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Review

Do students with different motives for physical education respond differently to autonomy-supportive and controlling teaching?

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ABSTRACT

Objectives: This study examined whether the effects of autonomy-supportive and controlling teaching in physical education depend on students' motivation.
Design: A preliminary, cross-sectional study relied on questionnaires administered to teachers. The main study involved an experimental design with students.
Methods: In the preliminary study, 95 teachers reported on their beliefs regarding the effectiveness of autonomy supportive and controlling teaching styles for students with different motivational profiles. In the main study, 320 students completed a questionnaire on motivation and were then randomly assigned to an experimental condition in which they watched video-based vignettes of either an autonomy-supportive or a controlling style. After the experimental induction, students completed questionnaires on need satisfaction, need frustration, engagement, and oppositional defiance.
Results: Teachers tend to believe that autonomy support and control work best for students scoring high on, respectively, autonomous and controlled motivation. The main study, however, showed that the moderating role of student motivation in the effect of teaching style was limited. The few interactions obtained suggested that even students with poor quality motivation report that they would benefit from an autonomy-supportive approach and suffer from a controlling approach. Students in the autonomy-supportive, relative to the controlling, condition reported more engagement and less oppositional defiance, effects that were mediated by need satisfaction and frustration.
Conclusions: All students, independent of their motivational regulations when entering the experiment, reported that they would be more engaged and would show less oppositional defiance when they would interact with an autonomy-supportive instead of a controlling teacher during PE.

"Unmotivated students are a real problem. As a teacher, you need to pressure them constantly, because if you don't, they will either do nothing or they will disturb the lesson. Providing choice and explaining the purpose of the lesson only works with motivated students. With unmotivated students there is only one way to go, and that is being controlling." (Peter, teacher)

Statements like these are characteristic of teachers who believe that students with a lack of motivation or poor quality motivation are better off when being pressured by teachers. They also suggest that autonomy support would only be beneficial for already optimally motivated students. This anecdotal statement raises the question whether teachers need to match their teaching style to students' motivation or whether an autonomy-supportive style is universally effective to promote engagement. Grounded in Self-Determination Theory (SDT; Ryan & Deci, 2000), the main goal of this research was to examine whether students' type of motivation alters the effectiveness of an autonomy-supportive (relative to a controlling) teaching style in the context of physical education (PE).

Type of student motivation for PE

Student' intensity and type of motivation has been found to predict key student outcomes in PE such as engagement, physical activity, and persistence (Ntoumanis & Standage, 2009). SDT conceptualizes motivation in terms of a continuum of increasing

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autonomy ranging from a lack of motivation (amotivation), over controlled to autonomous motivation (Deci & Ryan, 2000). When students are amotivated, they lack a sense of goal-directedness and intentionality. They display low motivation to engage in the required activity because they do not value the goal served by the behaviour, because they believe the behaviour is not instrumental to reach the goal, or because they lack the competence to perform the activity (Ryan, Lynch, Vansteenkiste, & Deci, 2011).

Yet, even when students put effort in the required activity, their reasons for doing so can differ. In the case of controlled motivation, activity engagement is driven by external pressures, including the promise of good grades or the threat of punishments, or by internal pressures, such as guilt, shame, anxiety or self-worth contingencies. In contrast, autonomous motivation entails more volitional reasons for putting effort into the lesson, either because students understand and endorse the value of an activity or because they find the activity to be truly enjoyable and challenging (Deci & Ryan, 2000).

Students' type of motivation is essential for their engagement, performance, and adjustment (Ryan & Connell, 1989). Research in the context of PE has shown that autonomous motivation contributes positively to concentration (Standage, Duda, & Ntoumanis, 2005), vitality (Mouratidis, Vansteenkiste, Sideridis, & Lens, 2011), objectively recorded physical activity (Aelterman et al., 2012), and performance (Vansteenkiste, Simons, Soenens, & Lens, 2004). In contrast, controlled motivation is either unrelated or negatively related to desirable outcomes (Aelterman et al., 2012; Standage et al., 2005) and positively related to maladaptive outcomes, such as poor coping (Ryan & Connell, 1989).

Autonomy-supportive and controlling teaching

SDT specifies teachers' interaction style as an important contextual factor influencing students' motivation. Particular attention has been paid to the degree to which teachers interact with their students in an autonomy-supportive (relative to a controlling) way (Reeve, 2009). Autonomy-supportive teachers adopt the students' perspective, highlight the relevance of learning activities, offer meaningful choices, and encourage initiative taking. Controlling teachers impose their own frame of reference, thereby pressuring students to think, feel, or behave in particular ways, for instance, through the use of threats of sanction, controlling language, and guilt-induction. Correlational and experimental studies found autonomy-supportive teaching to be associated with autonomous motivation, engagement and higher grades, while controlling teaching behaviour was found to be related to amotivation and controlled motivation, disengagement, and resentment vis-à-vis the teacher (see Ntoumanis & Standage, 2009; Reeve, 2009 for overviews).

Herein, we examined the impact of an autonomy-supportive and controlling style on student engagement and oppositional defiance, two outcomes that received relatively little attention in prior experimental work. Engagement reflects students' behavioural, emotional, and cognitive involvement. It is a malleable construct which has been studied extensively (see Christenson, Reschly, & Wylie, 2012) and which yields manifold desirable outcomes, such as better learning, higher grades, and less drop-out (Skinner, Kindermann, Connell, & Wellborn, 2009; Skinner, Wellborn, & Connell, 1990). In addition, engagement is considered an observable indicator of students' underlying motivation in school in general (Reeve, Jang, Carrell, Jeon, & Barch, 2004; Skinner & Belmont, 1993) and in physical education in particular (Ferrer-Caja & Weiss, 2000; Ntoumanis, 2001). In spite of its presumed importance, engagement and its relation with underlying motivational processes has primarily received attention in correlational studies, but far less in experimental research. These correlational studies have shown that perceived autonomy-supportive teaching is related to engagement, both within and across time (e.g., Reeve, 2013).

Whereas autonomy-supportive teaching may be primarily conducive to positive outcomes, controlling teaching may elicit more negative outcomes, including oppositional defiance (Bartholomew, Ntoumanis, Ryan, Bosch, & Thogersen-Ntoumani, 2011; Vansteenkiste & Ryan, 2013). Oppositional defiance has been defined as a blunt rejection of the request of an authority figure, as reflected in a tendency to do the opposite of what is expected. It is conceived as a defensive, compensatory way of coping with a controlling environment (Skinner, Edge, Altman, & Sherwood, 2003; Vansteenkiste & Ryan, 2013). Research in the parenting context indicates that adolescents' oppositional defiance vis-à-vis their parents is related to externalizing and internalizing behavioural problems (Van Petegem, Soenens, Vansteenkiste, & Beyers, 2015). Similarly, in the context of PE, oppositional defiance as experienced during a single lesson was found to relate positively to feelings of resentment vis-à-vis the content of the lesson and the teacher (Aelterman, Vansteenkiste, Soenens, & Haerens, submitted). In addition, a few studies in the parental and educational context demonstrated that a controlling way of interacting with students is related to higher levels of oppositional defiance. Vansteenkiste, Soenens, Van Petegem, and Duriez (2014) found that a controlling parental style of introducing a prohibition predicted increasing levels of oppositional defiance in adolescents. Similarly, in the PE context perceived controlling teaching was found to relate to more oppositional defiance in students (Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015).

On the basis of this research we expected that an experimental induction of autonomy-supportive (relative to controlling) teaching would result in higher levels of student engagement and lower levels of oppositional defiance.

Need satisfaction and need frustration as underlying processes

According to SDT, the effects of autonomy-supportive and controlling teaching on students' outcomes can be explained through processes of need satisfaction and need frustration. SDT specifies three psychological needs that are considered inherent, universal, and essential for individuals' psychological growth and well-being (Deci & Ryan, 2000). Specifically, while the satisfaction of the needs for autonomy (i.e., experiencing a sense of volition), competence (i.e., experiencing a sense of effectiveness), and relatedness (i.e., experiencing a sense of closeness) is said to promote optimal functioning, the frustration of the needs for autonomy (i.e., experiencing a sense of pressure), competence (i.e., experiencing a sense of inadequacy), and relatedness (i.e., experiencing interpersonal alienation) would predict maladjustment and even psychopathology (Vansteenkiste & Ryan, 2013).

The distinction between need satisfaction and need frustration is critical because the absence of need satisfaction does not by definition constitute the presence of need frustration (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Vansteenkiste & Ryan, 2013). To illustrate, when students experience little volition when engaging in an activity (low autonomy satisfaction), this does not necessarily imply that they feel forced to do things against their will (autonomy frustration). As such, experiences of need frustration would be relatively distinct from experiences of low need satisfaction. Also, both processes would have somewhat differential antecedents and outcomes. Specifically, while autonomy supportive behaviours would be primarily beneficial for experiencing need satisfaction and be conducive to