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The role of emotion in bridging the intention–behaviour gap: The case of sports participation

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ABSTRACT

Problem: Psychological models of sports participation frequently draw on the Theory of Planned Behaviour (TPB) in order to predict health-behaviour-related intentions. While these models commonly show high predictive power with respect to intention, they often fall short in the prediction of behaviour (the 'intention–behaviour gap'). The present study contends that integrating emotional processes into TPB can substantially improve the model's predictive power over and above traditional cognitive predictors.

Method: In a longitudinal study structural equation modelling was employed to test a traditional model (based on TPB) and an extended model including emotion associated with the intention to exercise as a mediator variable. A community sample ($N = 237$) completed a questionnaire measuring the components of a traditional TPB model. Prior to each of 16 expected exercise sessions (over 8 weeks) intention to exercise and emotion associated with the intention were measured.

Results: Results confirmed a substantial increase of 17% in explained variance of exercise frequency and 20% in exercise duration for the extended model. Emotional appraisal of the intention to exercise thus appears to mediate the traditional intention–behaviour relationship, suggesting that emotionally based interventions aimed at increasing sports participation may be helpful.

Conclusion: It is concluded that emotion variables should be added to traditional TPB models in order to predict health behaviour more fully.

Regular physical activity is an important component of a healthy lifestyle (Pate, Dowda, O'Neill, & Ward, 2007). Empirical results show that participation in physical activity is low in significant proportions of the population (Dishman & Buckworth, 2001; Martinez-Gonzalez et al., 2001) and that interventions designed to increase sports participation do not always have the desired effect on behaviour despite increasing intention in participants to become physically more active (Milne, Orbell, & Sheeran, 2002).

A number of social and health behaviours have been studied in relation to the theory of planned behaviour (TPB, Ajzen, 1991), which contends that intention is a primary predictor of subsequent behaviour (Armitage & Conner, 2000; Wallston & Armstrong, 2002). TPB postulates that behaviour is determined by behavioural intentions and perceived behavioural control (PBC). Intentions are defined as explicit, behaviourally orientated decisions to act, i.e. formulations of goal states which are achievable through behaviour. They are independently influenced by subjective norms, which relate to perceived expectations of others, and attitudes which can be positive or negative towards the specific intended behaviour. PBC, which is defined as the perception of subjective control at the point of translation of goal states into actual behaviour, predicts behaviour both directly and via intentions (Hagger, Chatzisarantis, & Biddle, 2002).

Applications of TPB to the relationship between intention to exercise and subsequent behaviour have revealed that 45% of the variance in intention can be predicted from PBC, subjective norms and attitudes but only 27% of the variance in exercise behaviour can be predicted on the basis of intention (based on Hagger et al.'s (2002) meta-analysis of 72 studies). Sutton's (1998) review also indicated that 19–38% of the variance in behaviour can be explained by intention and PBC. Similarly, in a recent longitudinal study 49% of the variance in intention could be explained by PBC, subjective norms and attitudes, whereas only 22% of the variance in actual exercise behaviour could be explained (Armitage, 2005). In a related vein, an experimental study conducted by Chatzisarantis and Hagger (2005) demonstrated that attitudes can predict intentions sufficiently whereas intentions do not always lead to physical activity.

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The implication is that intention formation is well understood as it can be well predicted, but the processes involving the translation of intentions into behaviour are not fully accounted for by current models. This "intention–behaviour gap" (Sheeran, 2002) is also evident in a lack of temporal stability of the intention–behaviour relationship. Recent research has focused on cognitive variables as mediators of the intention–behaviour relationship, e.g. motivational and volitional variables. Milne et al. (2002) showed that interventions directed at volitional (aimed at implementation intention) as well as motivational variables significantly increased subsequent likelihood of exercise behaviour compared with interventions to increase motivation alone. Moreover, empirical evidence has emerged, showing that self-regulation processes (Abraham, Sheeran, & Johnston, 1998) and perceived self-efficacy (Coumeya & McAuley, 1994; Estabrooks & Carron, 1998) can explain additional variance in behaviour.

Emotions and the intention–behaviour gap

It is generally agreed in psychology that behaviour can be generated through multiple processes. Hence it is our contention that emotions act as an important missing link in the intention–behaviour gap. Conner and Armitage (1998) have already pointed out, that an important shortcoming of TPB is its exclusion of affective processes, which are crucial for the intentional process (Van der Pligt, Zeelenberg, van Dijk, de Vries, & Richard, 1998). Even though attitudes as a component of TPB are usually described to have an affective component (Eagly & Chaiken, 1993), this component seems to be so closely correlated to cognitive and behavioural components of attitudes that its (unique) impact on behaviour is hardly measurable (e.g. Dillon & Kumar, 1985). Hence we suggest adding emotions as a separate component to the TPB.

In line with Perugini and Bagozzi (2001), the nature and role of emotions as suggested here differ from attitudes mainly in two respects: 1) while our specification of emotions is focused on the intention to exercise, attitudes focus directly on the actual behaviour, 2) emotions are considered as short-term and dynamic processes. In contrast, attitudes are assumed to be learnt and disposition-like reactions to specific objects or actions. A further difference between emotions and attitudes in the present study pertains to the measurement of these constructs. In accordance with Perugini and Bagozzi (2001), we suggest using uniploar items to assess emotions (for example, the experience of e.g. 'alertness' along a continuum from 'not at all' to 'extremely') and bipolar items to assess attitudes.

The questions on how cognition (e.g. intention) and emotion interrelate and on the function of emotion in relation to action are currently unresolved and controversial questions in theories of emotion (Leventhal & Scherer, 1987; Scherer, Schorr, & Johnstone, 2001; Solomon, 2000). However, the way in which intentions may cause an emotional reaction which in turn affects subsequent behaviour is addressed in Bagozzi's theory of self-regulation (Bagozzi, 1992; Bagozzi, Baumgartner, & Pierters, 1998; Bagozzi, Moore, & Leone, 2004). This theory suggests that behaviour can be conceived as a goal-directed activity and can be studied from the perspective of trying to act, where people set goals and make plans to implement their decisions. According to this theory, the intention–emotion link may depend on the success (or failure) of the implementation of these decisions, i.e. ultimately on the success (or failure) of goal attainment. This success requires planning and continuous commitment despite potential (internal and external) barriers as well as the self-managed ability to resist upcoming temptations (Bagozzi et al., 2004).

Consequently, various impediments (e.g. lack of personal competencies, situational barriers, contradicting intentions) can lead to a negative emotional response such as frustration or sadness. In contrast, positive emotional responses such as excitement or happiness will appear in situations in which no serious barriers counteract the implementation of a person's intention. Such positive responses can enhance a person's motivation to act (Chen & Bargh, 1999) e.g. by stimulating approach or avoidance tendencies (see Carver, Sutton, & Scheier, 2000). Partly based on Carver et al.'s (2000) work, we assume that the emotional states that are activated by the formulation of intentions may support initiating (and maintaining) exercise behaviour because one feels it is a positive thing to do (approach tendency) or because of a need to avoid the negative consequences of not doing so (avoidance tendency). In line with this, Bagozzi et al. (1998) assume that the attainment of a sub goal leads to positive emotions and to the continuation of a person's current plan, while the failure to achieve a sub goal is associated with negative emotions. Consequently, positive emotions may facilitate the translation of intentions to exercise into action as well as increase the frequency and duration of physical activity. In contrast, negative emotions may lead to a decrease of the likelihood of commencing an exercise regime, as well as to a decrease of the frequency of exercise sessions and the duration of each exercise event.

There is some support for the assumption that emotions affect intention and action. Zhu and Thagard (2002) have argued that emotions significantly affect action generation (intention to act) as well as action execution and control. This means that emotions are considered to be positive or negative responses towards an intended action relevant in mediating the association between intention and behaviour. Additional support stems from qualitative studies concluding that emotional mediation of behaviour may play a role in the maintenance of exercise behaviour. Specifically, positive emotional outcomes were shown to be related to intention, motivation and behaviour in participants engaging in outdoor aerobic exercise (Marttila & Nupponen, 2000).

In sum, a variety of theoretical perspectives provide the basis for assuming that the inclusion of emotion as a mediator between intention and behaviour can lead to a significant increase in the variance accounted for in exercise behaviour. Mohiyeddini and Bauer (2007) have shown that including a single assessment of the emotional states that are activated by the formulation of the intention to exercise yielded a significant increase in the variance explained compared with traditional TBP models based only on cognitive predictors. This was the case despite a considerable time lag (4 months) between assessment of predictors of intention, intention and associated emotion on the one hand and measurement of subsequent exercise duration on the other, indicating that this may be a promising approach in addressing the intention–behaviour gap with respect to exercise behaviour. However, Mohiyeddini and Bauer (2007) excluded non-intenders and those who failed to translate their intentions to exercise into actual behaviour thus limiting the generalisability of their findings. They suggest that a longitudinal study in which cognitive and emotional components of the model are repeatedly assessed may serve to resolve the issue of whether emotion is an important additional variable in explaining variance in exercise frequency and duration. Based on these considerations, we conducted a longitudinal study to examine the predictive validity of the traditional TPB model as well as the extended TPB model in which emotions were included as a mediator variable.

The present research

In the present study the frequency and the duration of physical activity, the intention to exercise as well as the emotional appraisal of the intention were measured on 16 occasions (twice weekly) over a two month period. In line with the TPB it was expected that