Review

Bias, Discrimination, and Obesity

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Abstract
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This article reviews information on discriminatory attitudes and behaviors against obese individuals, integrates this to show whether systematic discrimination occurs and why, and discusses needed work in the field. Clear and consistent stigmatization, and in some cases discrimination, can be documented in three important areas of living: employment, education, and health care. Among the findings are that 28% of teachers in one study said that becoming obese is the worst thing that can happen to a person; 24% of nurses said that they are "repulsed" by obese persons; and, controlling for income and grades, parents provide less college support for their overweight than for their thin children. There are also suggestions but not yet documentation of discrimination occurring in adoption proceedings, jury selection, housing, and other areas. Given the vast numbers of people potentially affected, it is important to consider the research-related, educational, and social policy implications of these findings.

Introduction

It has been said that obese persons are the last acceptable targets of discrimination (1–4). Anecdotes abound about overweight individuals being ridiculed by teachers, physicians, and complete strangers in public settings, such as supermarkets, restaurants, and shopping areas. Fat jokes and derogatory portrayals of obese people in popular media are common. Overweight people tell stories of receiving poor grades in school, being denied jobs and promotions, losing the opportunity to adopt children, and more. Some who have written on the topic insist that there is a strong and consistent pattern of discrimination (5), but no systematic review of the scientific evidence has been done.

Some anecdotes relevant to this issue have become highly visible. One reported by National Public Radio is that of Gina Score, a 14-year-old girl in South Dakota sent in the summer of 1999 to a state juvenile-detention camp (6). Gina was characterized as sensitive and intelligent, wrote poetry, and was planning to skip a grade when she returned to school. She was sent to the facility for petty theft—stealing money from her parents and from lockers at school "to buy food." She was said to have stolen "a few dollars here, a few dollars there" and paid most of the money back.

The camp, run by a former Marine and modeled on the military, aimed, in the words of an instruction manual, to "overwhelm them with fear and anxiety." On July 21, a hot humid day, Gina was forced to begin a 2.7-mile run/walk. Gina was 5 feet 4 inches tall, weighed 224 pounds, and was unable to complete even simple physical exercises such as leg lifts. She fell behind early but was prodded and cajoled by instructors. A short time later, she collapsed on the ground panting, with pale skin and purple lips. She was babbling incoherently and frothing from the mouth, with her eyes rolled back in her head. The drill instructors sat nearby drinking sodas, laughing, and chatting, accusing Gina of faking, within 100 feet of an air-conditioned building. After 4 hours with Gina lying prostrate in the sun, a doctor came by and summoned an ambulance immediately. Gina's organs had failed and she died.

There are many more examples, from teachers weighing children in front of a class and announcing the weights, to doctors belittling patients because of their weight, to Dr. Kenneth Walker, who said in his nationally syndicated newspaper column that for their own good and the good of the country, fat people should be locked up in prison camps (5). However, anecdotes of bias and discrimination could represent isolated events and do not prove that discrimination occurs in a systematic and widespread manner. It is important, therefore, to document whether discrimination does exist. Discrimination is harmful to its victims in many ways and can have enduring effects (7,8). With 54% of the U.S. population now overweight and 34% obese and with the prevalence still increasing in the United States and around the world, the health and well-being of many millions of people might be affected (9).

Perhaps the first commentary on widespread discrimination toward obese individuals was offered by Allon (10) over two decades ago. Since then, obesity is becoming increasingly recognized as a "social liability in Western

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society" (11). The purpose of this article is to examine existing literature on this topic, with special attention to areas of major importance to well-being. Legal remedies sought by obese individuals accusing institutions of discrimination will be discussed, areas in need of further research will be noted, and conclusions will be drawn about the state of this field. This article is organized in sections on discrimination in areas of employment, medical and health care, education, and areas we believe are in need of additional research.

There are a number of important related topics, such as theoretical models underlying stigma, psychological processes and social origins leading to discrimination of obese people, effects of this stigma on obese individuals, and possible discrimination against obese people in social relationships. All are important and require attention but will not be addressed here because systematic review would be lengthy. Our first priority is to document whether discriminatory attitudes and behaviors occur.

Employment Settings

Hiring Prejudice

The workplace is one sphere where overweight people may be vulnerable to discriminatory attitudes and fat bias. A number of studies have investigated weight-based discrimination in employment. The results point to prejudice, insensitivity, and inequity in work settings.

Experimental studies addressing stereotypic attitudes in employers suggest that overweight people may be at a substantial disadvantage even before the interview process begins. Experimental studies have investigated hiring decisions by manipulating perceptions of employee weight, either through written description or photograph. Participants (most often college students) are randomly assigned to a condition in which a fictional job applicant is described or pictured as overweight or average weight (but with identical résumés) and are asked to evaluate the applicant's qualifications.

An example is a study using written descriptions of hypothetical managers (12). Managers described as average weight were rated as significantly more desirable supervisors, and overweight managers were judged more harshly for undesirable behaviors (such as taking credit) than were average weight managers. Similarly, in a study by Klassen et al. (13), women students ($N = 216$) read employee summaries of nine fictitious women employees, varying in weight and in stereotypical descriptions associated with obesity and thinness. Participants indicated the most desire to work with thin targets and the least desire to work with obese targets, although participants did not rely on stereotypical perceptions of weight in recommending harsh discipline to employees.

A study of job applicants for sales and business positions reported that written descriptions of target applicants resulted in significantly more negative judgments for obese women than for non-obese women (14). Participants ($N = 104$) rated obese applicants as lacking self-discipline, having low supervisory potential, and having poor personal hygiene and professional appearance. In general, participants held these negative stereotypes for obese applicants for sales positions but not for business positions. Interestingly, the study's findings were not mirrored when photographs were used instead of written descriptions of weight. The authors proposed several confounding factors to explain this outcome, such as differing applicant information accompanying the photographs, and concluded that obese applicants remain vulnerable to negative evaluations because of their weight (14).

Several studies have manipulated applicant weight with videotapes. This was done over two decades ago by Larkin and Pines (15) in which participants ($N = 120$) viewed a video of a job applicant in a simulated hiring setting. The scenario involved an applicant completing written screening tests for work requiring logical analysis and eye-hand coordination. Overweight applicants were significantly less likely to be recommended for hiring than average-weight applicants, and overweight applicants were judged as significantly less neat, productive, ambitious, disciplined, and determined (15). Another study using a simulated hiring interview for a receptionist position found that the obese applicant was less likely to be hired than the non-obese applicant (16). This study was able to rule out the extraneous factor of facial attractiveness by masking the faces of both applicants.

A more recent and impressive study used videotaped mock interviews with the same professional actors acting as job applicants for computer and sales positions in which weight was manipulated with theatrical prostheses (17). Subjects ($N = 320$) indicated that employment bias was much greater for obese candidates than for average-weight applicants; the bias was more apparent for women than for men. There was also a significant effect reported for job type; obese applicants were more likely to be recommended for a systems analyst position than for a sales position (17).

Other evidence also demonstrates employer perceptions of obese persons as unfit in public sales positions and more appropriate for telephone sales involving little face-to-face contact (18,19). Jasper and Klassen (20) instructed participants ($N = 135$) to evaluate a hypothetical salesperson's résumé that included a written manipulation of the employee's weight. Obesity led to more negative impressions of the applicant and made the applicant significantly less desirable to work with. Participants who viewed the obese applicant description said directly that the obesity led to their judgments.

Excess weight may be especially disadvantageous in some settings. In a recent study of hiring preferences of overweight physical educators, most hiring personnel sam-

pled ($N = 85$) reported that being 10 to 20 pounds overweight would handicap an applicant, regardless of qualifications (21). The authors concluded, "our hope is that these findings may serve to motivate some of these individuals to improve their health behaviors and in turn become better professional role models" (21).

Inequity in Wages, Promotions, and Employment Termination

A comprehensive literature review by Roehling (22) summarizes numerous work-related stereotypes reported in over a dozen laboratory studies. Overweight employees are assumed to lack self-discipline, be lazy, less conscientious, less competent, sloppy, disagreeable, and emotionally unstable. Obese employees are also believed to think slower, have poorer attendance records, and be poor role models (23). These stereotypes could affect wages, promotion, and termination.

There is evidence of a significant wage penalty for obese employees. This takes several forms: lower wages of obese employers for the same job performed by non-obese counterparts, fewer obese employees being hired in high-level positions, and denial of promotions to obese employees. A study of over 2000 women and men (18 years of age and older) reported that obesity lowered wage growth rates by nearly 6% in 1982 to 1985 (24).

Although both obese men and women face wage-related obstacles, they experience discrimination in different ways. An analysis from the National Longitudinal Survey Youth Cohort examined earnings in over 8000 men and women 18 to 25 years old and reported that obese women earned 12% less than non-obese women (25). Like studies to follow, this investigation indicated that the economic penalty of obesity seems to be specific to women. More recently, research based on earnings of 7000 men and women from the National Longitudinal Survey of Youth indicated that women face a significant wage penalty for obesity and that obese women are much more likely than thin women to hold low-paying jobs (26). Another longitudinal study following young adults over 8 years found that overweight women earned over $6000 less than non-obese women (26). Gortmaker et al. (27) and Stunkard and Sorensen (4) attribute lower wages to social bias and discrimination. Obese men do not face a similar wage penalty but are under-represented and paid less than non-obese men in managerial and professional occupations and are over-represented in transportation occupations, suggesting that obese men engage in occupational sorting to counteract a wage penalty (26).

Experimental research indicates that obese employees are rated to have lower promotion prospects than average weight counterparts (28). A recent study instructed supervisors and managers ($N = 168$) to evaluate the promotion potential of a hypothetical employee in a manufacturing company with one of eight disabilities or health problems, including obesity, poor vision, depression, colon cancer, diabetes, arm amputation, facial burns, or no disability (29). The obese candidate received lower promotion recommendations (despite identical qualifications) than a nondisabled peer and was rated to be less accepted by subordinates than the other promotion candidates.

Little research has addressed the issue of employment benefits for obese workers. Employers may demand that overweight employees pay higher premiums for the same benefits as non-overweight employees (23). One self-report study of 445 obese individuals found that among those 50% or more above their ideal weight, 26% indicated that they were denied benefits such as health insurance because of their weight, and 17% reported being fired or pressured to resign because of their weight (30).

As the work by Rothblum et al. (30) suggests, some obese employees perceive that they have been fired and suspended due to their weight. Legal case findings suggest that termination against obese persons can result from prejudiced employers and arbitrary weight standards (30). For example, in the case of *Civil Service Commission v. Pennsylvania Human Relations Commission*, a man was suspended without pay because he exceeded the required weight standards for city laborers (31,32). Similarly, in *Smaw v. Commonwealth of Virginia Department of State Police*, an obese state trooper of 9 years was demoted to a dispatcher position for failing a weight-loss program (33,34). Formal employment termination cases on the basis of weight have also reached the courts. For example, in *Nedder v. Rivier College*, a morbidly obese woman was removed from her teaching position because of her weight, and in *Gimello v. Agency Rent-a-Car Systems*, an office manager was fired due to his obesity despite his excellent employment records and commendations of high performance (35,36).

Airline industry weight regulations for flight attendants have also posed problems for employees above average weight. In *Tudyman v. Southwest Airlines*, a flight attendant was terminated and his reinstatement was denied because his weight exceeded airline requirements (37). Courts have accepted airline weight restrictions, even though most weight maximums have been arbitrarily chosen and make no exceptions for age or body frame (38). Airlines have claimed that weight maximums are necessary for job performance and attendants' health and abilities to perform duties, although physical fitness or actual tests of job-related abilities would be more appropriate standards (38). Flight attendants are required to be certified yearly through evaluations of their abilities, and weight policy methods for evaluation and termination are difficult to justify on grounds other than appearance (38).

The existence of legal cases does not establish that weight discrimination occurs in great numbers, only that some employees believe that they have been treated unfairly due

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Table 1. Summary of research needs to be addressed in domains of weight discrimination

Domain	Research Needs
General methodological issues	Inclusion of obese persons in study samples.
	Increased use of randomized designs and ecologically valid settings.
	Evaluation of reliability and validity of measures assessing weight discrimination.
	Development of assessment methods to examine discriminatory practices.
Theoretical issues	Evaluation of predictive power among obesity-stigma models.
	Further exploration of why negative attitudes arise.
	Examination of psychological and social origins of weight prejudice.
	Experimental manipulation of proposed components of stigmatizing attributions.
	Assessment of attitudinal and behavioral expressions of weight bias.
	Cross-cultural examinations of anti-fat attitudes and weight-related attributions.
Legal questions	Clarification of definitions of disability and impairment relevant to obesity.
	Examination of legislative approaches used to counter discriminatory practices.
Employment	Increased attention to hiring, promotion, and benefits discrimination against obese employees.
	Closer examination of which occupations are most vulnerable to weight bias.
Health care	Experimental assessment of physician/nurse attitudes towards obese patients.
	Examination of how negative professional attitudes influence health care.
	Examination of coverage practices by insurance providers to obese individuals.
	Evaluation of health care costs associated with small weight losses.
	Address cost-effectiveness of various weight-loss treatments.
Education	Documentation of weight discrimination/bias among educators and peers.
	Development and testing of curricula to promote weight acceptance.
Unstudied topics	Documentation of weight discrimination in areas of public accommodations (seating in restaurants, theatres, planes, buses, trains), housing (raised rental fees for obese persons), adoption (weight-based criteria for parents), jury selection practices (biased against overweight jurors), health club memberships (raised fees for obese people), and others.
Prevention/intervention	Identification of theoretical components to guide stigma-reduction strategies.
	Development and testing of stigma-reduction strategies on anti-fat attitudes.
	Clarification of psychological/social consequences of weight discrimination.
	Examination of coping strategies used by obese persons to combat aversive stigma experiences.

to weight. Courts will decide whether a legal basis exists for such claims, but additional research is needed to determine the prevalence of the problem, the people who will most likely be affected, and the consequences on the health and well-being of the people who experience discrimination. From the evidence presented here, it seems that discrimination does occur.

Summary and Methodological Limitations

There are multiple sources of evidence suggesting that discrimination against obese employees may be significant, and that certain occupations may be especially affected. At least some obese employees may receive inequitable treatment with respect to promotions and benefits. Additional research is needed to support these preliminary findings and to provide more confident conclusions that these are indeed real-life problems. Table 1 presents a general summary of topics which we believe are priorities for further research.

Several methodological limitations are also evident in this research. First, studies have primarily used written description, videotapes, and self-report measures to assess whether or not an obese person would be hired, and have done less examination of real-life hiring practices. Second, many studies have failed to address possible confounds such as age, race, and gender in attempting to examine weight-related discrimination. Third, many studies have relied on

college-student samples, which may not provide an adequate understanding of hiring and interviewing processes used by employers and managers. Fourth, few studies have surveyed obese employees about their discriminatory experiences. In one self-report study, 16% of obese adults (N = 55) reported being discriminated against because of their weight, which resulted in difficulties at work and in social relationships (39). Additional research is necessary to determine whether the prevalence of discriminatory experiences is indeed this common.

Medical and Health Settings

Attitudes of Medical Professionals toward Obese Individuals

Anti-fat attitudes among health care professionals, if they exist, could potentially affect clinical judgments and deter obese persons from seeking care. A number of studies have addressed this topic. A study of over 400 physicians identified patient characteristics that aroused feelings of discomfort, reluctance, or dislike (40). Physicians were mailed anonymous questionnaires and asked to specify five diagnostic categories and social characteristics of patients to which they responded negatively. One third of the sample listed obesity as one of these conditions, making it the fourth most common category listed (among dozens of other categories), and ranked behind only drug addiction, alcoholism, and mental illness. Physicians associated obesity and other negatively perceived conditions with poor hygiene, noncompliance, hostility, and dishonesty. The authors concluded that physicians' responses may reflect Protestant ethic values, which emphasize self-discipline, persistence in the face of adversity, and achievement—characteristics that physicians believed were low or absent in patients with conditions like obesity and alcoholism (40). Similarly, a study of 318 family physicians using anonymous questionnaires found that two-thirds reported that their obese patients lacked self-control, and 39% stated that their obese patients were lazy (41).

Another study examined attitudes about obese patients in health care professionals specializing in nutrition (N = 52) and found that 87% believed that obese persons are indulgent, 74% believed that they have family problems, and 32% believed that they lack willpower (42). Furthermore, 88% said that obesity was a form of compensation for lack of love or attention, and 70% attributed the cause to emotional problems.

These negative attitudes are not new. In 1969, Maddox and Liederman (43) addressed fat biases using self-report measures among 100 physicians and student clerks from a medical clinic. Obese patients were viewed as unintelligent, unsuccessful, inactive, and weak-willed. In addition, physicians indicated that they preferred not to treat overweight patients and that they did not expect success when they were responsible for their management.

Some research has also examined perceptions of nurses. A study of 586 nurses investigated beliefs about obesity and found that patient noncompliance was rated as the most likely reason for obese patients' inability to lose weight (44) and that ineffectiveness of weight loss programs as the least important reason for lack of success. Yet, the nurses reported confidence in giving weight loss advice regardless of the outcome and despite spending 10 minutes or less discussing weight loss with patients.

In a similar study, nurses agreed that obesity can be prevented by self-control (63%) and that obese persons are unsuccessful (24%), overindulgent (43%), lazy (22%), and experience unresolved anger (33%) (45). In addition, 48% of nurses agreed that they felt uncomfortable caring for obese patients, and 31% would prefer not to care for an obese patient at all.

These findings parallel another investigation of women registered nurses (N = 107), where 24% of nurses agreed or strongly agreed that caring for an obese patient repulsed them, and 12% reported that they preferred not to touch an obese patient (46). Older nurses had less favorable attitudes than younger nurses, and dissatisfaction with their own weight was positively correlated with negative stereotypes.

Only two studies have examined attitudes toward obesity among dietitians. One study of 439 registered dietitians showed ambivalent attitudes toward obese clients (47). In contrast, a study examining attitudes among dietetic students (N = 64) and registered dietitians (N = 234) reported negative attitudes toward obesity among both groups (48). This is an important area for further inquiry because dietitians are often in a position to influence patients' attitudes toward food and eating.

In addition to professionals already working in the medical field, studies have also surveyed medical students regarding their attitudes toward the obese. Blumberg and Mellis (49) reported substantial prejudice by medical students toward obese patients. On characteristics of personality, humanistic qualities, body image, and qualities related to medical management, students rated morbidly obese individuals significantly more negatively than average weight persons, who were rated neutrally or positively. Adjectives thought to apply to obese patients included worthless, unpleasant, bad, ugly, awkward, unsuccessful, and lacking self-control (49). Negative attitudes did not change after students worked directly with obese patients during an 8-week psychiatry rotation. These results support other research documenting stigma and stereotyping among students (50,51).

The most recent study on practices of health professionals queried obese individuals in treatment about their experiences with physicians. The subjects were generally satisfied with their care for general health issues and their physicians' medical expertise. They were, however, significantly less satisfied with the care they received for their obesity.

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Nearly one-half reported that their physicians had not recommended common methods for weight loss, and 75% reported that they look to their physicians a "slight amount" or "not at all" for help with weight (52).

Only one study has attempted to intervene by reducing stigma toward obese patients, this among medical students (53). Before random assignment to a control group or education intervention involving videos, written materials, and role playing exercises, the majority of medical students in this study ($N = 75$) characterized obese individuals as lazy (57%), sloppy (52%), and lacking in self-control (62%), despite indicating an accurate scientific understanding of the cause of obesity. After the educational course, students demonstrated significantly improved attitudes and beliefs about obesity compared with the control group. The effectiveness of the intervention was still supported 1 year later.

Implications of Prejudice for Health Care of Obese Persons

It is important to address the impact of negative professional attitudes on clinical judgment, diagnosis, and care for obese individuals. Several studies have indicated that obesity may influence judgments and practices of professionals. Young and Powell (54) assessed clinical judgments among mental health workers using an analog approach in which participants evaluated a case history of a patient in one of three weight conditions. The obese patient was most frequently assigned negative symptoms compared with the overweight and average weight clients and was rated more severely on a variety of dimensions of psychological functioning (54).

A more recent investigation of over 1200 physicians (representing specialties of family practice, internal medicine, gynecology, endocrinology, cardiology, and orthopedics) indicated poor obesity management practices (55). Physicians completed self-report surveys addressing attitudes, intervention approaches, and referral practices for obese patients. Although physicians recognized the health risks of obesity and perceived many of their patients to be overweight, they did not intervene as much as they should, were ambivalent about how to manage obese clients, and were unlikely to formally refer a client to a weight loss program. Only 18% reported that they would discuss weight management with overweight patients, which increased to 42% for mildly obese patients.

Similar results were reported by Price et al. (41). Among 318 physicians surveyed, many referred obese patients to commercial weight loss programs with questionable success. Although the majority felt obligated to treat their obese patients, 23% did not recommend treatment to any of their obese patients and 47% said that counseling patients about weight loss was inconvenient (41).

Another study suggests that physicians may be ambivalent in treating obesity. In a sample of 211 primary care physicians, only 33% reported being centrally responsible for managing their patient's obesity, where 39% perceived their role to be cooperative to other providers (56). Although attitudes were not reported in this study, physicians indicated that insufficient time, lack of medical training, and problems of reimbursement were difficulties in managing obesity effectively.

A final study surveying attitudes and practices of 752 general practitioners in weight management reported mixed results (57). These physicians reported holding positive views about their roles in obesity management but underused practices that promote lifestyle changes in patients, described weight management as professionally unrewarding, and noted their most common frustrations in treating obesity were perceptions of poor patient compliance and motivation.

Negative attitudes and reluctance in physicians may lead obese persons to hesitate to seek health care (58), although as we mention below, other factors may also contribute. In one study of physician and patient behaviors, 290 women and over 1300 physicians responded to anonymous questionnaires to determine the influence of obesity on the frequency of pelvic examinations (59). Reluctance to have examinations increased from average weight to moderately overweight to very overweight women, where the very overweight women were significantly less likely to report annual pelvic examinations. Body image was associated with pelvic exams; 69% of women who had a positive body image vs. 55% of those who had negative body image reported obtaining examinations. Among physicians, 17% reported reluctance in providing pelvic exams to very obese women, and 83% indicated reluctance when patients were reluctant themselves. The youngest physicians were most reluctant to perform pelvic exams, and among the oldest physicians a gender difference emerged where men physicians were more reluctant to provide exams than women physicians. Considering that overweight women feel hesitant to obtain exams because of their negative body image and that physicians are reluctant to perform exams on obese or reluctant women, many overweight women may not receive necessary treatment (59).

Two other studies have documented delay in seeking medical care by obese women. One investigation of self-reports of 310 hospital-employed women (such as nurses and nursing assistants) found that body mass index (BMI) was significantly related to appointment cancellations (60). Over 12% of women indicated that they delayed or canceled physician appointments due to weight concerns, and of the 33% of women who had discussed weight with their physicians, discussions were described as negative (60). In addition, 32% of women with a BMI > 27 kg/m^2, and 55% of those with a BMI over 35 kg/m^2 delayed or canceled

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visits because they knew they would be weighed; the most common response for delaying appointments was embarrassment about weight (60).

Another recent self-report study of women ($N = 6891$) included in the 1992 National Health Interview Survey reported that increased BMI was associated with decreased preventive health care services (61). Obese women were significantly more likely than non-obese women to delay breast examinations, gynecologic examinations, and papanicoloau smears, despite an increase in physician visits as BMI increased. The authors concluded that even when obese women have more frequent physician appointments, they seem least likely to use preventive services (61).

Most available studies have assessed physician attitudes and beliefs, which may or may not affect their practice, and, other health care professionals have not been studied in detail. Research has failed to account for the fact that obese patients may delay or cancel medical appointments for a variety of reasons, such as anxiety about being weighed or disrobing regardless of how supportive health care professionals may be. Still, it is clear that health professionals share general cultural anti-fat attitudes. Considering that bias affects many of the ways individuals interact with stigmatized groups, it would be surprising if medical practices were immune.

The hope is that care for obese individuals will improve as bias decreases. Some health care professionals perceive obesity to be a social problem and systematically avoid it in their practices (62). For those who consent to treat obese patients, removing prejudice and blame may be crucial. As Yanovski (63) notes, "The primary care physician who provides sensitive and compassionate care for severely obese patients without denigrating them for their inability to lose weight performs a much needed service." Other suggested changes include recognition of obesity as a chronic medical condition, improved knowledge of nutrition and multidisciplinary treatments, familiarity with community resources, creating more accessible environments for obese persons by providing armless chairs and larger examination gowns, and treating patients with respect and support (63,64).

Insurance and Health Care Cost Obstacles

Controversies in Coverage for Obesity

Treatment and prevention have seldom been emphasized by insurance providers, despite spiraling health care costs attributed to obesity. With more Americans overweight, obesity has become a leading cause of preventable death (65). Direct costs associated with obesity represent 6% to 7% of the National Health Expenditure (66,67); 99.2 billion dollars were attributed to obesity in 1995, of which 51.6 billion dollars were direct medical costs (67).

A study examining the 25-year health care costs for overweight women over age 40 years using an incidence-based analysis, predicted that 16 billion dollars will be spent in the next 25 years treating overweight middle-aged women alone (68). Other investigations have suggested a relationship between BMI and health care expenditures. In one study, medical and health care use records of obese women ($N = 83$) belonging to a health maintenance organization were compared with records of non-obese women (69). As BMI increased, so did the number of medical diagnoses and the use of health care resources. In another analysis of employees of 298 companies ($N = 8822$), obesity was directly and significantly related to higher health care costs (an 8% higher cost), even when adjusting for age, sex, and a number of chronic conditions (70). A longitudinal observational of obese individuals ($N = 383$) covered by the same insurance plan reported that the probability of health care expenditures increased at BMI extremes (71).

A study of over 17,000 respondents to a 1993 health survey reported a strong association between BMI and total inpatient and outpatient costs (66). Compared with individuals with a BMI of 20 to 24.9 kg/m^2, there was a 25% to 44% increase in annual costs in moderately and severely overweight people, adjusted for age and sex. Wolf and Colditz (67) reported an 88% increase in the number of physician appointments attributed to obesity from 1988 to 1994, and a total of 62.6 million obesity-related physician visits in 1994. A recent review of the scant literature on access to and usage of health care services suggests that obese persons use medical care services more frequently than do non-obese people and that they tend to pay higher prices for these services (72).

Beliefs that obesity treatment is unsuccessful and too costly have been challenged (73). Weight losses as small as 10% are associated with substantially reduced health care costs, reduced incidence of obesity-related comorbid conditions, and increased lifetime expectancy (73,74). Recent research has addressed the cost-effectiveness of drug treatments and surgery for obesity. In 1999 Greenway et al. (75) found that weight losses produced by medications (fenfluramine with mazindol or phentermine) reduced costs more than standard treatment of comorbid conditions. Gastric bypass surgery has demonstrated even more impressive effects, with lower costs and greater long-term weight loss maintenance in comparison to low-calorie diets and behavior modification (76), as well as significant reductions in BMI, incidence of hypertension, hyperinsulinemia, hypertriglyceridemia, and hypo-high density lipoprotein cholesterolemia, and sick days from work compared with matched controls (77,78).

Current Coverage Practices

Even with some evidence of cost-savings for some weight-loss methods, medical coverage is inconsistent. Surgical treatment is often not reimbursed even though diseases with less supported treatments are compensated (79). Some

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have explicitly pointed to prejudice against obesity surgery by insurance providers who are preventing its broader acceptance and use in practices (80). As Frank (81) concludes, ". . . no claim to justify the denial of benefits for the treatment of obesity has any validity when held to the standards of health insurance otherwise available in the United States. It should be obvious that such a judgment is ethically unconscionable."

It is typical for health insurance plans to explicitly exclude obesity treatment for coverage (82). Physicians often have difficulties receiving reimbursement for their services (79). Many reimbursement systems do not categorize obesity as a disease, leading physicians to report comorbid disorders as the reason for their services (79).

In 1998, the Internal Revenue Service excluded weight-loss programs as a medical deduction, even when prescribed by a doctor. In response, several organizations such as the American Obesity Association (83) filed petitions for a ruling to allow the costs of obesity treatment to be included as a medical deduction. As of 2000, the Internal Revenue Service policy changed its criteria, allowing costs for weight-loss treatments to be deducted by taxpayers for certain treatment programs under a physician's direction to treat a specific disease (84).

The Social Security Administration has eliminated obesity from its list of impairments, which is used to determine eligibility for disability payments (65). Because individuals who receive social security disability benefits are also eligible for Medicare after 2 years, those who are denied disability also forgo opportunities for medical coverage (65).

Although few studies have addressed this issue, a recent cross-sectional analysis of third-party payer reimbursement for weight management for obese children reported low reimbursement rates (85). Despite the medical necessity of weight management for obese children in the study, no reimbursement was given to 35% of the children enrolled in weight-management programs, and no association existed between the severity of obesity and the reimbursement rate (85).

Although this article does not intend to examine all of the potential factors that may underlie these coverage policies, one likely contributor are perceptions that obesity is a problem of willful behavior and that treatment is unsuccessful and expensive (81). Although health insurance typically covers treatment for substance abuse and sexually transmitted diseases, which are also considered to be problems of willful behavior, obese persons may not receive the services they need (81).

Denying obese people access to treatment may have medical consequences, but also denies people an opportunity to lose weight, which itself may reduce exposure to bias and discrimination. For example, Rand and MacGregor (58) assessed perceptions of discrimination among morbidly obese patients ($N = 57$) before and after weight-loss surgery. Before their operations, 87% of patients reported that their weight prevented them from being hired for a job, 90% reported anti-fat attitudes from co-workers, 84% avoided being in public because of their weight, and 77% felt depressed on a daily basis. Fourteen months after surgery, every patient reported reduced discrimination, 87% to 100% of patients reported that they rarely or never perceived prejudice or discrimination, and 90% reported feeling cheerful and confident almost daily. A further study indicated that 59% of patients requested surgery for social reasons such as embarrassment, and only 10% for medical reasons (86). After the operation, patients reported improved interpersonal functioning (51%), improved occupational functioning (36%), and more positive changes in leisure activities (64%). Although these studies are based on self-reports from selected samples and, therefore, have limitations, it is interesting to note the dramatic reduction in postsurgical perceptions of prejudice and discrimination, and the power of social perceptions in motivating surgery decisions.

Summary and Methodological Limitations

A "fat is bad" stereotype exists in the medical field (87). Further study is needed to test the degree to which this affects practice. It seems that obese persons as a group avoid seeking medical care because of their weight. One barrier to drawing further conclusions, however, is that much of the research relies on self-report measures of variable reliability and validity. There is a need to move beyond reports of attitudes to actual health care practices.

Educational Settings

Peers in the School Environment

Peer rejection may be an overweight individual's first challenge in educational settings. Anecdotes have been noted where harsh treatment from peers has resulted in suicide (88,89). Such anecdotes are extreme, but research does show substantial rejection of obese children by peers at school. An often cited example is a study conducted in the early 1960s in which children in public school and summer camp settings ($N = 600$) ranked six pictures of children varying in physical characteristics and disabilities in order of who they would like most for a friend (90). The majority of children ranked a picture of an obese child last among children with crutches, in a wheelchair, with an amputated hand, and with a facial disfigurement. A recent replication of this study among fifth- and sixth-grade students ($N = 458$) reported that the strongest bias was against the obese child and that there was an increase in prejudice against the obese child compared with the findings from 40 years earlier (91).

Other recent studies showing photographs of obese and non-obese persons to schoolchildren showed negative ste-

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reotypes and suggested that bias is formed by 8 years of age (92). Some work shows anti-fat attitudes in 3-year-old preschoolchildren (93). Research addressing children's attitudes toward thinness and ideal body size indicate the same trend. One study of fourth-grade children ($N = 817$) found that 49% of girls and 30% of boys chose ideal figures thinner than themselves when shown a number of different body types (94). Only 10% of boys and 11% of girls selected an ideal body size larger than their own.

Other work has demonstrated that children in grades four through six endorse negative stereotypes for both obese children and adults, and regardless of the child's own weight, age, and gender (95). Children reported that they believed that obesity was under personal control; this belief was positively related with negative stereotyping. Another study examined knowledge about obesity among third and sixth graders who were randomly assigned to watch a videotape of a peer who was average weight, obese, or obese with a medical explanation for the obesity (96). Obese children received the most negative judgments, and although children attributed less blame to the obese child with the medical explanation, this knowledge did not improve attitudes among children toward obese peers. This parallels findings from a study attempting to change negative attitudes about obesity among undergraduate students where an increase in knowledge did not alter attitudes (97). Authors of both studies (96,97) concluded that more powerful means are necessary to foster positive attitude changes toward obese individuals. For children, this might involve broad educational approaches to increase weight tolerance, which reduced teasing toward overweight peers and increased acceptance of diverse body types among fifth-grade students in a recent study (98).

One study assessed personal descriptions of perceived stigmatization among overweight adolescent girls (99). Ninety-six percent reported negative experiences because of their weight, the most frequent being hurtful comments such as weight-related teasing, jokes, and derogatory names. Peers were the most common critics and school was the most common venue. Many reported being teased continually about their weight throughout elementary school, middle school, and high school and indicated that they had not yet learned how to cope with stigmatizing encounters with peers. Some research has examined the long-term impact of weight-based teasing in a clinical sample of obese women and found that more frequent teasing during childhood and adolescence was related to more negative self-perceptions of attractiveness and greater body dissatisfaction in adulthood (100).

The psychological and social consequences of these experiences have been addressed in the literature for many years (101–103). Although obese pre-schoolchildren seem to have similar levels of self-esteem as non-obese preschoolers (104), this drastically changes once children begin school. A study of children 9 to 11 years of age ($N = 67$) reported that clinically overweight children had significantly lower self-esteem than non-overweight children (105). Self-esteem was lowest among overweight children who believed that they were responsible for their overweight and who believed that weight was the reason for few friends and exclusion from games and sports. In addition, 91% of the overweight children felt ashamed of being fat, 90% believed that teasing and humiliation from peers would stop if they lost weight, and 69% believed that they would have more friends if they lost weight (98). These findings parallel other reports of low self-esteem and poor social and athletic competence among obese children 9 to 12 years of age (106,107).

Weight Stigmatization in High School and College

In addition to continued endorsement by college students of negative stereotypes about obese individuals as lazy, self-indulgent, and even sexually unskilled and unresponsive (108,109), weight stigmatization can be more overt at higher levels of education. There are reports of overweight students receiving poor evaluations and poor college acceptances and facing dismissal due to their weight (5,110). Most studies have addressed these issues at the college level. Canning and Mayer (111) examined school records and college applications of 2506 high school students and found that obese students were significantly less likely to be accepted to college despite having equivalent application rates and academic performance to non-obese peers. Moreover, obese women were accepted less frequently (31%) than were obese men (42%).

Crandall (112) examined reasons for the lower college acceptance of obese women. In studies assessing issues of weight, financial aid, and college income among undergraduate students ($N = 833$), a reliable relationship emerged between BMI and financial support for education. Normal-weight students received more family financial support for college than overweight students, who depended more on financial aid and jobs; this effect was especially pronounced for women. Differences in family support remained despite controlling for parental education, income, ethnicity, and family size.

In a study of overweight women, Crandall (113) again demonstrated parental bias. High school seniors ($N = 3386$) completed questionnaires about their weight, college aspirations, financial support, grades, and parental political attitudes. Both overweight men and women were underrepresented in those who attend college, and overweight women were least likely to receive financial support from families. Politically conservative attitudes of parents predicted who paid for college, where conservative ideological attitudes among parents (characterized by values of self-discipline and the tendency to perceive people as responsible for their own fate), were positively correlated with BMI

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of students. Crandall (114) theorized elsewhere that anti-fat attitudes are related to Protestant work ethic values of self-determination and the ideology that people deserve what they get. Thus, individuals with such ideological beliefs may be more likely blame their obese children for their weight (114).

There have been celebrated cases of obese students being dismissed from college because of their weight; one reached the U.S. Supreme Court. In 1985 an obese nursing student named Sharon Russell was dismissed from Salve Regina College 1 year before obtaining her nursing degree for failing to lose weight (110,115,116). Although the school did not object to Russell's obesity at admission to the program, her weight became an issue of public scrutiny and harassment by students and faculty (110). Russell demonstrated good academic performance in her courses, though in her junior year she received a failing grade in one course (which was determined to be the result of her weight and not her academic performance) (110). Instead of expulsion, Russell was asked to sign a contract agreeing that she could remain if she lost 2 lb/wk. A year later and several credits shy of her degree, Russell was dismissed from the school for her inability to lose weight (115).

Once successfully obtaining her degree at another college and obtaining her nursing license, Russell sued her previous college for wrongful dismissal, intentional infliction of emotional distress, and discrimination in violation of the Rehabilitation Act (115). Six years later she was granted monetary damages and the case was concluded (117). In a nursing journal, Weiler and Helmes (110) noted, ". . . what should be particularly troublesome for nurse educators, is that the nursing profession prides itself on providing caring and compassionate treatment for all patients, yet in this case it failed to extend this same sensitivity to a future colleague."

It is possible that negative attitudes by educators toward obesity are more widespread than has been documented. Solovay (5) notes, "Many fat kids exist on a diet of shame and self-hatred fed to them by their teachers." One study reported that junior and senior high school teachers and school health care workers ($N = 115$) believed that obesity was primarily under individual control (118). Although approximately one-half of the teachers did recognize biological factors in the etiology of obesity, teachers agreed that obese persons are untidy (20%), more emotional (19%), less likely to succeed at work (17.5%), and more likely to have family problems (27%). Forty-six percent agreed that obese persons are undesirable marriage partners for non-obese people, and fully 28% agreed that becoming obese is one of the worst things that could happen to a person (118).

These findings support the 1994 Report on Discrimination Due to Physical Size by the National Education Association, which stated that "for fat students, the school experience is one of ongoing prejudice, unnoticed discrimination, and almost constant harassment" and that "from nursery school through college, fat students experience ostracism, discouragement, and sometimes violence" (119).

Summary and Methodological Limitations

Rejection, harassment, and stigmatization of obese children at school is an important social problem. The severity and frequency of this treatment by peers and teachers is disturbing, but, again, the literature must be strengthened to understand the entire picture. Self-reports are the most common method used. It is essential to collect both peer ratings and teacher ratings and to conduct behavioral observations in the classroom and schoolyard. College admission data are old, so it is necessary to determine the extent to which discriminatory practices now occur. Finally, some reports are anecdotal. Anecdotes can lead to needed research but do not prove discrimination.

Understudied Domains of Potential Obesity Discrimination

Public Accommodations

Obese individuals can experience problems in public settings, such as restaurants, theaters, airplanes, buses, and trains because of inadequate seat size and inadequate sizes of features such as seat belts. Although no research has documented the extent of these problems and few litigated cases exist, a recent law review highlights several legal cases that may signal growing concern (3).

In the case of *Sellick v. Denny's Inc.*, an obese man sued Denny's restaurants for inadequate seating (3,120). His claim was dismissed, although negotiations between the National Association for the Advancement of Fat Acceptance (NAAFA) and Denny's restaurants led Denny's to agree to make bigger seats (3). In *Birdwell v. Carmike Cinemas*, an obese woman filed suit against a national theater chain for unequal access (121). Birdwell knew that she could not fit in the theater seats and requested to bring her own chair to sit in the row for disabled individuals. Her request was accepted, but when Birdwell arrived at the theater, she was told her chair would create a safety hazard (3). This case was settled out of court.

Transportation services have also received similar complaints. In the case of *Hollowich v. Southwest Airlines*, an obese woman waiting to board a flight was told that she had to buy an additional seat and that she would be escorted off the plane by armed guards if she boarded (122). She sued the airline for intentionally inflicting emotional distress and discrimination against a disabled person (3). Similarly, in *Green v. Greyhound*, an obese woman was told to leave the bus because her weight necessitated two seats (123). After refusing to leave, she was arrested, although the charge of disorderly conduct was dropped and she instead sued Greyhound for emotional distress (3).

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Current conditions are consistent with social attitudes that obese people take up more space than they deserve (3). O'Hara (3) notes that airlines accommodate seating for individuals with wheelchairs and for pregnant women, but obese people are expected to purchase two seats.

Jury Selection

Jury selection is another area needing research. When choosing a jury, attorneys are provided peremptory challenges, allowing them to dismiss potential jurors for unstated reasons. Jurors can be dismissed for displaying bias, although attorneys must state their reasons for doing so (5). Although courts have not formally recognized this, obese persons can be dismissed as jurors because of their weight, and attorneys may be able to mask other types of racial or gender discrimination through peremptory challenges against obese individuals (5).

With the negative attributions applied to obese persons (e.g., lazy and stupid), systematic exclusion of jurors is possible. The lack of representation of obese individuals in juries would mean the absence of a large segment of the population in the justice system and potentially biased cases where obesity is a central or even peripheral issue.

Housing

One small study suggests that weight discrimination may exist for obese tenants seeking apartment rentals (124). Obese and non-obese student confederates each visited 11 available rental units, pretending to be seeking each apartment for rent. All 11 landlords offered the units to the non-obese confederate, but 5 landlords would not rent to the obese confederate (124). Three of these five actually increased the rental price with the obese confederate (124). Because this study is both dated and limited in its small sample, additional research replicating these findings would be valuable and could broaden the present insufficient knowledge of this potentially discriminatory issue.

Adoption

Obesity could potentially be a basis for denying individuals the right to adopt a child. This issue has not been addressed in research, but several countries outside of North America may be using parental weight criteria in adoption procedures (125). Anecdotal evidence suggests that this may occur in the United States, where obese women have reported being turned down by adoption agencies and told that they would be unfit mothers due to their weight (58).

NAAFA believes that weight discrimination in private American adoption agencies is a reality and has formulated an official position advocating equal access to adoption services for obese individuals and couples (126). NAAFA has resolved to improve education about size discrimination in adoption, provide support to obese individuals facing such discrimination, and assist plaintiffs in litigation (126). Because the issue has not been studied, research documenting whether this discrimination exists is important.

Research

It is critical that research itself not exclude obese persons. Overweight people have been underrepresented in research unless studies have focused on obesity (5). As an example, the National Institute of Health funded the Women's Health Initiative for over 600 million dollars to investigate cancer, heart disease, and osteoporosis in women. Although tens of thousands of women are participating in this longitudinal study, and despite overweight women having increased vulnerability for some of the diseases being investigated, the study excluded obese women (5,127).

Limitations of Existing Research

Laboratory studies addressing discriminatory attitudes and behaviors rely primarily on student samples, so generalization must be examined. Second, most studies on anti-fat attitudes among medical, educational, and hiring professionals have used nonrandom designs, self-report methods, and a variety of attitudinal assessment measures that may not have been tested for validity and reliability. Third, the literature is not sufficiently large or mature to draw conclusions across all areas in which discrimination has been claimed. For instance, there are hints but not documentation of obese individuals being denied children in adoption proceedings, the assumption being that weight reflects personal failings that would make people unfit parents. Finally, it is not clear whether the severity and frequency of discrimination increases as an individual becomes more obese.

Many theoretical questions about weight stigma have yet to be studied. Although a few preliminary models have been proposed, theories have not been compared and there is no consensus of which factors best predict who will stigmatize obese people. Despite evidence of various cultural attributions toward obesity throughout history, there is also a need to examine the cultural factors that affect this population (128). As research better documents weight discrimination, conceptual frameworks for understanding weight stigma can be refined, and hypotheses can be increasingly guided by theory. Ultimately, the integration of theory and empirical studies should be used to derive stigma reduction strategies and interventions to eliminate discrimination.

Legal Challenges to Weight-Based Discrimination

Current Weight-Specific Legislation

No federal laws exist to prohibit discrimination against obese individuals, and only Michigan's civil rights legislation prohibits employment discrimination on the basis of weight at the state level (34). The District of Columbia

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forbids discrimination on the basis of appearance including weight, and Santa Cruz, California includes weight in its definition of unlawful discrimination (129). In the spring of 2000, San Francisco passed legislation to ban weight discrimination, adding weight and height to existing characteristics (such as gender, ethnicity, age, and sexual orientation) that are protected (130). Advocates in San Francisco gained support for this legislation when a health club created a billboard with a space alien saying, "When they come, they'll eat the fat ones first." Overall, few locations have weight-specific legislation, so most obese persons are forced to use existing human rights statutes for legal protection. In particular, overweight individuals have depended on the Rehabilitation Act (RA) of 1973 and the American Disabilities Act (ADA) of 1990 (131). Employment discrimination cases encompass the vast majority of such actions.

The RA was the first effort to prohibit federal employee discrimination against individuals with disabilities (32). A person with a disability is one who has a physical or mental impairment that substantially limits at least one major life activity (activities such as walking, breathing, self-care, and working), has a record of such an impairment, or is perceived as having an impairment (34,129). The RA does not actually include obesity as a specific protected impairment (32).

The ADA expanded federal disability discrimination legislation by extending mandates to private employers, state and local employment agencies, and labor unions (23,131). Like the RA, the ADA protects disabled but qualified employees who can perform essential aspects of employment (131). The Equal Employment Opportunity Commission (EEOC) implemented regulations for more flexible interpretation of ADA impairments, allowing obesity to be included in its broader definitions (129,132). The guidelines of the EEOC do not consider obesity alone to be an impairment. However, obesity can meet impairment definitions if one's weight can be attributed to or results in a physiological disorder, or if a person's weight is severe as in cases of morbid obesity (132).

Under the ADA two kinds of cases can be pursued: those involving actual disabilities, and those of perceived disabilities. An actual disability claim requires that an individual's obesity be substantially limiting in at least one major life activity. A perceived disability occurs when one is regarded by others as having an impairment (131). Here, the obese individual must demonstrate either an actual impairment that does not limit life activities but is perceived to be limiting by others or that there is no impairment at all but that the individual is perceived as having one. As many courts do not recognize obesity as an actual impairment, obese individuals must often use perceived impairment claims (131).

Inconsistent Rulings

Although alleged discrimination is being met with lawsuits, the overall picture of cases pursued under these statutes is one of mixed results. The majority of courts have ruled that obesity, per se, is not a disability (32). In *Krein v. Marian Manor Nursing Home*, for instance, an obese nurse's aid was discharged because of her weight. The court held that her obesity was not a disability and, thus, was inadequate to qualify the plaintiff for discrimination protection (131,133). Similar court rulings were held for a flight attendant in *Tudyman v. Southwest Airlines* and for a labor worker *in Civil Service Commission v. Pennsylvania Human Relations Commission*, where both plaintiffs failed to show that their obesity caused, or was caused by, a condition that would qualify them for state protection (31,37).

Later cases continue to follow this trend. In *Cassista v. Community Foods Inc.*, an obese woman was denied a cashier/stocking position because of her weight (131,134). In the case of *Philadelphia Electric Co. v. Pennsylvania Human Relations Commissions*, an obese woman was refused employment in a customer service position due to her obesity, despite having passed pre-employment evaluation. The court ruled that her obesity did not impair her job performance and, thus, could not constitute a disability and receive protection (37,135).

Although few cases have held that obesity on its own constitutes a disability, several court rulings have demonstrated circumstances in which obese plaintiffs have been successful. In the case of *New York Division of Human Rights v. Xerox Corporation,* an obese plaintiff was denied a computer programming position because her obesity made her medically unsuitable for the job, according to the company's physician (32,136). The state court recognized broader definitions of disability under New York law and ruled that her obesity was an impairment as defined by Xerox's medical staff, although she had no other medical conditions and could perform the duties of the position (32,37). In the case of *King v. Frank*, a postal worker alleged that he was fired because his supervisor perceived his obesity to be an impairment (137). The commission ruled that because the employer perceived the worker to be substantially limited in work (one of the major life activities of the RA), he was granted protection under the RA (32). Finally, the case of *Gimello v. Agency Rent-a-Car Systems* also accepted a disability claim in which the court concluded that the plaintiff's obesity was a physical disability because he had sought medical treatment for his condition (36).

Unresolved Issues: Blame and Disability

The legal issue of whether obesity is a disability has not been decided. Very obese persons or individuals whose obesity is attributed to an underlying medical condition may have the most success under the ADA (131), but it is

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difficult to predict which cases will be successful. Court decisions of whether obesity is an impairment may be the result of many factors besides ADA guidelines, such as court beliefs, cultural perceptions, academic views, previous case rulings, and weight bias in judges.

Inconsistent court decisions will likely continue until ambiguities in existing legislation are resolved. Under the ADA there is no standard for determining how obese a person must be for weight to be considered a disability (37,132). Being moderately fat will only be considered a disability if accompanied by an additional impairment, whereas obesity on its own does not meet ADA impairment definitions. Morbid obesity can meet disability requirements. Korn (138) notes that limiting the protection of the ADA to morbid obesity ignores the majority of the obese population and reinforces misperceptions that anything less than morbid obesity can be personally controlled.

Courts have generally viewed overweight as voluntary and mutable and, therefore, have disqualified it as a disability (131,138). The ADA does not actually require a condition to be immutable or involuntary to be considered a disability (32). The RA and ADA protect other mutable conditions like alcoholism, drug addiction, and acquired immune deficiency syndrome, all of which involve voluntary behavior (32). Although the EEOC states that being voluntary is irrelevant in the definition of impairment, the fact that obesity is rarely considered an impairment without an underlying medical condition suggests that the EEOC sees obesity as controllable (138).

Another unsettled issue is the applicability of the perceived disability theory. Because courts are unlikely to accept obesity as an impairment, overweight persons can stand on this section of the law. Yet successfully applying this theory to obese individuals may be unlikely, because the plaintiff must prove that the employer perceived weight to be an impairment, not just that the employee was perceived to be overweight (131).

Legal pursuits are not necessarily easier for obese individuals proceeding under actual disability claims. Successfully proving that one's condition substantially limits a major life activity does not necessarily satisfy legal requirements. Both the ADA and RA can deny protection even if one's obesity does impair life activities (34). The obese plaintiff must also prove that he or she can satisfy the essential functions of the position, and those who cannot perform job duties with or without reasonable accommodation will not be protected (34).

Whether it is advantageous for obesity to be considered a disability is a matter of debate. Despite the legal advantages of the disability label, considering obese persons disabled may have unwanted ramifications. For example, it may be undesirable for overweight children to consider themselves "disabled." Because weight is a disabling condition in only a minority of cases, it may be harmful to attach a disability label to a condition already severely stigmatized.

A key problem is that existing statutes were not intended to protect against weight discrimination (129). Categorizing discrimination claims under current disability definitions makes less sense than finding other strategies to fight weight discrimination. Several suggestions have proposed revising the ADA. One option may be to change definitions of disability in the ADA to explicitly include obesity (37,138). Doing this would allow individuals uniform protection for having limiting conditions due to obesity, although this option would also mean attaching a disability label (37). Others have concluded that the EEOC should declare issues of voluntariness and mutability as irrelevant to decisions determining impairment and enforce that they be excluded (131).

An alternative is to create new legal options for obese employees other than the RA and ADA. Adamitis (129) suggests that the most appropriate alternatives are state and local laws for protection from weight discrimination. It may be more realistic to consider state statutes, which often provide broader coverage, than to focus on federal laws (129). As mentioned earlier, legal cases prove only that discrimination based on weight is perceived and that legal justification for seeking relief is growing. One cannot infer that discrimination is widespread from such cases. Prevalence studies are necessary.

Discussion

There is a clear and consistent scientific literature showing pervasive bias against overweight people. It is logical that the bias begets discrimination. There is now sufficient evidence of discrimination to suggest it may be powerful and occurs across important areas of living.

Studies on employment have shown hiring prejudice in laboratory studies. Subjects report being less inclined to hire an overweight person than a thin person, even with identical qualifications. Individuals make negative inferences about obese persons in the workplace, feeling that such people are lazy, lack self-discipline, and are less competent. One might expect these attributions to affect wages, promotions, and disciplinary actions, and such seems to be the case.

Overweight women, for the same work, receive less pay than their thin counterparts. This does not seem to be the case for men, but overweight men sort themselves into lower-level jobs. There is evidence that promotion prospects are dimmer for overweight individuals, and there are many examples of people being fired on account of excess weight. Rarely would the physical demands of the job make weight an issue.

Health care is another arena in which biased attitudes are an issue. Very negative attitudes about overweight individuals have been reported in physicians, nurses, and medical students, much the same as in general society. Overweight

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individuals can be reluctant to seek medical care, especially for their obesity, because they believe that they will be scolded and even humiliated, hence screening and treatment for diseases may be delayed. It is important to know whether the bias seen in health care professionals affects the quality of care that they provide.

Stigmatization in educational settings seems to take place at all ages. From teasing of obese children to college acceptance, an overweight individual faces serious challenges. We would expect this to affect self-esteem, intellectual self-efficacy, and very tangible outcomes like where one attends college and employment opportunities. One telling study found that parents of overweight children provided them less support for college than parents did for their thin children (113). It is strong prejudice indeed when parents discriminate against their own children.

Individuals believing that they have been victims of discrimination have sought legal relief, typically by asking that obesity be considered a disability, thereby protecting those affected under the ADA. This has been successful in some cases but raises questions about whether it is desirable for obese persons to be considered disabled. We believe that legislation, similar to what was passed in 2000 by the city of San Francisco, that prohibits discrimination based on weight, is the most direct and logical approach. Except for the rare cases in which excess weight makes it impossible for a person to perform a job, overweight individuals deserve the same access to employment possibilities as do thin people and deserve to earn as much for their work.

Discriminatory attitudes as powerful and consistent as these belie fundamental stigma, bias, and prejudice. These in turn are determined by beliefs that individuals and society have about obese people. These beliefs, it seems, are the confluence of several factors. First, overweight people are assumed to have multiple negative characteristics, ranging from flaws in personal effort (being lazy), to more core matters such as intelligence and being a good or bad person (139). Second, overweight individuals are believed to be responsible for their condition and that an imperfect body reflects an imperfect person (140). Finally, whatever bad comes from the bias and discrimination is acceptable, even merited, based on the common belief that people get what they deserve and deserve what they get. In cases where explicit attitude measures show little or no bias, implicit measures show significant bias, even in health professionals who specialize in the treatment of obese persons (141). Further research on the origins of weight stigma and methods for countering the negative attitudes is important to foster.

It is important to know whether the increasing prevalence of obesity will lead to more or less discrimination. The two have not been tracked in tandem. Latner and Stunkard (91) suggested that prejudice has increased over the past several decades. One might also guess that more people being obese will reduce societal biases because more people will become victims of stigma and awareness of inequity will increase.

Certainly more work is needed to understand fully the degree and consequences of stigmatization against obese persons. Table 1 outlines areas of research that we believe are necessary directions in which to take these efforts. In general, we believe that there are several compelling directions to move, in research, education, and policy:

1. Methodological and theoretical gaps in the literature require attention. Necessary improvements in methodology include the use of random assignment, evaluation of reliability and validity of measures used to assess weight discrimination, and the generalization of studies across segments of the population. A second priority for research is to better understand why and how such negative attitudes arise toward obese people and then to develop conceptual frameworks for understanding the stigma.
2. The extent to which discriminatory attitudes become acts of discrimination and the processes by which this occurs, must be better understood.
3. A great number of important research questions must be addressed. The areas of living in which discrimination occurs must be documented, the psychological and social origins of the discrimination must be better understood, and the consequences of the discrimination must be clarified. Subtle forms of discrimination affecting daily life, such as body language and eye contact, should be studied.
4. Means must be developed and tested to temper society's negative attitudes. Vast numbers of people stand to be affected by weight discrimination, with the numbers growing steadily.
5. Attention must be paid to the social action, legal, and legislative approaches that might best be used to counter discriminatory practices. Considering obesity a disability is one possible approach using existing laws, but the legal relief achieved by selected individuals may be more than offset with the social liability of obese persons being considered disabled. Legislation directly addressing weight discrimination might be more beneficial.

In summary, discrimination against obese individuals is very real. It occurs in key areas affecting health and well-being. Although all important research questions have not yet been addressed, there is a sufficient body of information to justify aggressive treatment of this topic in research, legal settings, and the real world.

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