Perceived autonomy support, behavioural regulations in physical education and physical activity intention

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**A B S T R A C T**

Objectives: The purpose of this study was to examine the relationships between students’ perceived autonomy support, behavioural regulations and their intentions to be physically active outside of school.

Method: Participants were 701 secondary school students aged between 13 and 17 years from Singapore. Questionnaires were used to assess perceived autonomy support, behavioural regulation, and intentions to be physically active outside school.

Results: Results supported the hypothesised model in that perceived autonomy support fosters more self-determined forms of behavioural regulations in PE. These forms of behavioural regulations in turn, enhanced more autonomous forms of intentions. The results also yielded an interesting finding that amotivation positively predicted students’ intention to be physically active outside school.

Conclusion: The findings highlight the importance of perceived autonomy support in fostering more self-determined forms of behavioural regulations in PE and intention to be physically active outside school.

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**Introduction**

One of the most important aims of PE in school was to promote regular physical activity participation among students. Although the benefits of regular physical activity participation have been widely studied and there is strong evidence to suggest that regular physical activity has important health benefits, such as cardiovascular fitness, psychological health, skeletal health and body composition (e.g., Biddle, Sallis, & Cavill, 1998; Watts, Jones, Davis, & Green, 2005), young people in many countries are consistently reporting low levels of physical activity (Armstrong, 1989; Dishman, 1994; Wang, Chia, Quek, & Liu, 2006).

According to Sallis and McKenzie (1991), positive experiences in PE can influence young people to adopt physically active adult lifestyles which can improve public health. Taylor, Blair, Cummings, Wun, and Malina (1999) echoed similar findings and argued that adolescents’ inactivity or negative experiences with physical activities track into adulthood and greatly impede the probability of them becoming physically active adults. Similarly, Shephard and Trudeau (2000) suggested that a physically active lifestyle in adulthood may originate from an active lifestyle in one’s adolescent years. Given research findings that argue about the greater likelihood of an active adolescent to become an active adult (e.g., Ntoumanis, 2005; Shephard & Trudeau, 2000), and that one major measure of the ultimate success of PE hinges on the ability of PE teachers to increase the participation rate of young people in physical activities, it is thus pertinent and important to understand the motivational, cognitive and affective processes of adolescents in PE. The purpose of this study was to examine the relationships between students’ perceived autonomy support, behavioural regulations and their intentions to be physically active outside of school.

A useful theory in understanding the motivational, cognitive and affective processes of adolescents in PE is self-determination theory (SDT; Deci & Ryan, 1985, 1991, 2000). This theoretical approach has been successfully applied to the context of education (e.g., Ryan & Deci, 2006; Vallerand, Fortier, & Guay, 1997) and sport (e.g., Hollebeak & Amorose, 2005; Thogersen-Ntoumani & Ntoumanis, 2006). Nonetheless, research adopting the SDT approach to understanding motivation in PE is scarce (Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003).

The SDT proposes that human beings have innate psychological needs for autonomy, competence and relatedness. Intrapersonal and interpersonal contexts that support the satisfaction of these needs will promote a person’s enjoyment of activities and the autonomous self-regulation of behaviours. According to Gagne (2003), people are more likely to be intrinsically motivated, that is, to do an activity simply for the enjoyment they derive from it, when they can freely choose to pursue an activity (autonomy/choice),
when they master the activity (competence) and when they feel connected and supported by important people, such as a manager, a parent, a teacher or teammates (relatedness).

In SDT, motivation for engaging in a task can be described by three distinct motivational states – amotivation, extrinsic motivation, and intrinsic motivation (Deci & Ryan, 1985). Extrinsically motivated behaviours are further characterised by four types of regulation: external regulation, introjected regulation, identified regulation and integrated regulation.

External regulation occurs when behaviour is regulated through external means such as rewards and constraints (Pelletier, Fortier, Vallerand, & Brière, 2001). For example, an individual may participate in an activity because he/she feels compelled to do so by a significant other or fears punitive measures for failure to adhere to the activity/behaviour. Introjected regulation represents the first form of internalisation. According to Ryan (1993), internalisation refers to the process by which external regulations (linked to extrinsic incentives) are transformed into regulations by the self, that is, becoming more self-determined. Although introjected regulation is a form of motivation that comes from within, it is not fully self-determined. The internalisation is only partial, as the external regulatory process is taken in but not accepted as one’s own (Williams & Deci, 1996). Introjection-based behaviours are performed to avoid guilt and shame or to gain ego enhancements and feelings of worth (Deci & Ryan, 2002). For example, an individual may take part in PE because he/she would feel bad about himself/herself if he/she did not.

In contrast, identified regulation is more autonomous or self-determined (Deci & Ryan, 1991). The behaviour is valued and perceived as being chosen out of one’s own volition. The motivation is extrinsic because the activity is not performed for itself, for pleasure or satisfaction, but instead, as a means to an end (e.g., achievement of personal goals). Nevertheless, the behaviour is self-determined because the individual has decided that the activity is beneficial and important, and thus chooses freely to perform it. In this case, the person experiences a sense of direction and purpose, instead of obligation and pressure, in performing the activity. For example, one may take part in PE because he/she wants to improve his/her sport skills.

Deci and Ryan (2002) describe integrated regulation as the basis for the most autonomous form of extrinsically motivated behaviour. Integrated regulation refers to behaviours that result when identifications have been evaluated and brought into congruence with personally endorsed values, goals and needs that are already part of the self. For instance, one may participate in PE because he/ she knows that it is very important for him/her to have a healthy lifestyle. Integrated extrinsic motivation shares many qualities with intrinsic motivation but is still considered extrinsic because the behaviours are done in order to attain personally important outcomes rather than for the inherent interest and enjoyment in the activity. Notwithstanding this, Vallerand (1997) suggested that integrated regulation is more often encountered in adults than in children as the range of behaviours that can be assimilated to the self increases over time with increased cognitive capacities and ego development (Loevinger & Blasi, 1991).

According to Deci and Ryan (1991), intrinsically motivated behaviours can occur without external rewards (e.g., prizes), are engaged in for their own sake, that is, for the pleasure, fun, and satisfaction derived from participation itself, and are optimally challenging. Activities that lead the individual to experience these feelings are intrinsically rewarding and are likely to be performed again.

The three motivational states are ordered along a self-determination continuum and movement along this continuum is in part governed by internalising motives for participating (Prusak, Treasure, Darst, & Pangrazi, 2004). The SDT further proposes that as one’s motivational state moves towards intrinsic motivation, deeper understanding, increased participation, persistence or effort, and more positive attitude will result (e.g., Reeve, 2002; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). High levels of intrinsic motivation in PE are desirable because this will mean that students will participate for reasons not limited to the influence of the setting, that is, they will be more likely to become physically active on their own.

Vallerand (1997) proposed a comprehensive model of motivational sequence which posits that the different motivational types are influenced by a number of social factors. The influence of these social factors is exerted through the satisfaction of the basic psychological needs of competence, autonomy and/or relatedness. The model predicts that the different types of motivation will lead to important cognitive, affective and behavioural consequences.

Vallerand (2001) further presented evidence that self-determined behaviours occur at different levels of generality – situational, contextual and global. In PE settings, situational context refers to how the student feels about that particular PE lesson. The contextual level reflects the attitude of the students to PE in general. The global context or global dispositions, refer to life traits (e.g., attitudes, beliefs, perceptions) that are most stable and enduring as they guide adult behaviours. He found that consistent and positive occurrences of increased self-determined behaviour in a lower level of generality will change that at a higher level. This has significant implications for PE teachers – increased self-determined behaviour at the situational level leads to that in the contextual level and ultimately shapes the global dispositions of the students, thereby fostering physically active adults.

As mentioned earlier, research adopting the SDT approach to understanding motivation in PE is scarce (Hagger et al., 2003). However, the same cannot be said of SDT research in the educational settings. Reeve (2002) presented a summary table of studies that examined motivation in the educational settings using the SDT. He concluded based on two decades of empirical work that autonomously motivated students thrived in educational settings and that students benefited when teachers supported their autonomy. He highlighted the significance of looking into students’ needs for autonomy support, especially in the context of PE where SDT research evidence is lacking.

In PE, a teacher who provides choice of behaviours and tasks, hence encouraging autonomy, reduces controlling pressures for uniform behaviour and enhances motivation (Blanchard & Vallerand, 1996; Vallerand & Losier, 1999). Nonetheless, instead of looking at motivation as a unitary phenomenon or combine to a single index called Relative Autonomy Index (Ryan & Deci, 2000), Chatzisarantis et al. (Chatzisarantis, Hagger, Biddle, Smith, & Wang, 2003) argued that different types of behavioural regulations reflect qualitatively different reasons for the behaviour chosen. Assessing each behavioural regulation separately may provide further insight into how adolescents differ in their motivational profiles (Wang & Biddle, 2001; Wang, Chatzisarantis, Spray, & Biddle, 2002).

According to the theory of planned behaviour (Ajzen, 1991), people’s overt statement of intention is the strongest predictor of behaviour. Hagger et al. (2003) proposed that intention summarised a person’s general affective and cognitive orientation towards the behaviour (attitude), the perceived pressure placed on them by significant others to participate in the target behaviour (subjective norm), and their competence-related evaluation of their faculties and capacities towards the behaviour (perceived behavioural control). As such, more self-determined forms of behavioural regulations (which effect more positive consequences or adaptive outcomes) are more likely to enhance stronger intentions from a person.

The purpose of this study was to examine the relationships between students’ perceived autonomy support, behavioural
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