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How self-perception, emotion and beliefs influence eating and weight-related behaviour

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This chapter examines the psychological and environmental factors contributing to the self-perception of obese individuals and its impact on weight-related behaviour. Emotional functioning, environmental factors, physical health, eating and weight-related attitudes, beliefs and behaviour are explored. The impact of these factors on meaningful short- and long-term treatment outcomes is discussed.

A wealth of knowledge and research exists which attests to the pervasive and often serious physical consequences of obesity. Examining the health problem of obesity at a surface level, one might feel puzzled as to why some obese patients experience marked difficulty, often over an extended period of time, to make relatively modest behaviour change in exchange for significant improvements in physical and psychological health and associated quality of life. Clinically, obesity is associated with a range of psychosocial problems such as depression, low self-esteem, guilt, shame, body dissatisfaction, social withdrawal and isolation, stigmatisation and discrimination [1–3]. However, not all obese persons will experience psychological problems. The obese population is heterogeneous in terms of aetiology, maintaining factors, and psychological and physiological concomitants [4, 5]. As such, over recent years the question of whether those who are obese have psychological difficulties has shifted to who will experience psychological problems and in what ways [1]? This chapter will examine the main psychological difficulties experienced by obese individuals, some of the factors known to contribute to these difficulties, and how these difficulties in turn impact on weight-related behaviours and, as such, should be included as a key component of treatment.

The range of psychological problems associated with obesity

Psychological difficulties are already evident in obese children and adolescents, a finding which emphasises the importance of preventing and treating paediatric obesity [6]. Given that obesity is increasing in childhood and adolescence, its psychological and social

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consequences (such as teasing, peer exclusion, body dissatisfaction and poor self-esteem) are also of rising importance [7].

Clear evidence is emerging of the concerning association between obesity and the self-perception of children and adolescents. In a 2006 study [8], 2813 children with a mean age of 11.3 years completed self-report measures of self-perception and body shape perception, and their body mass index (BMI) was calculated. Results clearly indicated that obesity has a negative association with self-esteem. Specifically, obese girls and boys possessed lower perceived athletic competence, physical appearance and global self-worth than their normal-weight counterparts. The association between obesity and negative self-perception was particularly evident in girls, with obese girls reporting significantly decreased social acceptance and satisfaction with physical appearance than healthy weight peers. Overall, it was found that obese children were two to four times more likely than normal weight children to have low self-worth.

Given the cross-sectional nature of these data, it is unclear whether negative self-esteem is a cause and/or consequence of obesity. However, a longitudinal study by Strauss (2000) [9] was able to provide stronger support for the causal role of obesity in negatively impacting self-esteem. This study similarly found that female childhood obesity at nine years of age was associated with impaired self-esteem. At the four-year follow-up, obese girls experienced significant, decreasing self-esteem, which was associated with sadness, loneliness, anxiety and risk-taking behaviour (eg smoking and alcohol consumption).

In addition to poor self-esteem, adult obese individuals are more likely to have a psychological disorder, with a higher prevalence of mood, anxiety, alcohol use, personality and eating disorders among the obese [10, 11]. Of the various psychological disorders, binge-eating disorder (BED) has the strongest connection with obesity. BED is characterised by frequent episodes of binge eating in which the person consumes a large amount of food in a discrete period of time, coupled with a sense of a loss of control. It is very different from an episode of overeating, in terms of the amount of food consumed and the driven, compulsive nature of the behaviour [1]. In BED, there is no immediate compensatory behaviour (such as purging or excessive exercise) as seen in bulimia nervosa. BED is common in individuals with obesity; estimates are that approximately one-third of the obese population undergoing treatment for weight-loss experience binge eating symptomatology [12]. Similarly, the prevalence of obesity among individuals with BED may be as high as 65% [13] which is much higher than the prevalence in the general adult population [14].

Yet the most consistent finding in terms of the psychological problems associated with obesity is that obese individuals experience higher levels of body image disturbance than their normal-weight counterparts [15]. This may take the form of experiencing high levels of dissatisfaction with their appearance, being excessively preoccupied with their appearance, believing that their appearance proves something negative about their worth as a person, avoiding many social situations because of their weight, and being overly concerned about hiding or disguising their body. One of the largest studies to date that has investigated body satisfaction at various BMI categories was conducted by Frederick, Peplau and Lever (2006)

[16]. This study involved 52 677 men and women who were asked to rate their level of body satisfaction on a scale ranging from 'I have a great body' to 'I find my body unattractive'. The results indicated that rating one's body as unattractive was higher among obese male and female participants compared with the other BMI categories: 69% of women and 54% of men with a BMI ≥35 felt unattractive compared to 5% of women and 6% of men with a BMI between 18.5 and 21.7. Across most BMI categories, women reported greater body dissatisfaction than men except in the underweight categories (due to men's desire to be larger). Particularly for women, a desire to lose weight is strongly associated with a desire to change appearance and physical shape, and in turn feel more attractive or experience greater body satisfaction. Women and men report that one factor they find motivating to lose weight is to be able to have more choice in the range of clothing available to wear that they regard as more flattering and fashionable [17].

While not all obese individuals experience elevated body dissatisfaction, two subgroups of obese individuals who are particularly vulnerable in this regard are people with BED and those seeking gastric banding [15–17]. In addition, it is important to note that factors other than seeking to improve body satisfaction may drive the desire to achieve a thinner physique (such as the belief that weight loss will improve the individual's relationships) and that treatment should assist individuals to improve these other factors in addition to interventions aimed at achieving weight loss [18].

Factors contributing to the negative impact of obesity on self-perceptions: thin ideal internalisation and stigma

The negative impact of obesity on self- and body-esteem has been attributed in part to internalisation of Western society's 'thin ideal' [19, 20]. The psychological and behavioural consequences of societal pressure to be thin are considerable. An increasing number of children and adolescents in Western societies report that they engage in dieting behaviour to lose or maintain weight [21]. However, dieting in pre-adulthood leaves individuals at greater risk of subsequent weight gain compared to non-dieters [22]. One explanation is that dieting often precedes the onset of binge eating, and an increased risk of other eating disorder pathology, weight gain and obesity in later adulthood [23, 24].

In addition to internalisation of the thin ideal, obese individuals are known to experience considerable stigma and discrimination which in turn is likely to have a negative influence on self-perceptions. There is a wealth of data demonstrating the existence of a pervasive stigma towards obese individuals, with discrimination documented in all domains of life including social life, parenting practices, education, employment and healthcare. Indeed, as Puhl and Brownell (2002) [25, p108] state, negative attitudes and behaviours towards obese people 'constitute one of the last socially acceptable forms of discrimination'.

In the social domain, strongly negative attitudes regarding obese individuals are already evident in pre-school and primary school-aged children. In one study, Latner and Stunkard (2003) [26] presented ten- and 11-year-old boys and girls with drawings of six children: a healthy child, a child using crutches, a child in a wheelchair, a child with no left hand, a

child with a slight facial deformity, and an obese child. The children were asked to rank the drawings in terms of the child they liked best to worst. It was found that children ranked the healthy child as the most preferred and the obese child as the least preferred. Compared to when the same study was conducted in 1961, the obese child was ranked as even less desirable by the children in the 2003 study, indicating that negative attitudes towards obese children have become stronger over time. This study highlights that obese children and adults are implicitly perceived as a devalued social group.

Parenting practices are another domain in which negative attitudes towards obese individuals have been documented. For instance, in one study, parents were given three pictures of children (an average-weight child, an obese child and a handicapped child) and were asked to tell a story about each picture to their own child [27]. There were striking differences in the rate of successful outcomes at the end of each story: the outcome was happy for the average-weight child on 45% of occasions, 80% for the handicapped child and on zero occasions for the obese child.

In addition, research has found evidence of negative attitudes and behaviours towards obese students in their education. For example, obese students are less likely to be accepted into college than average-weight students despite having equivalent academic records and making the same number of college applications [25]. In a prospective study, women who were overweight in adolescence had completed fewer years of school, were less likely to be married, had lower household incomes and had higher rates of poverty than women who had not been overweight in adolescence [28]. Moreover, negative attitudes and practices have been documented for obese people at virtually every stage of the employment process [29]. Overweight applicants are evaluated more negatively than average-weight applicants and are less likely to be hired. Once employed, negative attitudes continue, with overweight employees being perceived as lazy, sloppy, less competent, lacking in self-discipline and disagreeable. They are also seen as poor role models. At the termination stage, there is evidence from legal case documentation that obese employees have been fired due to their weight even if they hold positions for which weight is irrelevant (eg computer analysts) and despite formal recognition for fine job performance.

In the domain of healthcare, negative attitudes towards obese patients have been found among doctors, nurses and medical students. In one particularly concerning study, 12% of nurses reported that they were reluctant to touch obese patients while 24% stated that they found obese patients to be 'repulsive' [30]. Being aware of negative attitudes towards them may result in obese individuals delaying seeking medical care (eg obese women delaying getting a breast examination), which obese patients have attributed to embarrassment about their weight and previous negative experiences with healthcare professionals.

The impact of psychological difficulties on weight-related behaviours and obesity

While obesity can result in negative self-perceptions, psychological problems can in turn influence weight-related behaviours and obesity. One psychological factor that may result in weight gain and ultimately obesity is if the individual has a low level of motivation for

weight control. A highly influential model in current understandings of health-related behaviours is the stages of change model [31]. According to this model, there are two main factors that contribute to an individual's level of motivation to engage in a healthy behaviour: decisional balance and self-efficacy. Decisional balance is defined as the relative balance between the potential gains (pros) and losses (cons) of engaging in a health-related behaviour such as reducing fat consumption and doing more physical activity. According to the model, people are motivated to engage in these health behaviours when the pros of reducing dietary fat or increasing exercise outweigh the cons. This is precisely what the research shows: for individuals with lower levels of motivation to engage in these health behaviours, the cons of reducing dietary fat (eg 'Eating less fat would mean not eating my favourite foods') or increasing exercise ('Trying to do more exercise would add to my time-pressure') outweigh the pros ('Eating less fat and exercising more would help me to feel more energetic and attractive') [32]. However, by the time people are highly motivated and are actively working to reduce their fat consumption and increase their exercise levels, the pros of these behaviours outweigh the cons [32].

Self-efficacy is the other main factor contributing to an individual's motivation to engage in health-related behaviours. Self-efficacy refers to the individual's level of confidence that she/he can successfully engage in a health behaviour, even in challenging situations where there is a high level of temptation to engage in an unhealthy behaviour. If the individual lacks confidence that she/he can perform the healthy behaviour, then little or no attempt will be made to do so. Self-efficacy is a strong predictor of the degree to which people engage in weight-control behaviours, such as their amount of fruit and vegetable consumption [33] as well as their success at weight management [34].

In addition to low levels of motivation to engage in weight-control behaviours, another psychological problem that may contribute to obesity is negative affect. According to the affect-regulation model, individuals who are prone to experiencing negative emotions such as depression, anxiety, anger or stress may eat in an attempt to provide comfort or distraction from these distressing emotions. In support of the affect-regulation model, Stice and colleagues (2005) [35] conducted a study in which 496 adolescent girls (aged from 11 to 15 years) were followed up over four years. Girls who reported higher levels of depression and body image disturbance at baseline were significantly more likely to be obese four years later.

This finding has been replicated in adults. For example, in a study by Block et al. [4], 1355 American men and women between the ages of 25 and 64 years had their BMI and stress levels across various life domains (job-related demands, relationship strains and financial stress) assessed at baseline and then followed up over nine years. Stress in certain domains (eg job-related demands and difficulty paying bills for men and women; strains in family relationships for women) predicted more weight gain over the next nine years, mainly among individuals who were already obese at baseline. In contrast, individuals who had a normal BMI at baseline lost weight or gained less weight as stress increased. This study highlights that individuals differ in their appetitive and eating behaviour in response to life stress. This individual variation may contribute to the inconsistent findings in the research,

with some studies finding that negative emotions predict obesity [35] while others do not [36].

Given this connection between life stress and weight gain, it is perhaps not surprising that the stress to which obese individuals are exposed to as a result of negative societal attitudes and behaviours can worsen their obesity. Adams and Bukowski [37] found that the victimisation (ie bullying) experienced by obese 12- to 13-year-old girls predicted a deterioration in their body image by the age of 14 to 15 years which in turn predicted an increase in depression and BMI by the age of 16 to 17 years. In another longitudinal study examining mood and weight changes over a 12-month period after controlling for baseline BMI, depression at baseline was found to be predictive of adolescent obesity one year later [38]. These results are in keeping with the association between negative affect and overeating mentioned previously.

Another psychological factor that may result in people becoming obese is the presence of BED. A five-year prospective study conducted by Fairburn and colleagues (2003) [39] compared individuals with BED and bulimia nervosa. In this study, 48 individuals with BED and 102 individuals with bulimia nervosa who were not in treatment for their disorder were assessed at 15-month intervals regarding their eating disorder symptoms and general psychiatric symptoms. At the five-year time-point, a higher proportion of the BED group (39%) was obese compared to the bulimic group (20%). Indeed the rates of obesity had nearly doubled in the BED group during the five years of the study.

Implications for treatment

The effectiveness of interventions for obesity must be assessed based on a comprehensive range of outcomes that look beyond weight loss, such as increased motivation, improved mood and self-esteem, and decreased social isolation. Not only will attention to these factors improve the individual's quality of life, but will directly impact on weight control if these psychological issues are involved in maintaining the individual's obesity.

Most patients present for treatment of obesity wanting to lose 20%–30% of their pre-treatment body weight, which is unrealistic in the context of the modest weight loss (ie 5%–10% of pre-treatment body weight) that a significant subset of obese patients have difficulty achieving using behavioural treatments [41]. As Cooper and Fairburn (2001) [40] point out, obese patients' weight goals seem entirely reasonable in our Western society which promotes the idea that weight is highly controllable. In the media we are bombarded with stories and images of significant weight losses achieved in very short periods of time, from the television program *The biggest loser* through to the increasing obsession with celebrity post-baby bodies. Further, as mentioned above, the thin-ideal internalisation and social pressure to be slim also contributes to an expectation of achieving an unrealistically low weight in treatment.

Behavioural weight-loss treatment (BWT) addresses eating habits and levels of physical activity, with an emphasis on making sustainable lifestyle changes with the aim of resulting in sustained weight loss. The results of group-based BWL treatment are well established; this

form of treatment generally results in weight loss between 7%–10% of initial body weight over the typical 16- to 24-week treatment period [42]. However, the pattern of weight loss and maintenance in patients who engage in this form of treatment is remarkably consistent: the point of maximum weight loss is usually reached six months after commencement of treatment, then weight regain begins gradually and consistently until weight stabilises at around baseline levels by five years for most patients [43, 44].

To augment successful maintenance of weight losses, motivational enhancement therapy (MET) strategies may prove beneficial as there is a strong theoretical and empirical rationale for the role of motivation in successful long-term weight control. As previously stated, individuals are motivated to change their behaviour when they experience alterations in decisional balance (ie when the advantages of change are perceived to outweigh the disadvantages) and self-efficacy (ie when they are confident that they can successfully change). Compared to the weight-loss phase, the weight-maintenance phase may have particularly adverse effects on both decisional balance and self-efficacy and hence motivation for weight control. Firstly, the amount of weight loss achieved during treatment and its impact on other domains of life (such as improved health, body satisfaction, and relationships with others) may be less than hoped for, thereby diminishing the perceived advantages of continuing to engage in strenuous weight-control behaviours [41]. Secondly, given the consistent pattern of weight regain, most patients will have a history of weight-control failures, thus undermining a sense of confidence or self-efficacy regarding their ability to achieve long-term success [5]. Unfortunately, the negative alterations in decisional balance and self-efficacy associated with weight maintenance occur at a time when the patient's self-motivation for weight control is paramount, given the reduction or cessation in external support from treating clinicians that occurs at this time. Indeed, research indicates that problems in sustaining motivation are associated with poorer long-term weight control for obese patients [45]. In addition, overweight and obese patients' levels of motivation to increase their physical activity, increase their consumption of fruit and vegetables, and decrease their dietary fat intake are predictors of their level of engagement in these weight-control behaviours one year later [46]. Thus, both theoretical and empirical work suggests that enhancing the motivation of obese patients to control their weight may have benefits for their long-term weight management.

While clinical guidelines highlight the key importance for treatment success of enhancing patients' motivation to control their weight [47], the research base from clinical trials to support such recommendations is sparse. This stands in marked contrast to the considerable research undertaken on MET in the treatment of other health behaviours, particularly alcohol problems. In the largest of these studies, a four-session MET intervention resulted in substantial and sustained (over three years) reductions in drinking behaviour among patients with severe drinking problems and achieved comparable effects to interventions of longer duration [48]. One of the few studies to have employed MET in the treatment of obesity found that the addition of three MET sessions to a standard BWL program resulted in significantly better treatment adherence and glucose control at post-treatment relative to standard treatment in obese women with type 2 diabetes [49]. In another study, obese patients who received up to 15 MET sessions after failing to lose a significant amount of

weight in a BWL program, subsequently lost significantly more weight and engaged in significantly more weekly exercise than those who did not receive the MET intervention [50]. Yet since neither of these studies included a follow-up assessment, the effectiveness of MET for the maintenance of weight loss remains unknown.

In a pilot study assessing the efficacy of MET for weight maintenance in obesity, 22 obese adults (68% of whom were classified in the extreme/severe obesity range) participated in a 20-session behavioural weight-loss program, which included three MET sessions [51]. The patients experienced a significant reduction in weight from pre- to post-treatment (a mean weight loss of 5% of initial body weight) with no significant increase in weight from post-treatment to the one-year follow-up. Patients also reported significant improvements in obesity-related quality of life, impulsive eating tendencies, body dissatisfaction, and maladaptive cognitions at post-treatment that were maintained at the one-year follow-up. Importantly, reported utilisation of MET strategies by patients was significantly correlated with the degree of weight-loss maintenance. These results suggest MET can assist obese patients in maintaining their weight losses and make sustained improvements in terms of quality of life, impulsive eating tendencies, body dissatisfaction and maladaptive cognitions.

The evidence we have at hand demonstrating the significant association between obesity and negative self/body-esteem already at a very young age, points to the need to address this in treatment explicitly. Cooper and Fairburn (2001) [41] outline promising cognitive behavioural strategies to treat obese patients who avoid body exposure, engage in frequent body checking, or have ongoing, frequent critical thoughts about their appearance, with the overarching goal to foster greater self-acceptance.

Conclusions

It is clear that there are a range of psychological problems associated with obesity, such as low self-esteem, body dissatisfaction, depression and eating disorder pathology. Although we are currently unable to identify clear and causal relationships between obesity and the known comorbid psychological problems outlined in this chapter, we can be certain that the impact of these problems is broad-reaching. Longitudinal data, in addition to research examining the trajectory of obesity and psychological comorbidities in older adults given the relatively recent onset of the obesity epidemic, will be important in uncovering more precisely the causal relationships and longer-term impacts that exist between these problems. A growing body of research points to the need to integrate motivational enhancement therapy and self-acceptance modules into obesity treatment, in order to achieve maintained improvements in the physical and psychological health of obese patients in the months and years following treatment.

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