



## Self-regulatory efficacy's role in the relationship between exercise identity and perceptions of and actual exercise behaviour



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### ABSTRACT

Identity theory posits that when people endorse an identity they maintain or alter their behaviour in order to behave consistently with that identity. This assertion is supported in the exercise context where strength of exercise identity relates to exercise behaviour. Less is known about self-regulatory constructs that may aid individuals in behaving consistently with their exercise identity. Self-regulatory efficacy may mediate the relationship between exercise identity and exercise given the influence of this variable on exercise self-regulation; this relationship has not been examined. Exercise identity research has focused on the relationship between identity and behaviour; yet, identity theory recognizes perceptions of identity-behaviour consistency as theoretically important. Through influencing how identity-relevant information is processed, self-regulatory efficacy may also mediate the relationship between exercise identity and perceptions of identity-behaviour consistency.

*Objective:* Identity and social cognitive theories were used to examine self-regulatory efficacy as a mediator between exercise identity and i) exercise behaviour and ii) perceptions of identity-behaviour consistency.

*Method/design:* Undergraduate students ( $n = 311$ ) were followed for 8 weeks. At baseline, participants completed demographic, exercise identity and exercise measures. After 4 weeks they reported their self-regulatory efficacy and after 8 weeks they reported their perceptions of identity-behaviour consistency and their exercise behaviour.

*Results:* Consistent with theory, self-efficacy mediated the relationship between exercise identity and both outcomes.

*Conclusions:* Findings extend the exercise identity literature by providing empirical support for self-regulatory efficacy as a mechanism through which exercise identity strength leads to exercise behaviour and the perception of behavioural consistency with exercise identity meanings.

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### Introduction

According to identity theory, identities are meanings that define who one is in the context of a role (Burke & Stets, 2009; Stets & Burke, 2003). Identity endorsement involves classification of oneself as an occupant of a role and assimilation of role meanings into oneself (Burke, 1980; Stryker & Burke, 2000). When individuals

endorse an identity, they are motivated to verify their identity by maintaining consistency between their identity meaning and their behaviour (Stets & Burke, 2003). Individuals can vary in the strength of their endorsement of a given identity (Ryan & Deci, 2003). Strength of endorsement influences the probability that behaviour will agree with identity meanings (Ryan & Deci, 2003).

#### Exercise identity strength

In the context of exercise, the strength with which individuals identify with exercise is related to a variety of behavioural

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outcomes (Strachan & Whaley, 2013) including minutes of weekly exercise (e.g., Anderson, Cychosz, & Franke, 1998; Houser-Marko & Sheldon, 2006), frequency of weekly exercise (e.g., Strachan & Brawley, 2008; Strachan, Brawley, Spink, & Glazebrook, 2010), duration and frequency of vigorous exercise (Strachan, Woodgate, Brawley, & Tse, 2005) and number of weeks of exercise participation (Anderson et al., 1998). This research suggests that exercise identity strength is associated with exercise adherence, a finding of particular interest to exercise researchers and practitioners given the general high rates of exercise non-adherence (Colley et al., 2011).

#### *The self-efficacy – identity link*

The association between exercise identity strength and exercise behaviour is coherent with identity theory; individuals are motivated to maintain consistency between their identity meaning and behaviour (Stets & Burke, 2003). Proponents of identity theory acknowledge that in order to achieve and maintain consistency, individuals may alter or maintain their behaviour (Cast & Burke, 2002). However, identity theory is not specific about the self-regulatory constructs that influence individuals to alter or maintain their behaviour as they pursue identity-congruent behaviour. The agency component of social-cognitive theory, self-efficacy – and in particular, *self-regulatory efficacy* – may represent one self-regulatory construct that influences individual efforts to maintain identity-behaviour consistency by encouraging actions that are part of the self-regulatory process. Self-regulatory efficacy represents an individual's beliefs in their ability to apply the self-regulatory skills necessary (e.g., scheduling, goal-setting, coping with challenges) to engage in a behaviour in the face of obstacles (Anderson, Wojcik, Winett, & Williams, 2006; McAuley & Mihalko, 1998). A strong sense of self-regulatory efficacy provides an increased capacity for this self-regulation (Maddux & Gosselin, 2003, 2012) through influencing goal choice, persistence at reaching goals and reactions to setbacks. Indeed, self-efficacy's impact on self-regulation has been established relative to exercise (e.g., Bauman et al., 2012).

Self-regulatory efficacy has been positively associated with exercise identity strength (Strachan & Brawley, 2008; Strachan et al., 2005). This association aligns with social cognitive theory (Bandura, 1997). Identifying oneself as an exerciser is likely, in part, the product of past experience with exercise, a known source of self-efficacy (Bandura, 1997). In turn, the self-regulatory efficacy beliefs associated with a strong exercise identity should influence self-regulation as individuals aim to behave consistently with their exercise identity meanings. That is, beliefs about self-regulatory abilities may serve as a *mechanism* through which exercise identity might affect identity-consistent exercise. While past research has established cross-sectional associations, no studies have been conducted using a prospective design to examine if self-regulatory efficacy is a potential mechanism linking exercise identity and exercise behaviour. Thus, the first purpose of our study was to prospectively test the hypothesis that self-regulatory efficacy would mediate the relationship between exercise identity and exercise behaviour.

#### *Perceptions of identity verification*

Exercise identity research has focused mainly on the relationship between exercise identity and exercise behaviour (Strachan & Whaley, 2013). While examining exercise behaviour is of practical interest, examining individuals' *perceptions* of identity-behaviour consistency is also important given that perceptions are central to identity theory (Burke & Stets, 2009). To verify their identity,

people compare situational meanings (e.g., one's perceptions of his/her recent exercise) with their personal identity meaning (e.g., the amount of exercise one needs to do to see oneself as an exerciser). Therefore, it is not simply objective behaviour (e.g., the amount of exercise in which one engaged), but also an individual's *perceptions* of consistency between situational meaning and personal identity meaning that determines if identity verification has occurred (Burke & Stets, 2009).

Higher levels of exercise are reported by individuals who report a strong exercise identity, and this exercise is related to perceived identity-behaviour consistency (Strachan, Brawley, Spink, & Jung, 2009). However, this high level of exercise may not *always* be associated with the perception that identity verification has occurred. To illustrate, the following example is provided: Two individuals engage in the same amount of exercise in a given week (e.g., 4 × 30 min). Whether this exercise is perceived as identity-consistent depends on individual perceptions of consistency between identity meaning and the situation (Stets & Burke, 2003). For person A, the identity meaning of being an exerciser may consist of engagement in 4 × 30 min of weekly exercise while for person B, 7 × 30 min of weekly exercise may characterize their exercise identity meaning. Considering these different identity meanings, person A may perceive complete consistency (100%) whereas person B may perceive inconsistency (57%), despite both individuals having engaged in the same amount of exercise. According to theory, examination of the relationship between identity and behaviour, while of practical interest, does not allow for consideration of identity verification and therefore, a true test of theory. Individuals' *perceptions* of the relative consistency of situational behaviour with identity meaning allows for this aspect of theory to be considered. It is surprising that few researchers have considered perceptions of consistency given that these perceptions are central to the identity process (Burke & Stets, 2009). In the present study, the relationship between exercise identity strength and both exercise behaviour *and* perceptions of consistency will be considered.

Self-regulatory efficacy may also act as a viable mediator between exercise identity and perceptions of identity-behaviour consistency. Self-regulatory efficacy may directly influence exercisers' perceptions of consistency. Bandura (1997) suggests that we readily notice, give importance to, and remember experiences consistent with our self-beliefs, whereas we are less likely to notice, give importance to, or remember inconsistent experiences. Strong self-efficacy beliefs may encourage individuals to readily attend to and recall aspects of the situation that are consistent with their identity meaning (e.g., the four times one exercised over the past week) and conversely disregard and minimize aspects of the situation that are inconsistent with their identity meaning (e.g., two of those four exercise sessions were cut short). This one-sided processing of information may influence perception of identity-behaviour consistency. Thus, the second purpose of our study is to determine if self-regulatory efficacy acts as a mediator between exercise identity strength and perceptions of consistency.

Our choice to examine self-regulatory efficacy as a mediator between exercise identity and both i) exercise behaviour and ii) perceptions of identity-behaviour consistency aligns with recommendations for examining mediation (Baranowski, Anderson, & Carmack, 1998; Frazier, Tix, & Barron, 2004). First, theory should drive mediator choice; self-regulatory efficacy as a mediator in this context is commensurate with identity theory and social cognitive theory. Second, the selection of a mediator should be based on previously-established relationships between the predictor and outcome, and the mediator and the outcome. Research supports an association between exercise identity strength (proposed predictor) and both the proposed outcomes of exercise (see Strachan & Whaley, 2013 for a review) and perceptions of identity-behaviour

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