Relation of teachers’ behaviour and motivation to learning outcomes

Prof. Dr. Vello Hein
University of Tartu, Estonia

Summary
A selected review of the studies related to antecedents and outcomes of physical education teachers’ behaviour under the basis of self-determination theory (SDT, Deci, Ryan, 1985, 2000) is presented in the article along with the analysis of several motivational sequence models with different social factors such as autonomy supportive vs controlling behaviour of the supervisor, the use of teaching methods, work pressure on different levels, and working conflict. The positive effect of psychological need of satisfactions of autonomy, competence, relatedness, negative effect of thwarting need on motivation and different outcomes (affective and behavioural) will be presented in here as well as the discussion on antecedents for the autonomy supportive and controlling teachers’ behaviour.

Keywords: teachers’ behaviour, autonomy supportive behaviour, controlling behaviour, motivation.

Review
Self-determination theory
Self-determination theory (SDT) has been extensively explored to predict various cognitive, affective, and behavioural outcomes in sport (Pelletier et al., 2001; Gagne et al., 2003; Guillet et al., 2002; Sarrazin et al., 2002) and in school physical education (PE) settings (Ntoumanis, Standage, 2009). The key element of the theory is the concern of degree to which individuals fulfil their basic psychological needs. The more needs are satisfied, the more their behaviour is self-determined. SDT positions that individuals strive to satisfy three basic and universal psychological needs: autonomy, competence, and relatedness (Deci, Ryan, 1985, 2000). The need for autonomy reflects an individual’s need to experience opportunities for choice and self-actualization. The need for competence reflects an individual’s need to feel that they have adequate capability to carry out their actions. Finally, the need for relatedness indicates the desire to feel involved or have a sense of belongingness to others. The extent of fulfilling or satisfying these needs determine the type of motivation, direction, and persistence of an individual toward goal-directed behaviour (Vallerand, 1997). Basedon and Vallerand (1997) proposed motivational sequence model. This motivational sequence model describes motivation to be influenced by a number of social factors (e.g., teacher’s behaviour, learning environment). The influence of these social factors on motivation is exerted via satisfaction of the three psychological needs (autonomy, competence, and relatedness). Lastly, the motivation will lead to cognitive, affective, and behavioural consequences (Social factors → Psychological Mediators → Motivation → Consequence).

SDT theory focuses on the extent to which three general types of intrinsic and extrinsic motivation; motivation is perceived as autonomous, controlling, or demotivating (Ryan, Deci, 2002). Autonomy implies the self-endorsement or self-initiation of one’s behaviour. The most self-determined form of motivation is intrinsic motivation that refers to engaging in activity for the pleasure and satisfaction derived from doing the activity for its own sake. Vallerand et al. (1992) differentiated three types of intrinsic motivation: intrinsic motivation to know, intrinsic motivation to accomplish, and intrinsic motivation to experience stimulation. Intrinsic motivation to know involves engaging in sport for the pleasure and satisfaction that one experiences while learning or trying something new. Intrinsic motivation to accomplish results while practicing sport contains the pleasure of outdoing oneself and process of trying to reach new personal objectives. Finally, intrinsic motivation to experience stimulation refers to engaging in sport in order to experience the pleasant sensations derived from
the activity itself. The sense of intrinsic types of motivation is represented by satisfaction, enjoyment, interest, and cognition of choice. According to Deci and Ryan (1985), behaviours of significant others (e.g., opportunities for self-direction, choice, acknowledgement of feelings), who allow people to sense a greater feeling of autonomy, enhances individuals’ intrinsic motivation.

Extrinsic motivations considered controlling in nature. Three major types of extrinsic motivation have been determined such as (Ryan et al., 1990): identified regulation (revealed when individuals value the activity), introjected regulation (motivation to engage in behaviours to avoid guilt or to seek self and other’s approval), and external regulation (motivation to engage in behaviours controlled by rewards). Externally-regulated behaviours that are less autonomous are perceived by people as deriving from outside by both, the person and self (Deci et al., 1994). Such behaviours are attained to satisfy a reward potentiality or external demand. Externally regulated individuals tend to act due to external reinforcement generally as long as the reinforcing factors are present. Finally, when individuals are neither intrinsically nor extrinsically motivated, it refers to the state of lacking the intention to act. In this case the value of activity is neglected.

**Autonomy supportive teachers’ behaviour**

The degree to which teachers adopt an autonomy supportive behaviour is considered an important source of influence on the quality of students’ motivation. A large number of studies have revealed a positive influence of perceived teachers’ autonomy supportive behaviour on students’ motivation and different learning outcomes (Barkoukis et al., 2010; Hagger et al., 2006, 2009; Hein, Caune, 2014; Pihu et al., 2008; Reeve, Jang, 2006; Reeve, Halusic, 2009; Standage et al., 2005; Standage, Gillison, 2007; Taylor et al., 2010). Hagger et al. (2009) proposed the trans-contextual model of motivation in which perceived autonomy support from teachers in a physical education context and from peers and parents in a leisure-time physical activity context predict autonomous motivation, intentions, and physical activity behaviour in a leisure-time context. Effect of perceived autonomy support from teachers on autonomous motivation in physical education context was strong among Britain, Estonia, Finland, and Hungary students whereas effects of perceived autonomy support from peers and parents on leisure-time autonomous motivation were small and inconsistent.

The motivational sequence model of Vallerand (1997) has been explored extensively to explain the antecedents of adaptive learning outcomes (Martin-Albo et al., 2012; Quested, Duda, 2011; Reeve et al., 2002; Standage, Gillison, 2007; Standage et al., 2006). Reeve et al. (2002) reported that an autonomy-supportive behaviour together with rational explaining the importance of learning activity facilitates students’ self-determined motivation, which, in turn, was associated with students’ greater effort invested in learning. Standage et al. (2006) demonstrated that the perceived autonomy support from a teacher positively predicted the needs for autonomy, competence, and relatedness, which, in turn, predicted self-determined motivation and the latter predicted teacher’s ratings on students’ effort and persistence. The statement that the perceived autonomy support from a teacher and intrinsic motivation had been predictive for effort was also later confirmed by Gillison et al., (2013). The positive effects of teachers’ autonomy support on global self-esteem and physical self-esteem have been documented by Standage and Gillison (2007) and Hein and Caune (2014).

**Controlling teachers’ behaviour**

Controlling behaviour, in contrast to autonomy supportive behaviour, may reduce the need for satisfaction; moreover, it may be source for need of thwarting (Bartholomew et al., 2011). SDT acknowledges that people can display cognitive, affective, and behavioural patterns that represent the non-optimal or darker sides of human existence (Deci, Ryan, 2000). To explain the reasons of such diminished functioning, authors proposed that the thwarting of basic psychological needs can lead to defensive or self-protective accommodations (e.g., compensatory motives or need substitutes and rigid behaviour patterns) that have significant negative effect or behavioural consequences (Demaray, Malecki, 2002; Niemiec et al., 2009; Ryan et al. 2006).

Bartholomew et al. (2011) have noted that the examining whether need for thwarting has meaningful and empirical consequences can provide new and stronger testing for SDT account of the darker sides of human behaviour. The darker sides of human behaviour such as certain types of cognition may be explained in terms of reactions to basic thwarting needs. They found, using an instrument
developed to measure psychological thwarting need for autonomy, competence, and relatedness (Psychological Need Thwarting Scale, PNTS; Bartholomew et al., 2010) that need thwarting more consistently predicted maladaptive outcomes (burnout, depression, negative effect, physical symptoms) whereas perception of the satisfaction need predicted positive outcomes such as vitality and positive affect. In the study of Assor et al., (2005), directly controlling behaviour measured by unidimensional scale was strongly related to negative emotions. Soenens and Vansteenkiste (2010) have noted that, according to SDT, a controlling style can be expressed in at least two different ways that are externally or internally controlling. Externally controlling teaching refers to the activation of a sense of external obligation in students by using controlling strategies such as punishments, pressuring reward, and explicitly controlling language like “you must” (e.g., Reeve, Jang 2006; Vansteenkiste et al., 2004). Internally controlling teaching refers to the use of strategies that activate internally pressuring forces in learners by appealing to students’ feelings of guilt, shame, anxiety, and self-worth (Vansteenkiste et al., 2005). Internally controlling strategy is more covert and insidious (Soenens, Vansteenkiste, 2010).

Recently, an instrument to measure multidimensionality of coaches’ controlling behaviour (use of rewards, negative conditional regard, intimidation, and excessive personal control) was developed by Bartholomew et al. (2010) and was later adopted for the use in physical education context (Hein et al., 2015). According to Bartholomew et al. (2009, 2010), controlling use of praise / reward by significant others refers to the use of encouraging statements aiming only to reinforce reproducing desired behaviours by their subordinates. A leader (teacher / coach) shouting at subordinates to intimidate into doing things one wants is a prime example of the use of intimidating behaviour. Negative conditional regard refers to the withdrawal of attention, affection, and support from the significant other when specified behaviours by their subordinates are not displayed. Finally, excessive behavioural control refers to behaviours adopted by significant others to impose their opinion upon their subordinates while ignoring the subordinates views and perspectives. Research has demonstrated the detrimental effect of controlling strategies of significant others on their subordinates’ basic psychological needs for autonomy, competence, and relatedness. For example, praise that was given non-contingently and inappropriately and was perceived as insincere undermined feelings of competence and autonomy (Henderlong, Lepper, 2002; Hollembeak, Amorose, 2005; Horn, 1985; Kohn, 1993). Research by D’Arrippe-Longueville et al. (1998) in a sport context revealed that coaches engaging in intimidating behaviours have a detrimental effect on the overall psychological experiences of their athletes. Mageau and Vallerand (2003) suggested that if athletes perceived their coaches to use conditional caring, either positive or negative, they would more likely to relinquish their autonomy to maintain a satisfactory relationship with their coach. Hein et al. (2015) showed that students’ perceptions of the two different dimensions of their teacher’s controlling behaviour (negative conditional regard and intimidation) were related to anger and bullying via the mediation of the perceived thwarting of their basic psychological needs.

Antecedents of autonomy supportive and controlling teaching behaviour

Over the past decade, the literature has witnessed a shift from examining the outcomes of teaching behaviour to studying its antecedents. One antecedent of teachers’ behaviour related to the pressure in their job. Such pressure is categorized into three types: pressure from above (teachers have to comply with a curriculum, with colleagues, and with performance standards), inner pressure (teachers’ own beliefs, values and their motivational orientation), and pressure from below (students’ lack of motivation, negative attitude toward school, and misbehaviour (Pelletier et al., 2002; Reeve, Halusic, 2009; Taylor et al., 2008). The more teachers perceive pressures, the less they are self-determined toward teaching. In turn, the less they are self-determined in their activity, the more they become controlling with students. According to Olesen (2011), autonomy-oriented individuals, who are considered to be more open and agreeable in terms of their personality functioning, display a more curious, caring, and receptive attitude toward others. Therefore, autonomy-oriented teachers would be interested in identifying students’ interests and viewpoints to present learning material that fits with students’ preferences. In contrast, control-oriented individuals are typically low on agreeableness (Olsen, 2011), a personality characteristics that relates negatively to hostility, interpersonal aggression and distrust in
social relationships. Control-oriented teachers may lose patience when students fail to comply with their standards and instead force them to be cooperative and quiet, that is, to act as “good” students. Roth et al. (2007) have noted that autonomous motivation for teaching promotes autonomy-supportive teaching in various ways. Firstly, authors suggest that autonomously motivated teachers possess expert knowledge in their specialist field and of the methods they use; secondly, the teachers fully understand and are sympathetic to autonomous motivation and its benefits; and thirdly, these teachers exhibit greater resilience to the pressures of achievement, are less concerned with image and favour supportive teaching methodology.

Recently, Stebbings et al. (2014) investigated the antecedents of coaches’ perceptions of their controlling and autonomy supportive behaviour. The proposed model revealed that greater job security, opportunities for professional development, and lower work life conflict were associated with psychological need of satisfaction that, in turn, was related to an adaptive process of psychological well-being and perceived autonomy support toward athletes. Coaches, who perceived their psychological needs to be satisfied, experienced enhanced well-being that, in turn, predicted coaches’ perceived use of autonomy support. In opposite, coaches, who perceived their psychological needs to be thwarted due to the lack of opportunities for professional development and existence work life conflict, experienced more psychological ill-being that, in turn, predicted coaches’ perceived use of control.

Teaching styles
Mosston’s “Spectrum of teaching styles” (Mosston, Ashworth, 2002) established a framework of possible options in the relationship between teacher and learner and was based on the central importance of decision-making. The publication (Mosston, Ashworth, 2002) incorporates eleven teaching styles (command, practice, reciprocal, self-check, inclusive, guided discovery, convergent discovery, divergent discovery, learner designed individual learning program, learner initiated, and self-teaching) based on the degree to which the teacher or the student assume responsibility for what occurs during a lesson. This describes a continuum where at one point is the direct, teacher-led approach (reproductive style) and at the other – a much more open-ended and student-centred style (productive style) where the teacher acts only as facilitator.

Roth et al. (2007) pointed out that the effect of teachers’ motivation on students’ motivation could be the direct result of teaching styles of the teacher. When the teacher uses productive styles, then the role of learner independence in the decision making process is highlighted. In this case, the use of the productive styles by the teacher may be viewed as students’ autonomy-supportive teaching and the use of reproductive styles as controlling behaviour (Heinet al., 2012).

We can draw parallel between the continuum line that illustrates the location of teaching styles and the continuum line representing the types of motivation. The types of motivation are located adjacently along a self-determination line spanning a range from highly controlled to autonomously endorsed motivation. In a similar way teaching styles are located on the continuum line spanning a range from highly controlled style (command style) to autonomously supportive teaching styles like learner initiated and self-teaching.

The correlation between observed and perceived teachers’ behaviour
Recently, research has begun to turn attention on the relationships between observed and perceived teachers’ behaviour (Van den Berghe et al., 2013; Haerens et al., 2013; De Meyeret al., 2014; Smith et al., 2015). For that several observational tools were developed (Haerens et al., 2013; De Meyer et al., 2014). These tools enabled to record teachers’ need for supportive behaviour and investigated how these were related to students’ perception of the psychological need of satisfaction or thwarting. Also, the associations between observed teachers’ behaviour and students’ motivation were observed. De Meyer et al. (2014) found that controlling teacher behaviour was related positively to students’ perceived controlling teaching behaviour through these perceptions to external motivation and demotivation. Authors noted that these associations were obtained in spite of the low incidence of controlling teaching behaviour. It allowed making suggestion that students may be quite sensitive to controlling teaching behaviour. However, not all registered teachers’ behavioural dimensions were related to the similar dimensions of students’ perceptions. Obviously, there is need to continue to elaborate and validate both, the observational tools and questionnaires to measures students’ perception the teacher behaviour.
Conclusion

The future research can be of extra value if a more insight is gained into antecedents of teachers’ behaviour and broader set of learning outcomes is investigated by multidimensional observational tools. For instance, there is a lack of knowledge how perceived controlling and autonomy supportive teachers’ behaviour measured by multiple dimensions and by observational tools is related via need of thwarting or satisfaction to the dimensions of health-related quality of life (HRQoL) such as physical health, social-, emotional- and school functioning.

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MOKYTOJŲ ELGESIO IR MOTYVACIJOS RYŠYS SU MOKINIŲ MOKYMOSI REZULTATAIS

**Prof. dr. Vello Hein**

*Tartu universiteto Fizinio aktyvumo ir sporto fakultetas*

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**SANTRAUKA**

Straipsnyje pateikiama tyrimų, susijusių su kūno kultūros mokytųjų ankstesniu elgesiu ir jo rezultatais remiantis asmeninio apsisprendimo teorija, apžvalga (SDT; Deci ir Ryan, 1985; 2000). Pateikiami tam tikri skirtų socialinių veiksnų motyvacines sekos modeliai, pavyzdžiui, savarankiškumą palaikančiu elgesiu parodomas kaip priešingybė kontroliuojančiam mokytojo elgesiu, taip pat nagrinėjami darbo aplinkos kylaissant konfliktai ir kitos problemas. Atskleidžiama mokinių psichologinio savarankiškumo poreikio patenkinimo teigiamas efektas, kompetencija ir tarpusavio santykiai, taip pat parodomas neigiamas, motyvacijos silpinantis efektas ir jo padariniai (emociinis ir elgesio). Straipsnyje taip pat aptariami ankstesni veiksniai, turėję įtakos savarankiškumą palaikančiam ir kontroliuojančiam mokytojų elgesiui.

**Raktažodžiai:** mokytojų elgesys, savarankiškumą palaikančiu elgesį motyvacija.