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The effect of an intervention to improve newly qualified teachers' interpersonal style, students motivation and psychological need satisfaction in sport-based physical education

Damien Tessier [a,*], Philippe Sarrazin [a,**], Nikos Ntoumanis [b]

[a] Lab Sport and Social Environment, University Joseph Fourier of Grenoble, France
[b] School of Sport and Exercise Sciences, The University of Birmingham, UK

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ABSTRACT

Recent developments in self-determination theory research in the educational setting (e.g., Reeve, Deci, & Ryan, 2004), suggest that teachers' interpersonal style should be considered as consisting of three dimensions: autonomy support, structure and interpersonal involvement. Based on this theoretical proposition, the purpose of the present study was to test the effects of a training program for three physical education newly qualified teachers on the aforementioned teachers' overt behaviors and students' psychological needs satisfaction, self-determined motivation and engagement in sport-based physical education. After a baseline period of four lessons, the teachers attended an informational session on adaptive student motivation and how to support it. The training program also included individualized guidance during the last four lessons of the cycle. Results revealed that from pre- to post-intervention: (1) teachers managed to improve their teaching style in terms of all three dimensions, and (2) students were receptive to these changes, as shown by increases in their reported need satisfaction, self-determined motivation and engagement in the class.

1. Introduction

A considerable amount of research in the last two decades has examined the implications of being intrinsically or extrinsically motivated in school settings (see Reeve et al., 2004 and Ryan & Deci, 2000, for reviews). Nevertheless, much of what we know about motivation in school environments comes from survey data. Several scholars (e.g., Patrick, Anderman, Ryan, Edelin, & Midgely, 2001; Urdan & Turner, 2005) have underlined the necessity to carry out studies that enable the examination of possible causal links in order to improve our understanding of the relationship between instructional practices and student motivation. To this effect, and based on self-determination theory (SDT; e.g., Deci & Ryan, 2002), the aim of this study was to test the effects of a multidimensional motivation-based training program for physical education teachers on their teaching behaviors and their students' motivation and psychological need satisfaction.

1.1. Self-determination theory

Over the last 20 years, SDT has been established as a heuristic theoretical framework to study individuals' motivated behaviors in several life contexts, including school settings (see Deci, Vallerand, Pelletier, & Ryan, 1991; Reeve, 2002; Reeve et al., 2004 and Ryan & Deci, 2000, for reviews). According to SDT, the central concept that could explain the relationship between students' motivation and their experiences in the classroom is the degree to which their behaviors are autonomous (i.e., fully volitional, freely pursued, and wholly endorsed by the self) as opposed to controlled (i.e., pursued and directed by external or internal forces leaving students feeling like they have very little or no choice). Research clearly supports the idea that individuals have different types of motivation, ranging from high (autonomous) to low (controlled) levels of self-determination. Students can be intrinsically motivated (when they engage in learning activities for their inherent appeal), extrinsically motivated (when they engage in activities for instrumental reasons), or amotivated (when they have no motivation toward an activity).

Intrinsic motivation represents the prototype of self-determination, because a person is motivated to act for the fun or challenge entailed in the behavior rather than because of external contingencies, such as pressures or rewards. In contrast extrinsic motivation embraces a variety of behavioral regulations that vary in their

* Corresponding author. Address: Laboratoire Sport et Environnement Social E.A. 3742, UFRAPS, Université J. Fourier, Grenoble I. BP 53, 38041 Grenoble Cedex 9, France.
** Corresponding author. Address: Laboratoire Sport et Environnement Social E.A. 3742, UFRAPS, Université J. Fourier, Grenoble I. BP 53, 38041 Grenoble Cedex 9, France.
E-mail addresses: Damien.tessier@ujf-grenoble.fr (D. Tessier), philippe.sarrazin@ujf-grenoble.fr (P. Sarrazin).

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relative degree of self-determination. In an increasing degree of self-determination these regulations are: *external* (partaking in an activity because of external pressures or incentives, such as rewards, threats or punishment), *introjected* (doing an activity because of internal pressures such as guilt or shame), *identified* (pursuing an activity because one finds it important and useful) and *integrated*[1] (undertaking an activity because it is congruent with one's set of core goals and values). Finally, SDT also proposes *amotivation* which refers to the absence of both intrinsic and extrinsic motivation and represents a complete lack of self-determination and volition with respect to the target behavior (Deci & Ryan, 2000). Amotivation stems from lack competence, the belief that an activity is unimportant, and/or when an individual does not perceive contingencies between her/his behavior and desired outcome(s) (Ryan & Deci, 2000; Vallerand, 1997). In sum, intrinsic, integrated, and indentified regulations are self-determined, whereas amotivation, external and introjected regulations are non self-determined forms of motivation.

SDT-based research has shown that higher levels of self-determined motivation are related to several positive outcomes, such as student effort, academic achievement, engagement, quality of conceptual learning, preference for optimal challenge, creativity, and rates of retention (see Reeve, 2002; Ryan & Deci, 2000, for reviews). Among these outcomes, student engagement is critical for academic learning (Turner et al., 1998) and a useful concept to study from a SDT perspective in educational settings (Reeve, 2002). Referring to the behavioral intensity and emotional quality of a person's active involvement during a task (Connell, 1990; Connell & Wellborn, 1991; Reeve, Jang, Carrell, Jeon, & Barsh, 2004), engagement provides teachers with an observable manifestation of the quality of a student's motivation (Reeve, 2002). In physical education more specifically, engagement covers cognitive (i.e., students' degree of investment in learning and self-regulation), affective (i.e., students could be enthusiastic, half-hearted, or experience negative emotions such as boredom), and behavioral (i.e., students could be active *versus* passive during the lessons) aspects. Thus, engagement provides teachers with information they can more or less readily observe and monitor. Therefore, in the present study we utilized engagement as a manifest indicator of students' motivation, to complement student self-reports of their motivational regulations.

1.2. Determinants of motivation and engagement

According to Cognitive Evaluation Theory (CET; Deci & Ryan, 1985), a sub-theory within SDT that specifies factors that explain variability in intrinsic motivation, social-contextual events that foster feelings of competence and autonomy can enhance intrinsic motivation. A theoretical proposition of SDT (Deci & Ryan, 2002) is that socials factors – such as teachers' interpersonal style – can influence students' motivation and engagement by nurturing *versus* thwarting three basic psychological needs. These are the needs for autonomy (i.e., feeling the 'origin' as opposed to the 'pawn' of their actions), competence (i.e., feeling effective in their school-related interactions), and relatedness (i.e., feeling secured and meaningfully connected to others). Previous studies have conceptualized interpersonal style along a continuum that ranges from highly controlling to highly autonomy-supportive behaviors (e.g., Deci, Schwartz, Sheinman, & Ryan, 1981; see Reeve, 2002, for a review). However, recent studies (e.g., Reeve et al., 2004; Skinner & Belmont, 1993; Skinner & Edge, 2002) have expanded upon this unidimensional continuum by examining characteristics of the environment which satisfy or thwart each of the three psychological needs. In this line of work, researchers have labeled as "autonomy support", "structure" and "interpersonal involvement", the socials factors likely to nourish the needs for autonomy, competence and relatedness, respectively.

Autonomy support refers to behaviors by a person in position of authority that show respect, allow freedom of expression and action, and encourage subordinates to attend to, accept, and value their inner states, preferences, and desires (Deci & Ryan, 1987). Examples of autonomy-supportive behaviors are the provision of choice and meaningful rationale from teachers, the support of student volition and the acknowledgment of the students' perspective (Deci, Eghrari, Patrick, & Leone, 1994). The opposite of autonomy support is coercion. When teachers are coercive, pressuring, or controlling (e.g., by ushering commands and deadlines), then students' need for autonomy is threaten because they tend to experience themselves as "pawns" in the hands of teachers (Skinner & Edge, 2002).

Structure describes the extent to which a social context is structured, predictable, contingent, and consistent (Skinner & Edge, 2002). More specifically, when a teacher provides challenging tasks, negotiates clear and short-term goals, delivers contingent feedback related to students' endeavors, and encourages their effort and progress, he/she tends to nurture the students' need for competence and their self-determined motivation. This is especially the case if the components of structure are delivered in an autonomy supportive manner (Deci & Ryan, 1991). The opposite of structure is chaos. When contexts are noncontingent, uncontrollable, or chaotic, students will come to experience themselves as incompetent (Skinner & Edge, 2002).

Finally, *interpersonal involvement* refers to individuals' opportunities to feel related and belonging when they interact within a social environment that offers affection, warmth, care, and nurturance (Skinner & Edge, 2002). In school, when teachers are sympathetic, warm and affectionate with their students, when they dedicate psychological resources, such as time, energy and affection (Deci & Ryan, 1991; Reeve et al., 2004), they tend to nurture their students' relatedness and self-determined motivation. The opposite of interpersonal involvement is hostility. When teachers are hostile or neglectful, students experience themselves as unlovable and the context as untrustworthy (Skinner & Edge, 2002).

Autonomy support, structure and interpersonal involvement are independent but complementary dimensions of a teacher's interpersonal style. Student motivation thrives under condition in which teachers find ways to provide optimal structure and high autonomy support (Skinner & Belmont, 1993), because structure facilitates students' intentions to act, while autonomy support allows those formulated intentions to be self-determined and aligned with their inner resources (Reeve et al., 2004). As far as interpersonal involvement is concerned, Skinner and Edge (2002) advance the idea that a high level of interpersonal involvement is needed to provide optimal structure and to support students' autonomy.

Past studies have consistently shown the benefits of an autonomy-supportive teacher style on students' motivation, emotion, learning, and performance (see Deci & Ryan, 1987; Deci et al., 1991 and Reeve, 2002, for reviews). However, many teachers tend to use controlling strategies (Newby, 1991), and physical education teachers are not the exception (Sarrazin, Tessier, Pelletier, Trouilloud, & Chanal, 2006; Taylor, Ntoumanis, & Smith, 2009). Empirical evidence in the school environment, and in particular in physical education classes, regarding structure and involvement is relatively scarce (for an exception, see Taylor & Ntoumanis, 2007). Thus, from an applied perspective, an important question to ask is whether it is possible to help teachers improve their existing

[1] Integrated regulation was not assessed in the present study because often this regulation has not emerged as a perceived reason for participation in the physical domain (e.g., Pelletier et al., 1995).