Mental Health and Eating Behaviours
A Bi-directional Relation

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ABSTRACT

Background: Variations in mental health may contribute to or impair healthy eating. The relation between eating and mental health is bi-directional: one’s mood or psychological state can affect what and how much one eats, and eating affects one’s mood and psychological well-being. Thus, if we want to promote and develop strategies to encourage healthy eating, it is important to understand the connections between mental health and healthy eating.

Methods: To contribute to this understanding, we examine the research on individual differences in how people respond to food, as well as mood, and emotional, social and collective influences on what and how much is eaten; we then examine the implications of these connections for mental health, with a focus on adolescents and adults. Looking at the relation between eating and mental health from the other direction, we review research investigating whether the amount that one eats or particular foods one ingests can make one feel good or bad about oneself.

Conclusions: Overeating and undereating have complex effects, sometimes contributing to improved feelings of well-being and at other times leaving the individual feeling guilty, deprived, depressed and anxious. We attempt to identify both what we know and the gaps in our knowledge.

MeSH terms: Mental health; eating behaviour; overeating; mood; undereating

Why do we need to know about the connections between eating behaviour and mental health? Variations in mental health may contribute to or impair healthy eating. For instance, disturbances in mental health, such as depression, unhappiness or anxiety, may cause people to eat unhealthy amounts or types of food. Conversely, eating behaviour influences mental health. When we eat too much, we feel uncomfortable (socially, we do not want to look “piggish” to others, and, even alone, we prefer not to feel that we are eating “too much” or “more than normal”), and if we happen to be dieting to lose weight we may also feel guilty and anxious. Negative emotions, in their turn, can make us overeat in an attempt to feel better. Certain foods may be comforting or help to alleviate negative moods. If, on the other hand, we eat too little, we may feel irritable, tired or deprived, especially if others around us are eating more and seem to be enjoying their food. This may be partly a physiological reaction to hunger, but it may also reflect a psychological resentment that one is not having what others have. The resentment may be caused by a self-imposed diet or by living in a society in which food is so abundant for most, but some have too little. The relation between eating and mental health is thus bi-directional: one’s psychological state can affect what and how much one eats, and eating affects one’s mood and psychological well-being.

The consequences of eating on mental health may reinforce healthy or unhealthy eating patterns (i.e., it is possible that eating in a healthy manner makes people feel better psychologically, but it is also possible that eating in an unhealthy way makes people feel better emotionally). If we want to promote healthy eating and develop strategies to encourage it, we need to understand the connections between mental health and healthy eating. At the same time, we must remain alert to the possibility that healthy eating may occasionally exact a mental-health cost. Indeed, we might even be forced to the conclusion that in some rare circumstances a strict adherence to healthy eating might be excessively costly in term of psychological well-being.

In this article, we will use “healthy eating” to refer to eating practices and behav-
ours that are consistent with improving, maintaining and/or enhancing health, both physical and psychological. Mental health will be used in the context of the normal (as opposed to clinical) population, and will thus refer to mood, mental state, feelings about the self, and general psychological well-being. The focus of this article is the psychological or mental health-related determinants of healthy eating in adolescents and adults, and the impact of healthy and unhealthy eating on mental health, as defined. It should be recognized that mental health issues may often interfere with healthy eating, rather than promote it. In addition, what is healthy eating may be different in a person who is overweight from one who is of normal weight or underweight. Thus, an overweight person who eats less than his or her body needs and loses excess weight may be engaged in healthy eating, whereas a normal or underweight person doing the same thing may be eating in an unhealthy manner, particularly if that person is a teenager who has not yet reached full growth and needs more energy to do so healthily. These distinctions must be borne in mind when reading about research on the influence of eating on mental health and of mental health on eating.

METHODS

The present article is based on a review that encompassed searches of the literature through PsycINFO and MEDLINE for the last 10 years (1994-2004). Relevant words, such as obesity, mental health, depression, self-esteem, overweight, food intake, restraint, restrained eating, meal size, carbohydrate, protein, fat, meal composition, diet, food, eating patterns and eating habits were searched and examined to determine whether they were relevant to the topic of “eating and mental health.”

The term “eat” was also paired with relevant terms (affect, emotion, anxiety, depression, stress, alcohol, intoxication, drink, social influence, social norms, matching, insecurity, self-awareness, feedback) and searched. Finally, reference lists in the most relevant articles were examined for citations that did not appear in the literature searches. We could not possibly review all of the relevant studies identified in this manner, so we chose methodologi-

...cally sound studies that represent the findings in the area. We thus included representative studies that had control groups, reasonable sample sizes and, when possible, were theoretically based or even experimentally manipulated. In addition, we concentrated our investigation on adolescents and adults, in order to keep the scope manageable.

Summary of the literature

Simply focussing on what is eaten or how much is consumed sidesteps the important question of why people eat the amounts and types of food that they do. Healthy and unhealthy eating are both influenced by a variety of individual and collective (social and environmental) factors, many of which interact with each other in complex fashions. We must understand these factors and their interactions to understand how to promote and support healthy eating, and how to maximize the physical and mental/emotional benefits of healthy eating. Individual psychological factors that affect eating include personality traits such as self-esteem, body image and restrained eating (chronic dieting), as well as mood and focus of attention.

Self-esteem seems to be strongly connected to eating both directly (as shown by experimental demonstrations that lowering self-esteem produces excessive eating) and indirectly, through the association of low self-esteem with body or weight dissatisfaction and a corresponding tendency to binge eat or diet in an unhealthy manner. Negative body image predicts excessive food restriction followed by bouts of overeating and even binge eating in adolescent and adult women. Some programs to improve body image have been successful at teaching adolescents to resist media pressure to attain an unrealistic body, preventing the development of less healthy attitudes and behaviours, and helping to promote healthy eating and body weight maintenance.

Chronic on-again, off-again dieting (often called “restrained eating” in the literature) can reflect a constellation of behaviours and attitudes that represent a personality trait and have a strong influence on eating. Restrained eaters are characterized not only by concern about their eating, weight and appearance but also by a variety of cognitive and affective attributes, including low self-esteem and negative body image. Successful dieting (i.e., avoiding weight gain or maintaining one’s current weight) and weight loss, while apparently much less common than unsuccessful attempts, produce improved psychosocial functioning and mood. Furthermore, restrained eating that is not accompanied by disinhibited eating or bingeing is less likely to be related to pathological eating and eating disorders. Conversely, however, for the many dieters who are prone to disinhibition of their eating and who seem to be unable to lose weight, and especially for females, restrained eating or chronic dieting is correlated with negative mood and psychological functioning, overeating or even eating binges in many situations, weight gain or failure to lose weight over time, and a tendency to overeat when stressed or upset in any way.

More transient factors, such as mood and focus of attention, also affect eating. Celebratory feasts often entail overeating, which is unhealthy if it represents frequent behaviour. Stress and negative affect can adversely influence the kinds of foods eaten, either through suppressing eating, as with grief or loneliness, or increasing not only eating but consumption of unhealthy “comfort” foods. Restrained eaters often binge eat when they experience negative affect. Negative affect seems to promote ingestion of high-fat and/or high-sugar foods. A shift in temporal focus from a long-term desire for good health to a focus on the immediate pleasures of the unhealthy but good-tasting food impairs one’s ability to continue striving for the distant goal of being healthy. Conversely, being aware of one’s eating or self-monitoring intake can prevent overeating and help to change intake of specific nutrients (i.e., reducing fat or increasing fibre), but may also lead to perceptions that “reduced fat” foods are less tasty.

It is evident that everyone is influenced dramatically by physical environmental cues concerning eating. For example, increased portion sizes and marketing of high-fat, high-sugar foods have both been identified as contributors to the increasing prevalence of overweight and obesity in North America. Similarly, the eating situation affects what and how much gets eaten: people who eat while distracted by
television or movies may eat more food, and the food they select is less likely to be low energy or low fat.\textsuperscript{24} Moreover, people recognize the influence of environmental factors on other people, but do not acknowledge a similar influence on themselves, even though those effects may be profound.\textsuperscript{25} If the role of the environment is to be diminished, we must a) explore and systematically articulate these influences, b) make people more aware of the impact that such influences are having on them, and c) create helpful social and physical environments. Many environmental influences gain power from the fact that they operate below the level of the individual’s awareness.\textsuperscript{25} If we remain oblivious to the influence of collective factors, those factors will continue to exert their pernicious influence by allowing us to feel psychologically comfortable with intakes that are actually physically excessive.\textsuperscript{26}

The presence of other people during an eating episode is also a collective factor. Extensive research indicates that the presence of others has profound effects on food intake, often distorting intake away from what would be judged a healthy amount or healthy types of food.\textsuperscript{26} The effect of the presence of others on eating may best be understood in terms of three separate social situations – modeling, social facilitation (increased eating with others) and impression management (using eating to make an impression on others) – although all of them probably operate through their influence on perceived consumption norms. People use social cues to decide how much they can eat without attracting negative social judgments from others.\textsuperscript{26} The family may be regarded as a special source of social influence and has a strong impact on food selection and eating patterns. For example, studies show that one way to reduce dietary fat in people’s diets is to change what other family members are eating.\textsuperscript{27} The family also contributes to disturbed eating behaviours and eating disorders,\textsuperscript{28} increased consumption in overweight children,\textsuperscript{29} and amounts of fruit and vegetables consumed.\textsuperscript{30}

The amount that one eats can make one feel good or bad about oneself (good for eating only a small amount of an unhealthy food or bad for eating a lot of the unhealthy food).\textsuperscript{31,32} Similarly, people are influenced in several ways by which particular foods they choose to eat (e.g., being pleased with oneself for eating healthier foods and avoiding unhealthy ones, or seeking relief from distress by eating a particular comfort food).\textsuperscript{4} Restricting one’s eating, commonly referred to as “dieting”, actually causes overeating, even in animals.\textsuperscript{32} Binge eating is a consequence of semi-starvation in victims of war and famine, and in volunteers in starvation experiments.\textsuperscript{33} Starvation-induced behaviours, in addition to binging, include bizarre mixing of ingredients and adulteration of food; eating inappropriate, soiled or discarded food; secrecy, deception and defensiveness.\textsuperscript{39} Even normal dieting can produce depression and anxiety of mild to severe proportions,\textsuperscript{34,35} or happiness when dieting is successful and perceived excess weight is lost.\textsuperscript{31} There is also a correlation between healthy eating and positive mood, though it is not clear which causes which.\textsuperscript{36} For example, eating breakfast improves mood.\textsuperscript{37} People often use eating specifically to alter their emotional state.\textsuperscript{38} They also use their eating to influence how other people view them, and other people’s eating can affect their own mood and self-image if they deviate from the behaviour of the group.\textsuperscript{36}

**GAPS IN THE LITERATURE**

Why does distress or negative emotion cause some people to overeat (especially to overeat unhealthy foods) and others to undereat? We know that distress increases consumption of high-sugar and high-fat foods and snacks, and unhealthy “comfort” foods (often consisting of sweet or salty-fat foods such as mashed potatoes, rich cakes or chocolate in any form), but we know little about why the connection between distress and unhealthy eating exists, or whether it holds for all types of negative affect. Conversely, severe depression or anxiety reduces some people’s intake to a minimum, putting them at risk of caloric insufficiency. The question of how emotion and stress affect eating in different people at different times needs clarification. Healthy eating must be achieved as a sustainable lifestyle rather than as a short-term corrective that may dissipate in the face of negative affect.

What factors promote dysfunctional eating, particularly in young women? Eating disorders may not be as prevalent a problem as obesity is, but subclinical variants do affect large numbers of young women. From a population perspective, then, mental health issues that contribute to eating disorders also pose a serious health risk. Does focussing on healthy eating and weight help to prevent disordered eating and eating disorders, or does it exacerbate the problem? Although we have identified a connection between some factors, such as a negative body image, low self-esteem and chronic dieting, and the development of eating disorders, we do not yet know how these associations work or whether other factors are involved.

What impact do low self-esteem and poor body image have on food selection and eating behaviour? Higher self-esteem is associated with healthy eating and lower self-esteem with overconsumption and the development of disordered eating. The same seems to be true for body image, which is itself connected to self-esteem. Are these two factors independently related to eating, or do they interact? Given the frequency of problems with self-esteem and body image, could these be contributing to overeating and obesity, as well as eating disorders? To date, attention has been directed primarily at the eating disorders connection, ignoring the impact of negative self-image on overeating and weight.

To what extent do personality, mood and collective factors interact to control eating? Making sense of the information we have about what promotes or interferes with healthy eating is necessary before we can move forward on a large scale. Some studies have begun to explore the interactive effects of personality, mood and environmental influences, but more systematic investigation of these interactive effects is required before we can design programs appropriate for different people in different milieus.

We still do not understand what determines healthy eating or how to induce people to undertake these behaviours. The literature indicates that when people feel better about themselves, they eat in a healthier manner than when they feel bad about themselves. Conversely, eating well can help us to feel better, which should
encourage healthy eating. Paying attention to our own eating (self-monitoring) or changing our temporal focus seem to be ways to help us to achieve healthy eating, but what other sorts of behaviours promote healthy eating?

How do dieting and weight loss affect mental health and eating? The literature on the effects of restricting energy intake on mental health (and vice versa) is voluminous but full of contradictions. More work is needed to separate the effects of actual energy restriction and weight loss from those of psychological deprivation and resentment. Does restriction cause overeating, or does the psychological feeling of being deprived of desired foods result in overeating when those foods become available? Additional research is also needed in order to determine the extent to which dieting-induced weight loss versus unintentional weight loss is associated with differential (mental and physical) health outcomes.

How does portion size exert its effects on eating behaviour? Some phenomena appear to be well established, but a compelling explanation for them has not been provided or empirically supported. For instance, we know that portion size powerfully affects food intake, often in a detrimental way. It is not clear how portion size exerts its effects, however. Testing the proposal that portion size controls intake by defining the limit beyond which eating would be excessive requires disconnecting the linkage between portion size and judgments of appetiveness.

In conclusion, we are beginning to gain some understanding of the bi-directional relation between mental health and eating behaviours, but further knowledge is necessary to allow us to apply what we are learning in order to promote healthy eating while supporting psychological well-being.

REFERENCES