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Exploring cues to sedentary behaviour as processes of physical activity action control

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Abstract

Objective: Understanding intention–behaviour relations is important in physical activity (PA) research given the large number of people who intend to be active but fail to translate these intentions into behaviour. The purpose of this study was to evaluate whether processes/cues for popular sedentary leisure-time behaviours and PA explain additional variance in PA behaviour after controlling for PA intention, and to evaluate whether these processes moderate PA intention–behaviour relations.
Design: Random population-based cross-sectional survey.
Methods: Participants were a random sample of 206 adults who completed measures of the processes of change pertaining to physical activity and four popular leisure-time behaviours (TV viewing, computer use, sedentary hobbies, and sedentary socializing) and an adapted Godin Leisure-Time Exercise Questionnaire.
Results: Results using hierarchical ordinary least-squares regression provided evidence that cognitive TV processes explain additional variance in PA behaviour and moderate PA intention–behaviour relations.
Conclusions: These results extend the prior literature on relationships between sedentary cognitions and physical activity and underscore the potential value of adding sedentary control interventions in concert with physical activity promotion.

Keywords: Processes of change; Physical activity; Exercise intentions; Transtheoretical model; Intention–behaviour gap

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Introduction

The physical and psychological benefits of regular physical activity (PA) have been well-documented, but over half of the North American Population are insufficiently active to reap these benefits (CFLRI, 2002; USDHHS, 1996). As a result, the promotion of regular PA is a public health priority. The use of behaviour change theories has been highlighted as instrumental in planning promotion campaigns (Baranowski, Anderson, & Carmack, 1998). In many theories of health behaviour, the most important proximal influence on behaviour is intention (Fishbein et al., 2001). Intention represents the summary motivation to engage in a behaviour and is often considered the central mediator of motivational and informational antecedents (Fishbein et al., 2001).

Still, the intention–behaviour correlation is often modest in health behaviour (Sheeran, 2002) and PA research (Symons Downs & Hausenblas, 2005). Thus, explanations for moderators of intention–behaviour relations or post-PA intention correlates are a current aim of several researchers (e.g., Lippke, Ziegelmann, & Schwarzer, 2004; Rhodes & Plotnikoff, 2006; Sheeran, 2002). Some of the most convincing evidence comes from the study of Gollwitzer's (1999) implementation intentions. Conceptually quite similar to goal-setting (Locke & Latham, 1990), implementation intentions represent volitional planning and contingency management of behaviour strategies that cue people to maintain their original intentions. Gollwitzer (1999) suggests that successful behaviour adherence may be facilitated via two phases: (1) a motivational phase where motives culminate in a behavioural intention and (2) a volitional phase whereby strategies, such as implementation intentions, to translate the intention into behaviour are enacted.

Overall, initial evidence for this two-phase structure in the exercise domain has been supportive in most, but not all studies (Gollwitzer & Sheeran, 2006). Still, the pragmatic utility of promoting PA intention–behaviour translation is high. For example, 87% of Canadians hold an intention to be physically active but only 46% appear to actually engage in PA (CFLRI, 2004).

The concept of strategies to promote PA transitions from intent to behaviour is, of course, not limited to the theorizing of Gollwitzer (1999). For example, the transtheoretical model of behaviour change (Prochaska & DiClemente, 1982; Prochaska & Velicer, 1997) also posits that cognitive and behavioural processes of change are essential in moving from behavioural intention to action and the similarities of the processes of change to implementation intentions are duly noted (Armitage, 2004). The five cognitive processes are Consciousness Raising (gathering information), Self-re-evaluation (considering the behavioural action on oneself), Dramatic Relief (experiencing affect), Environmental Re-evaluation (considering the consequences of the behaviour on others), and Social Liberation (attending to social norms). The five behavioural processes are Counter Conditioning (substituting new behaviours for old ones), Stimulus Control (controlling environmental cues), Reinforcement Management (rewards), Helping Relationships (social support), and Self-liberation (committing to change). Research on the efficacy of the processes of change within the transtheoretical model is mixed (Marshall & Biddle, 2001) but the behavioural processes have shown some efficacy in distinguishing those who successfully translate intention into PA from those who do not (Rhodes & Plotnikoff, 2006). Still, the application of the processes of change to understanding intention–behaviour relations is understudied and requires further validation.