

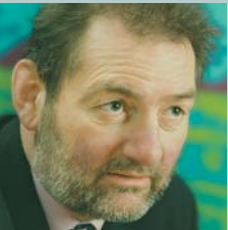
ESRC

ESRC Seminar Series

Mapping the public policy landscape

Tackling Obesity – Changing Behaviour





Foreword

This seminar on obesity is the fourth in a series in which the Economic and Social Research Council presents independent research in key policy areas to potential users in government, politics, the media, and the private and voluntary sectors. We were delighted to have been given the opportunity to integrate this seminar in the form of a workshop in the Department of Health's summit on obesity, Choosing Health? Achieving a balance between diet and exercise.

Britain's growing obesity problem is one of today's major policy issues for the government. Where does responsibility lie and how should the problem be tackled?

To some extent responsibility must lie with the individual and changing individuals' behaviour is a complex issue. There is a frequent psychological conflict between what we as individuals desire and our need to stay healthy. This seminar explores some of the barriers to behavioural change and what lessons practitioners can learn when designing interventions that promote health. It will also explore the effect of people's non-conscious attitudes on behaviour.

Research into behaviour is only a fraction of the high-quality research that the ESRC funds. We address a wide range of economic and social concerns of importance to business, the voluntary sector and government.

We hope that you find this booklet, which includes a summary of the workshop, invaluable. We also see this as an opportunity to further establish dialogue with the users of our research and welcome any subsequent contact.

A handwritten signature in black ink, which appears to read 'Ian Diamond'. The signature is fluid and cursive.

Professor Ian Diamond AcSS
Chief Executive
Economic and Social Research Council



Executive summary

Introduction

Unless people have an abnormally high metabolism, the only way they can stay healthy is to fight the fat storing mechanism that was designed to help early man face periods of famine. They must be discerning about what they eat and take regular exercise to use up the excess calories they consume. However, there is often a psychological conflict between what we desire to do and our need to stay healthy.

Health practitioners and policymakers often forget about this psychological struggle when they design interventions to promote health. Most of these efforts focus on telling people which foods and exercise patterns are healthy and which are not. Although such information about a healthy lifestyle is very important, it is not enough to change people's behaviour.

This paper outlines four psychological obstacles that inhibit behaviour change in relation to obesity. People have the potential to overcome these obstacles, but there are important gaps in our knowledge about how this can be achieved.

1. Resistance to temptation requires psychological effort;
2. Ambivalence to healthy options leads to a close scrutiny of health messages;
3. Non-conscious attitudes may be difficult to change;
4. People take their health for granted and do not question its value.

Research insights

- Non-healthy choices are tempting and it requires considerable effort to resist cravings for unhealthy foods and to make time for exercise. The required amount of effort increases as people perceive more freedom to choose whether or not to have the unhealthy option, and stress may make it more difficult to exert this effort.
- People have conflicting attitudes to healthy options – they know they are good for them, but find them unattractive or difficult. This ambivalence could cause health information to backfire.
- Non-conscious attitudes are important because people often possess feelings that they are unable to retrieve from their memories, or are unwilling to admit to others. These non-conscious attitudes may be particularly important causes of spontaneous, unhealthy behaviours.
- People take the importance of their health for granted and are unable to explain why they value it. This may change only when they suffer a heart attack or other serious illness that gives them good reason to seek better health.

Policy implications

- The most obvious way to address people's ambivalence to healthy options is by giving them messages that make the unhealthy options seem less attractive and the healthy options more attractive;
- Attempts to induce healthy behaviour change should consider the potential power of making people rethink the importance of good health;
- Even well-intended messages can backfire because ambivalence elicits an uncomfortable state which people prefer to avoid by resolving their feelings one way or another. Messages must therefore be designed very carefully to succeed.
- Attempts to help people adopt healthy behaviour must also overcome non-conscious negativity.
- People who design interventions to target obesity should be careful not to stigmatise obese people. It is their behaviour that leads to obesity and not the individuals themselves.

Social Psychological Factors in Health Promotion

Obstacles to Behaviour Change

Greg R Maio

Cardiff University

Professor Greg Maio was appointed as Lecturer in Psychology at Cardiff University in 1997, and now holds the post of Chair in Psychology. He has written over 40 publications, including two books, chapters in respected Handbooks and specialist volumes, and 25 journal articles. He is the recipient of a Canadian Governor-General's Gold Medal (1997) and the 2001 BPS Spearman Medal.



Workshop: The psychology of behavioural change in obesity

The workshop was attended by about 20 academics and practitioners, including psychiatrists, GPs and psychologists.

Professor Greg Maio led the hour-long session, beginning with an introduction to his research on the psychological aspects of changing behaviour related to obesity. He told the group that the mass of conflicting advice about health issues had made people very confused and that this was a major obstacle to behaviour change. He said that simply providing information was not enough to make people adopt a healthy lifestyle. For instance, if they ate unhealthy foods because they were stressed, it would be more effective to help them deal with stress rather than to bombard them with advice on eating habits and exercise.

A retired psychiatrist in the group told the meeting that in his experience many people simply didn't care about their unhealthy behaviour because they were depressed. Speaking as a Muslim, he said that some people were very receptive to an approach based on the tenets of Holy Scripture and that this could result in very quick behaviour change.

In reply, Maio stressed the importance of individual differences in biology and culture. He emphasised that policymakers should target the behaviour, rather than the individual. There was some discussion about the difference between eliciting guilt and 'shame' through publicity campaigns and the role of will power in promoting behaviour change. It was agreed that calling on people to use will power was not helpful and that behaviour change would only occur if the environment were changed to make it easier for people to make healthier choices.

Some of the group were particularly concerned about obesity among young people and whether this was related to stress levels in the school system. It was agreed that this would be a productive avenue to research. Maio said that it was well known that students ate and drank a lot during exams, but there was no evidence to link this to obesity.

Another member of the group suggested that sustaining behaviour change was quite different from effecting change. He said that one method was to build competing habits to overcome old patterns. There was some discussion about the usefulness of applying the 12 step model to obesity.

Another speaker raised the question of social pressure on changing attitudes. Maio agreed that the environment was also 'other people'. He said that we should think about building cohesive groups trying to create a healthy environment. He cited the example of the London Marathon, which included numerous teams of individuals who supported each other.

Several members of the group brought up the question of empowerment. One speaker argued that doing unhealthy things was often the one way in which disempowered people felt they could control their lives. Another said that many people felt that they had no choice, because healthy choices were too expensive. It was agreed that policymakers should think in terms of 'empowered choices', rather than simply 'informed choices'.

There was some debate about whether unhealthy choices were inherently more attractive, or simply more accessible. Maio told the meeting that a level playing field would make both options attractive.

The meeting also discussed the relevance of targets in obesity. It was agreed that positive targets, like walking a certain number of steps per day, and devising 100 ways of cutting 100 calories per day, were more useful than ideal weight targets.



Social psychological factors in health promotion:

Obstacles to behaviour change

Obesity is unusual because it is clearly both a biological and a social phenomenon. Research on the biological aspects inform us that fat is an efficient mechanism for storing fuel and that we may have evolved with a built-in need to store fat reserves for use during periods of famine (Stunkard et al 1986).

This mechanism served humankind well in the past, but is not well suited to our present environment, where calorie-rich food is plentiful and comparatively easy to obtain. Now, people who lack abnormally high metabolisms find that the only way they can stay healthy is to fight this mechanism that worked so well before.

People should no longer say 'Yes' to every morsel they see, and they must commit themselves to recreational activities that help them expend the excess calories that they consume.

The result is frequent psychological conflict between what we desire and our need to stay healthy. This conflict can never be removed completely; as long as there is money to be made from selling tempting things and time and energy to be saved by not exercising, people will struggle to stay healthy.

Practitioners often forget about this psychological struggle when they design interventions to promote health. Most of these efforts focus on telling people which foods and exercise patterns are healthy and which are not. Although this information is very important, it does not help people to act on the information. That is, information about a healthy lifestyle is usually insufficient to elicit behaviour change.

This paper outlines four psychological obstacles to behaviour change in the context of obesity. Despite this emphasis on obstacles, the purpose of the paper is positive. People can potentially overcome the obstacles to behaviour change, but there remain important gaps in our knowledge about how this can be achieved.

These gaps are highlighted in the discussion of each obstacle, and potential ways of addressing each obstacle are outlined.

Obstacle 1: Resistance to temptation requires psychological effort

The first obstacle is that non-healthy choices are tempting. Even the most devout vegetable lovers experience stronger cravings when they walk through the snack or dessert aisles of the supermarket than when they walk through the salad section.

Similarly, most people find it more tempting to lie in bed on a cold morning than to wake up early for a jog or vigorous walk. It requires considerable psychological effort to resist the temptations of the unhealthy choices.

Several studies illustrate how hard people must work to overcome temptation (Lima, Thomas & Maio, 2004). In one of the studies, young teenagers were given the opportunity to eat a large quantity of crisps, which they consumed with glee. The experimenter then presented a pitcher of a new bright-red beverage, 'Quench', along with a written description of its positive and negative attributes.

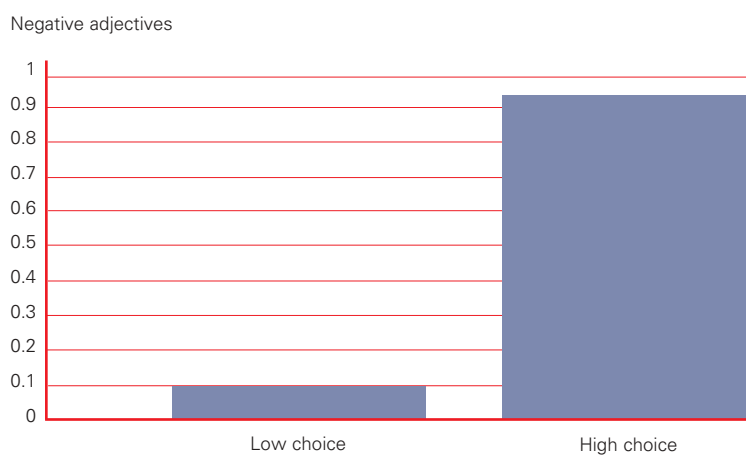
The thirsty participants were told that they could have some of the drink if they wish, but it would be better to wait until later because supplies were short. The thirsty participants then sat alone with the drink for ten minutes, while the experimenter unobtrusively videotaped them and gave them an additional questionnaire about the product. The videotape and questionnaire helped the experimenter to assess the ways in which participants coped with their temptation to drink the beverage.

Analyses revealed that the participants tried a range of coping strategies. Some participants moved the tasty-looking juice away from them. Others tried to focus attention on other materials that were available in the lab (eg magazines) or tried to focus on the negative (not positive) aspects of the objects in the questionnaire that the experimenter had given to them.

In addition, participants even created negative attributes of the drinks (eg that it was 'too sweet') that were never mentioned in the initial, brief descriptions.



Figure 1 Resistance to temptation



These behaviours betray a high amount of psychological effort aimed at combating temptation. More important, this effort occurred more strongly when the experimenter emphasised that participants were free to choose whether or not to consume the beverage than when this freedom of choice was implicit, but not mentioned.

This freedom of choice is also apparent in real-world choices over what to eat and whether to exercise, which makes it interesting that these are precisely the circumstances where people exert the most effort to resist temptation.

It is important to design interventions that aid people's ability to resist temptation. Stress is one inhibitor of resistance to temptation; stress makes it more difficult for people to exert the substantial psychological effort that is necessary to control their mental responses and behaviour (Muraven & Baumeister, 2000).

When people experience stress, their mental resources are consumed with the emotions and thoughts that pertain to the stressor, and there is little capacity left to focus on other tasks, such as resisting a tempting treat.

This effect of stress on the ability to exert self-control may partly explain why many people respond to stress with increased calorie consumption (Lattimore & Caswell, 2004). Programs that help people reduce and cope with stress in healthy ways may help them to better resist temptation from unhealthy choices.

Programs could also involve encouraging the removal of tempting objects from work and home environments. Such restructuring of the environment is important because it can help to change unhealthy habits.

In general, habits are the most formidable obstacles to behaviour change, because habitual behaviours occur automatically, with little conscious thought (Wood, Quinn & Kashy, 2002). As a result, they present little opportunity for people to stop, reflect, and change the behaviour.

One way to defeat habits, however, is to remove cues that trigger the habits from the environment, and replace them with cues to different actions. This approach should help to minimise the effort needed to resist temptation.





Obstacle 2: Ambivalence elicits message scrutiny

The second obstacle is that people's attitudes toward healthy options may be at least somewhat conflicted. People generally believe that the healthy options are good for them and can tell you that exercise and adjustments to their diet will help them to be healthier.

At the same time, people's feelings and behaviours toward the options reveal negative aspects. For example, healthier eating options may seem less attractive, and it may be difficult to find time to exercise. This situation leads to a state of attitudinal ambivalence or conflict, and is evident to some extent even in younger, healthier people's attitudes toward food and exercise (Esses & Maio, 2002).

The most obvious way to address this ambivalence is by creating informational messages that somehow make the unhealthy options seem less attractive and the healthy options seem more attractive. Unfortunately, however, there is good reason to doubt the efficacy of such persuasive interventions on ambivalent individuals.

This is because ambivalence elicits an uncomfortable state that people prefer to avoid by resolving their feelings one way or another (Festinger, 1957). As a result, ambivalent people carefully scrutinise any information that can help resolve their conflict, while avoiding information that threatens to exacerbate the conflict.

A message that promotes healthy options may appeal to ambivalent individuals as a potential means to reduce their inner conflict, but these people would nonetheless scrutinise the messages carefully. As a result, they should be more likely to pick out flaws in the messages when the messages are overly simplistic, and form more negative attitudes and behaviours toward the healthy options after detecting the flaws.

Although there are not yet any data that examine this effect in the context of healthy behaviours, a series of ESRC-sponsored studies have demonstrated this effect in another domain (Maio, Watt, Hewstone & Rees, 2004).

Specifically, these studies examined ambivalence toward ethnic minority groups, because people who are not members of ethnic minority groups tend to feel conflict between the value that they place on the ideal of equality and their negative stereotypes of ethnic minority groups.

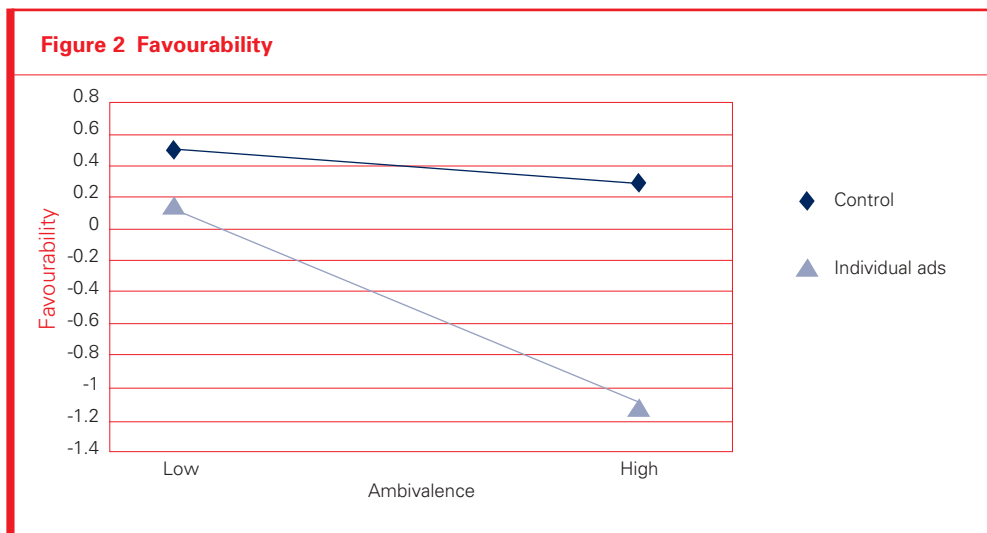
The research tested whether people who possess higher levels of this ambivalence scrutinise anti-racism messages more closely than less ambivalent people, leading to even more negative attitudes toward ethnic minority groups among people who are initially ambivalent toward them.

This hypothesis was testing using a range of anti-racism messages, including some used by Britain's Commission for Racial Equality. Each message contained only one easy-to-comprehend argument (eg 'multiculturalism increases prosperity') and lacked any additional detailed argumentation.



The results revealed an ironic backlash of these messages even when there were delays of several months between the measurement of ambivalence and the presentation of the anti-racism messages.

In addition, the anti-racism messages elicited more prejudice among ambivalent individuals both on non-conscious measures of attitude (which are described below) and on self-report measures of conscious attitudes toward ethnic minorities (which were assessed using survey questions).



Thus, even well-intended messages can backfire among people who are ambivalent toward an issue and messages must be designed very carefully to succeed.

Obstacle 3: Non-conscious attitudes may be difficult to change

The third obstacle is posed by people's non-conscious attitudes toward healthy options. These non-conscious attitudes are important because people often possess sentiments that they are unable to retrieve from their memories, or are unwilling to report (Fazio & Olson, 2003).

For this reason, attitude researchers have developed a variety of non-conscious measures of attitudes (eg Fazio, Jackson, Dunton & Williams, 1995; Greenwald, McGhee & Schwartz, 1998; Wittenbrink, Judd & Park, 1997). These measures tap attitudes without respondents' awareness of how this assessment is being achieved.

That is, participants may or may not be aware that they possess the positive or negative attitude that is exhibited in the non-conscious measure, but they have no awareness of or control over the attitude while it is being measured.

For example, one person may know that she dislikes spinach and exhibits this dislike on a non-conscious measure, whereas another person may not know that she dislikes spinach and yet exhibits this dislike on a non-conscious measure. Regardless, both individuals would be unaware that their attitude toward spinach was assessed by the non-conscious procedure.

One such technique presents the names of objects (eg candy, chocolate) on a computer screen and asks people to decide whether a subsequent adjective carries a positive or a negative meaning. For example, if the presented adjective is 'awful', then participants should identify it as having a negative meaning.

In contrast, the adjective 'pleasant' should be identified as having a positive meaning. It is useful to ask this question after presenting the prior name of an object because people are generally quicker to identify the meaning of good adjectives after reading the names of things that they like, and quicker to identify the meaning of bad adjectives after reading the names of things that they dislike.

For instance, because of the way in which memory works, people who possess positive non-conscious attitudes toward 'Jaffa Cakes' should be quicker to respond to 'good' adjectives than 'bad' adjectives following 'Jaffa Cakes'. The idea is that people are faster to make decisions regarding the words that evoke similar feelings to the things that they have just seen.

This knowledge can be used to calculate an index of attitude by calculating how much faster people classify the good adjective than the bad adjective after each attitude object and comparing this score across different objects.

This technique can be used even when the objects themselves are presented so quickly (eg 17ms) that they cannot be consciously recognised by participants, although they still register in the non-conscious perceptual system (eg Maio, Watt et al 2004).

More important, people who exhibit positive scores on these indices exhibit more positive behaviours toward the objects than people who exhibit negative scores on the indices. On occasion, these scores predict behaviour even better than self-report measures of attitude, although there are also instances wherein self-report measures predict behaviour better (Dovidio, Kawakami & Gaertner, 2002; Dovidio, Kawakami, Johnson, Johnson & Howard, 1997).

The evidence thus far suggests that the non-conscious measures are best suited to predicting spontaneous, non-deliberate behaviours, such as spontaneous purchases of a chocolate bar from the rack at a supermarket checkout desk.

This ability of non-conscious measures to predict behaviour makes it important to utilise them in interventions to help people achieve healthy behaviour change. It is likely that non-conscious measures of attitudes toward healthy behaviours will reveal powerful associations that interfere with healthy actions.

For example, even though people may consciously endorse exercise, they may non-consciously associate it with pain, difficulty, and exertion. Consequently, attempts to help people enact healthy behaviours must overcome any negativity that is detectable in the non-conscious measures.

It is likely that this non-conscious attitude change requires repeated interventions to change attitudes – even a single powerful message might not be enough to elicit long-term non-conscious change (Wilson, Lindsey & Schooler, 2000).



Obstacle 4: People value health without thinking

The fourth obstacle is that people take the importance of their health for granted. Health is an example of an abstract social value; other such values include freedom, equality, pleasure, and power (Schwartz, 1992). People consider such ideals to be important guiding principles in their lives and, for the most part, people's values predict their attitudes and behaviours (Bardi & Schwartz, 2003; Maio & Olson, 1994, 1995; Rokeach, 1973).

Nevertheless, when people are asked to articulate why such values are important to them, they experience great difficulty in describing their reasons (Maio & Olson, 1998). Even after five minutes, they usually can describe only two reasons, whereas they can think of about five reasons for why they would like or dislike a mundane food item, such as Coca-Cola.

In addition, people change their minds about their values after they think about their reasons, and the favourability of people's reasons for a value poorly predict how important a value is to them.

Finally, studies of how people map concepts in memory have found that people's evaluations of the importance of values are more strongly associated with their emotions regarding their values (eg helping makes them feel good) than with their cognitions about them (eg helping is often reciprocated) (Maio, Haddock, Bernard & Huskinson, 2004). Such evidence indicates that people lack articulate cognitive support for their values, such as health, suggesting that the concept of 'truism' is an appropriate metaphor for most values.

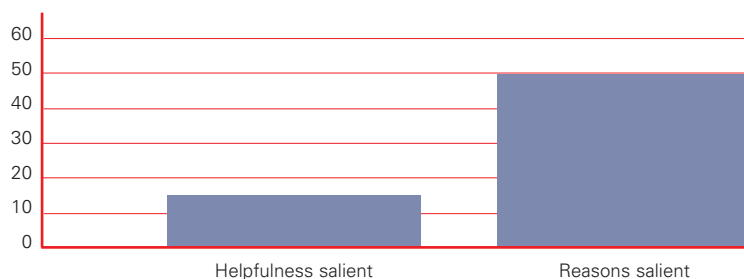
People rarely encounter arguments challenging the importance of these values; all they see are arguments over different ways to promote the values: Is the Atkins diet better than a low fat diet? Is aerobic exercise more helpful than anaerobic training? Is too much protein bad for you?

In all of these debates, health is sacrosanct, and the only issue is how to achieve it. As a result, most people do not attempt to build argumentative support for this value and it exists for them as a flimsy, unsubstantial idea. This situation might change only when they suffer a heart attack or other serious illness that makes salient tangible reasons (eg life preservation, mobility, contact with loved ones).

Some good news is that people do not have to wait for a heart attack to consider the importance of health. The impact of a value on behaviour becomes far greater when people are given the task of contemplating, for perhaps the first time in their lives, why the value is important or not important to them.

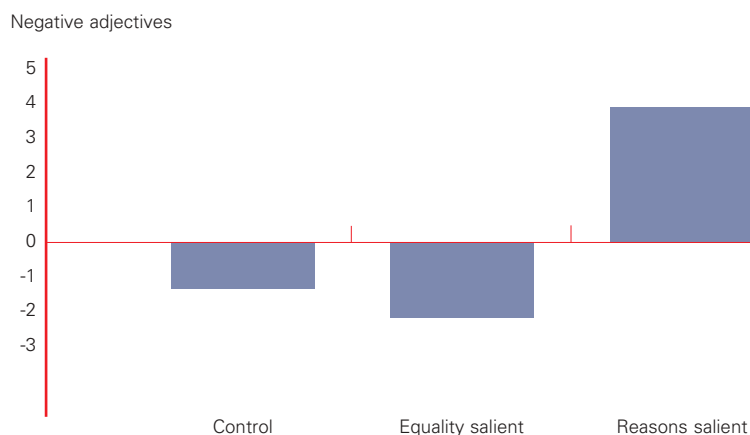
In one experiment (Maio, Olson, Allen & Bernard, 2001), people who had been given an opportunity to form reasons supporting the value of helpfulness were nearly three times more likely to volunteer to help in subsequent research than participants who were simply given tasks that reminded them of how important helpfulness is to them.

Figure 3 Time volunteered



Similarly, participants who had been given an opportunity to form reasons supporting the value of equality were much less likely to show subsequent discrimination in favour of their own group (Maio et al 2001). We are now testing whether a similar manipulation of the opportunity to actually think about reasons for and against the importance of health affects people's use of lifestyle information to implement healthier choices (Maio & Haddock, 2004).

Figure 4 Egalitarian Behaviour



Summary

This paper has illustrated how attempts to induce healthy behaviour change need to consider the psychological effort that is required to resist temptation, the critical scrutiny elicited by ambivalence toward healthy options, the hidden power of non-conscious attitudes toward healthy and unhealthy options, and the potential power of making people rethink the importance of health to them.

Several other issues merit exploration. First, social networks may be enormously helpful to people in their pursuit of a healthy lifestyle. These networks help people shape their norms for behaviour; they help people to stay on course, and they can make exercise more enjoyable. Yet, research has revealed comparatively little about how these networks function and their effects on healthy behaviour:

Second, people who design interventions to target obesity should be careful not to inadvertently stigmatise obese people. Social psychological research has amassed a lot of evidence that prejudice and discrimination against obese people is now a very important social problem in its own right, with levels of prejudice and discrimination that are even higher than the prejudice and discrimination that we see against other groups in society (Crandall, 1994).

The focus of interventions should be the behaviour that leads to obesity and not the individuals themselves.

In theory, interventions can be designed that help to address the psychological barriers to behaviour change while drawing on social support networks and not stigmatising individuals. These interventions will require an understanding of the psychological issues raised in this paper, as well as an understanding of the biological and societal factors that affect attempts at healthy behaviour change.

This multi-pronged, inter-disciplinary approach should help to bring about healthy behaviour change, thereby addressing one of the most important issues of modern living.

Obstacle		Solution?
Resistance to temptation	→	Address role of stress
Ambivalence	→	Two-sided messages
Non-conscious attitudes	→	Repeated intervention
Health as a social value	→	Value analysis

Final thought

“Stigmatise unhealthy behaviours, but not obesity or obese people.”

Greg R Maio, Cardiff University

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