Emotional Factors in Initiatives to Promote Health and Safety: Effects of Mood State on Compliance

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Ever-increasing awareness of health and safety issues has led to various initiatives to promote healthier and more cautious living. This review considers the most effective approach in encouraging people to not just remember information but also to act upon it, focusing on the influence of mood state on the likelihood of initiating a change and then maintaining that behaviour. Empirical findings in relation to models of positive change are discussed. It is concluded that health and safety information can have an impact on mood regardless of the amount retained; furthermore, enhancing emotional state has important implications for compliance.

Introduction

Raising awareness of health and safety matters is an increasingly essential requirement of modem living, both at home and at work. "Positive ergonomics" (Martino & Morris, 2004) takes a "prevention rather than cure" approach, highlighting the importance of maintaining well-being and preventing potential hazards from getting to a problematic stage. This is a useful perspective to consider in the promotion of health and safety initiatives, as many of these programmes are designed to inform the public of possible risks in order to reduce the likelihood of accidents or illness. However, the success of such initiatives is not solely determined by the information given. The way in which that information is delivered has significant implications not only for the absorption and retention of the material, but also for the emotional state it evokes. Mood state encompasses a number of contributing factors, with arousal and somatic comfort just as salient as emotion in distinguishing positive moods from negative. Thayer (1996; 2001) proposed a theory of four basic moods, which result from combinations of energy and tension. Whilst calm-energy is almost always a positive mood state and tense-tiredness negative, calm-tiredness and tense-energy can have both positive and negative connotations depending on their context. This paper considers the impact of health and safety information, discussing implications of the resulting mood state in terms of compliance with commencing and maintaining the desired behaviour.

Stages of change

Models of health behaviour and positive change are used in health psychology to structure effective methods of promoting health-related material. Although the successful application of these models depends to a certain extent on the nature and context of the problem, it is clear to see that key elements can be applied to the issue of health and safety at home and in the workplace. One such model is that of the six "stages of change" - precontemplation, contemplation, planning, action, maintenance and termination (Prochaska & DiClemente, 1992; Prochaska & Norcross, 1994; Prochaska et al;, 1994). An influential model in health psychology, the stages of change framework is a useful consideration wherever the adoption of health and safety behaviours is of interest.

The precontemplation stage is typically characterised by denial of the problem in hand; during this stage a person might avoid getting information about this problem and the costs of resolving the issue are overestimated whilst the costs of not addressing the issue are underestimated (see Carr, 2004). Even though the "denial" aspect does not apply as directly to health and safety in the workplace as it does to more personal health matters such as smoking or alcohol consumption, it can nonetheless help determine the mental state needed to progress onto the subsequent stages. Here the presentation of material is important; the attention of the target audience has to be held sufficiently for them to take in and think about the information being given as opposed to dismissing it as unnecessary or irrelevant. In other words, the purpose of the delivery is to facilitate contemplation of the issue and initiate planning to adopt the particular behaviour being encouraged.

Mood, attention and retention: Contemplating the problem and planning action

Research from health and advertising suggests that a positive mood state tends to correspond to better recall of material and increased compliance. One way in which mood can be enhanced is by using humour, yet findings on the benefits of humour are mixed. Emotional response has been reported to blunt the degree of attention that viewers can pay to advertising (Bushman, 1998; Furnham et al., 1998), with violent and humorous programmes linked with low recall of advertising material. However, Morris et al., 1 (reported in this volume) demonstrated that using images and amusing soundbites of the popular animated character Homer Simpson to accompany bullet points about chemical hazards in the home and workplace resulted in significantly better retention of information than using images alone. Though partly attributable to the familiar figure or "celebrity" influence, one might argue that using humour in the form of Homer's comical exclamations also improved mood.

The discrepancy between this finding and those of Bushman (1998) and Furnham et al. (1998) can be explained in two

ways. It is possible that the emotional response generated by the violent and humorous material used in these studies was too extreme, inducing a state of tense-energy rather than calm-energy. This view would be consistent with the major theories of arousal (see Eysenck, 1984), which postulate that although moderate levels of arousal are ideal for optimum cognitive performance, excessive or negative forms of arousal such as anxiety can impair performance. Alternatively, the differences could be a function of the cognitive effort, or "need for cognition" involved in processing the material (see Cacioppo & Petty, 1982). According to Zhang (1996), humour is a useful device to promote a product when little cognitive effort is required to decide whether the product is desirable or unwanted. With certain health behaviours, such as smoking cessation, this may not be appropriate as a great deal of thought is likely to be given to such a decision, but in the context of promoting health and safety this could be a practical strategy to employ. As Morris et al., 1 (this volume) point out, arriving at the view that it is good to increase one's awareness of potential hazards at home and in the workplace is unlikely to require profound thought. Overall these studies suggest that calm-energy is the ideal mood state for attending to and retaining information that has a relatively low need for cognition.

Mood and compliance: initiating action and maintaining health behaviour

The level of attention paid to health and safety information is not only fundamental to the amount remembered, but also affects the probability of complying with that information. However, the nature of this attention is important. Studies of the relationship between mood and the initiation of health-related changes support the retention findings, indicating that a calm and positive mood state increases compliance and chances of success. Orleans (1985) discussed medical advice given by physicians to aid smoking cessation, asserting that scare tactics were unhelpful - positive approaches, namely outlining the health benefits of cessation, reassuring patients of the temporary nature of unpleasant withdrawal symptoms and enhancing their motives and confidence, were considered to be more beneficial.

An explanation of the cognitive processes underlying these effects can be found in a study by van der Velde & van der Pligt (1991), who examined predictors of sexual health behaviour and behavioural intentions in relation to the protection motivation theory. Protection motivation theory (Rogers, 1985) considers the roles of severity of and susceptibility to a risk, the perceived effectiveness of change, self-efficacy in 'carrying out that change, and emotional response to education or information about the risk or danger. These components are influenced by the information so that a coping response is generated - this response is either adaptive (e.g. an intention to change behaviour) or maladaptive (e.g. avoidance or denial of the problem). They discovered that although there was a relationship between fear and behavioural intentions, the relationship was less evident when fear levels were high. It was proposed that when experiencing excess fear, attention may be redirected towards reducing anxiety rather than changing behaviour to avoid danger. Again consistent with arousal theory, it seems that bringing about a state of tension rather than calm-energy is more likely to hinder progress to change.

More recently, Morris et al., 2 (reported in this volume) gave participants a short presentation on a fictional disease resembling Ebola. Despite retaining the same amount of information, those who received the symptoms before the prognosis showed a significant positive shift in mood compared with those who received the prognosis first and a neutral control group. It was concluded that health promotions should be structured to maximise mood state rather than evoke fear. Arousing intense emotions can motivate a person into initiating change, (Carr, 2004), but it could be argued that the influence of these emotions depends on the situation in which information is given. Emotions such as fear and guilt can sometimes serve as stimuli for maximising health when there is great personal relevance, but for more general health and safety issues one of the difficulties in encouraging compliance may well lie with the fact that self-reference may not be immediately apparent. This fits Zhang's (1996) view that using humour is less suitable for information with a greater need for cognition. Nonetheless, even information with more serious connotations should be treated with caution where inducing fear is concerned, as excess levels are liable to interfere with one's ability to contemplate and tackle the problem.

Now that the issue in question has been acknowledged and acted upon, the final stage is to continue with that behaviour, with "termination" referring to the successful assimilation of the desired routine. Prochaska et al. (1994) examined the pros and cons of change at the different stages of change. In order to progress safely into the "action" stage with a good chance of success, the pros from the precontemplation stage to the action stage must increase by one standard deviation and the cons must decrease by half a standard deviation. As the stages progress further to the maintenance of that behaviour, the pros should continue to increase as the cons decrease. This emphasises the strong subjective component in the effectiveness of any health promotion campaign, and relates back to the role of self-efficacy in protection motivation theory; the individual's belief of their self-efficacy in carrying out the necessary change has considerable implications for the resulting coping response. As Orleans (1985) suggests, people are more likely to respond positively to health advice when their motives and confidence are augmented. Encouraging a calm and positive mood state when disseminating. health and safety information is thus expected to be more effective than scare tactics in persuading an audience to adopt and maintain health- and safety-conscious habits.

Conclusions and recommendations

It is clear that health and safety information can have an impact on mood regardless of how much is actually retained.

Nevertheless the resulting emotional state can influence the extent to which information is taken on board, though the degree and nature of this influence depends on the context of the information and the kind of mood it elicits: Whilst emotions such as fear and guilt may sometimes help to motivate a person into initiating a change, extreme emotional responses can blunt attention to information and inducing anxiety may encourage maladaptive coping strategies, hindering progress. to change. It is therefore recommended that:

1. Enhancing mood by use of humour may be appropriate when the material being presented does not require complex thought;
2. Using scare tactics to provoke an extreme emotional state should be avoided when disseminating public health and safety information;
3. Health and safety initiatives should be structured in order to maximise mood state encouraging self-confidence with regards to initiating and maintaining positive change.

References

Bushman, BJ. (1998). Effects of television violence on memory for commercial messages. Journal of Experimental Psychology: Applied, 4, 291-307.

Cacioppo, J. & Petty, R. (1982). The need for cognition. Journal of Personality and Social Psychology, 42, 116-131.

Carr, A. (2004). Positive Psychology: The Science of Happiness of Human Strengths, Hove, East Sussex: Brunner-Routledge.

Eysenck, M.W (1984). A Handbook of Cognitive Psychology. London: Lawrence Erlbaum Associates.

Furnham, A., Gunter, B. & Walsh, D. (1998). Effects of programme content on memory of humorous television. Applied Cognitive Psychology, 12, 555-567.

Martino, 0.1. & Morris, N. (2004). Positive Ergonomics: Improving mood before the working day begins. In P.T. McCabe (Ed.) Contemporary Ergonomics 2004 (pp. 425--429). New York: CRC Press.

Morris, N., Fullwood, C. & Martino, 0.1. 1 (this volume). Using Homer Simpson to promote safety.

Morris, N., Martino, 0.1. & Fullwood, C. 2 (this volume). Manipulating the impact of public health information on mood.

Orleans, C.T. (1985). Understanding and promoting smoking cessation: Overview and guidelines for physician intervention. Annual Review of Medicine, 36, 51-61.

Prochaska, J. & DiClemente, C. (1992). The transtheoretical approach. In J. Norcross and M. Goldfried (Eds.). Handbook of Psychotherapy Integration (pp. 300-334). New York: Basic Books.

Prochaska, J. & Norcross, J. (1994). *Systems of Psychotherapy: A Transtheoretical Analysis* (3rd edn.). Pacific Grove, CA: Brooks/Cole.

Prochaska, J., Norcross, J. & DiClemente, C. (1994). *Changing/or Good.* New York: Avon.

Rogers, R.W. (1985). Attitude change and information integration in fear appeals. *Psychological Reports,* 56, 179-182.

Thayer, R.E. (1996) *The Origin of Everyday Moods: Managing Energy, Tension and Stress.* New York: Oxford University Press.

Thayer, R.E. (2001). *Calm Energy.* Oxford: Oxford University Press.

Van der Velde, F.W. & van der Pligt, J. (1991). AIDS related health behaviour: Coping, protection motivation, and previous behavior. *Behavioral Medicine,* 14, 429-452.

Zhang, Y. (1996). Responses to humorous advertising: The moderating effect of need for cognition. *Journal of Advertising,* 25, 15-32.