). Positive scores indicated a level of implicit obesity bias.

The Anti-Fat Attitudes Questionnaire consisted of 3 subscales: Dislike, Fear of Fat, and Willpower. The Dislike subscale assessed students' explicit antipathy toward fat people, the Fear of Fat subscale assessed students' personal concern about becoming fat, and the Willpower subscale assessed students' belief that being overweight is a matter of personal control or lack thereof.[17] Question 9 was adjusted to read "kilograms" instead of "pounds," to reflect the Australian metric system. Questions were answered on a 9-point Likert scale, in which 1 indicated "very strongly disagree" and 9 indicated "very strongly agree." Scores for each question in each subscale were summed and divided by the number of questions in the subscale. Scores above 5 (neutral) denoted negative explicit obesity bias.[17] Cronbach alpha indicated good internal reliability on all measures (Dislike $\alpha = .88$; Fear of Fat $\alpha = .88$; and Willpower $\alpha = .72$).

Statistical Analysis

Distributions were checked for normality using a Kolmogorov-Smirnov test and all dependent measures were normally distributed. Sample characteristics including age, weight, height and BMI were calculated using descriptive measures. Significant correlations between many of the obesity bias measures and BMI and age were evident. Subsequently, the researchers used age and BMI as covariates when investigating differences between groups. An analysis of covariance was used to compare measures of implicit and explicit bias between students in different study areas and with different perceptions of the level of obesity education. Students who completed only 1 of the 2 paired IAT had their results omitted for that particular test, because results from both tests were required for analysis (n = 23). In addition, in line with previous research using the IAT,[7,8,19] individual IAT with < 4 responses were omitted, because slow response rates were deemed to indicate a misinterpretation of the test (n = 85).[7] These omissions resulted in 70 "good/bad" (15%) and 38 "lazy/motivated" (7%) IAT results being excluded from the data analysis (Statistical Package for the Social Sciences, version 19.0, SPSS, Inc, Chicago, IL, 2009).