Social psychological factors in tackling obesity

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Background: the role of ambivalence in healthy behaviour

In the fight to reduce rising levels of obesity, a persistent obstacle is the psychological conflict between things people want to eat – for instance, fatty or sweet foods – and good health. People have very mixed feelings and beliefs about healthy lifestyle options. They experience positive sensations from eating foods that provide excessive calorie and salt content, yet finding the time to exercise (which in itself they may find unpleasant) is difficult. People know that rich foods are bad for them but, on the other hand, they also know that moderate exercise is good for them (1). No one escapes the psychological conflict, or ‘ambivalence’ that ensues. Yet, public information campaigns insist on simply reminding people to avoid certain foods and to exercise, rather than helping to resolve this deep-seated ambivalence.

Ambivalence is an important issue because prior experimental evidence from the field of social psychology reveals it to be an important obstacle to healthy behaviour. Health-related ambivalence makes it psychologically difficult to resist the temptations of unhealthy choices.

Several studies illustrate the effort required to overcome unhealthy temptations (2). In one study, young teenagers were given the opportunity to eat a large quantity of crisps, which they consumed with glee. The experimenter then presented them with a jug of Quench, a ‘new’ bright-red drink, along with a written description of its positive and negative attributes. The thirsty participants were told that they could have some of the drink, but it would be better to wait until later because supplies were short. The participants then sat alone with the drink for 10 min. During this time, the experimenter unobtrusively videotaped them and gave them an additional questionnaire to assess the ways in which they had coped with their temptation to drink the beverage.

Analyses revealed that the participants tried a range of strategies to avoid drinking the beverage. Some participants moved the tasty-looking juice away from them. Others tried to focus attention on other materials that were available in the laboratory (e.g. magazines) or tried to highlight the negative (not positive) aspects of the drink in the questionnaire that the experimenter had given to them. In addition, participants even created negative attributes of the drink (e.g. that it was ‘too sweet’) that were never even mentioned in the initial, brief description. These behaviours betray a high amount of psychological effort aimed at combating temptation. More important, this effort occurred more strongly when the experimenter emphasized that the participants were free to choose whether or not to consume the beverage. Freedom of choice makes it more difficult to resist temptation. Other research and theory indicate that stress (3,4) and habit formation also impede the ability to resist temptation (5). Yet, choice, stress and habit are all inescapable or difficult to reduce.

Methods to reduce health-related ambivalence

So how can we help people cope with this ambivalence? Unfortunately, there is good reason to doubt the efficacy of interventions that simply provide new persuasive information. The problem is that people who are high in ambivalence towards an issue carefully scrutinise any information that can help resolve their conflict (6,7). As a result, ambiv-
alent individuals are more likely to pick out flaws in the messages when the messages are overly simplistic (e.g., ‘just say no’) and form more negative attitudes and behaviours towards the healthy options after detecting the flaws. Indeed, a series of studies sponsored by the Economic and Social Research Council have demonstrated this type of backfire when anti-racism messages are presented to people who are highly ambivalent towards ethnic-minority groups (8).

A more basic problem with a persuasive information approach is that it may fail to positively affect non-conscious evaluations of health-related behaviours. Indeed, the research on anti-racism messages revealed backfire effects of persuasive messages on implicit measures of attitude, which assess evaluations that people are unable or unwilling to retrieve from memory (9–11). Implicit measures do not ask people to directly report their attitudes but, instead, assess their attitudes without their immediate awareness or control (e.g., using subliminal presentation of stimuli). Importantly, responses on implicit measures are often discordant with self-reported (explicit) attitudes. For example, a person may explicitly report that she dislikes chocolate cake because of its perceived health impact, yet she exhibits a strong desire to eat the cake on an implicit measure (compare this with the work of Roefs et al. (12)).

This difference is important because it is the scores on the implicit measures that tend to best predict actual spontaneous behaviour (13,14). Thus, it is vital that interventions manage to influence the associations tapped by the implicit measures and not just the attitudes obtained by self-report measures. It is likely that this non-conscious attitude change requires repeated and creative interventions to change attitudes – even a single powerful message might not be enough to elicit long-term non-conscious change (15).

Potential clues to addressing this problem are revealed by important evidence that ambivalence has unique neurological properties. Using functional magnetic resonance imaging brain imaging techniques, Cunningham et al. found that regions of the prefrontal cortex (PFC), specifically the ventrolateral PFC, are more active when people make evaluations of objects that elicit ambivalence, over and above the activity associated with emotional valence and intensity, in regions such as the amygdala (16). This pattern indicates that ambivalence has unique neuropsychological substrates, which may help us understand the effects of ambivalence on behaviour.

In fact, such evidence may help to solve an interesting behavioural puzzle about ambivalence. Specifically, ambivalence tends to elicit polarized responses to the objects of the ambivalence (i.e., extremely positive or extremely negative) (1), despite eliciting enhanced scrutiny of relevant persuasive messages as described above (7). In other words, ambivalent people tend to respond in extreme ways that are consistent with salient situational factors, despite resisting direct social influence. One potential resolution is that the polarization and resistance effects occur over different timescales. The studies showing response polarization have used very obvious and immediate cues (e.g., mood; good behaviour) that may be salient within a ‘teachable moment’, when a person is still processing their conflicting evaluations. In contrast, the persuasive messages require longer periods of attention and deliberation, and they may fail, partly because they are not comprehended early enough during the person’s thoughts about an object, and before the person has begun to resolve their ambivalence in a particular direction.

Neurological scanning can be used to better track the time course of ambivalence (e.g., using event-related potential or magnetoencephalography) and to test whether situational cues have a different impact during the activation of brain regions that are associated with ambivalence than after this activation has subsided. Such evidence may reveal ways in which interventions can be shaped to use, rather than challenge, ambivalence. For example, it may be possible to develop signage or messages that give instant pictorial cues to healthy behaviour immediately after eliciting feelings of ambivalence about a behaviour. These approaches may be more successful than those that use drawn-out print messages for ambivalent topics.

Conclusion

Ambivalence and difficulties in trying to resolve it are important in the health context. It is important to develop interventions that are capable of affecting the non-conscious associations that plausibly direct many unhealthy behaviours, and the tools are present to test this possibility. There are also powerful tools (e.g., brain imaging techniques) for looking more directly at the neurological structure and consequences of health-related ambivalence. The use of such tools can coincide with attempts to explore the ways in which social psychological approaches to healthy behaviour change can be adapted to suit public health interventions. We believe that this agenda should be an important aim for future research.

Conflict of Interest Statement

No conflict of interest was declared.

References


