

STUDENT MOTIVATION IN PHYSICAL EDUCATION - THE EVIDENCE IN A NUTSHELL

Rolf Kretschmann

Department of Kinesiology, University of Texas at El Paso, United States

Review paper

Abstract

Student motivation plays an important role in the teaching and learning process in general educational settings as well as in physical education (PE). This review should provide a brief and concise overview of the empirical evidence that is available regarding student motivation in PE. The review will organize research findings on student motivation in PE according to its relation to physical activity, motivational factors, barriers to motivation, motivational profiles, and interventions.

Key words: student motivation, physical education, predictor variables

Introduction

Motivating students is one of the essential tasks physical education (PE) teachers have to face in regular PE classes. PE teachers have to apply motivational strategies to engage unmotivated students and to sustain motivation in already engaged students. However, to achieve successful teaching that implements evidence-based practices, PE teachers need to know scientific foundations and research findings in the area of student motivation in PE. For instance, a negative trend of decline has been indicated to be evident in students' motivation towards PE (Jacobs et al., 2002). Research findings suggest that there are significant decreases in students' motivation to participate in school PE (Papaioannou et al., 2006). Research efforts targeting motivation in PE approach the field almost exclusively from a social psychological perspective. According to Lirgg(2006), the largest and probably most significant contribution social psychology research has made to PE over the past 30 years has been in relation to motivation. Self-Determination Theory (SDT) (Deci & Ryan, 2000) has been the most widely used theoretical framework applied when investigating student motivation in PE (Ntoumanis & Standage, 2009), as SDT provides an excellent fit for physical activity and PE settings (Boiche et al., 2008). The purpose of this review is to present a brief overview of the empirical evidence regarding student motivation in PE. The review will be organized according to topics that run through the large body of research. A concise presentation should provide PE teachers with the essential knowledge that has been gathered through motivation-related PE research.

Motivation and Physical Activity

Previous studies have indicated a decline in youth physical activity through childhood into adolescence (Nader et al., 2008), continuing declining during adolescence (Dumith et al., 2011). In this context, student motivation in PE arises as an important construct, since intra-individual motivation towards PE has been acknowledged to be a major determinant of youth physical activity (Standage et al., 2012).

Cox et al.(2007) demonstrated the mediating role of enjoyment in explaining students' experiences in PE and leisure-time physical activity. Students' autonomous motivation towards PE predicts their autonomous motivation towards physical activity outside school (Hagger et al., 2005). In a study conducted by Ning et al.(2012), physical activity enjoyment also emerged as predictor of youth physical activity behavior. In line with the premise of a positive influence of students' motivation towards PE, several studies have found a significant relation of students' engagement in PE (perceived competence, intrinsic motivation, enjoyment, inherent fun, challenge, excitement) to students' out-of-school physical activity levels (Aelterman et al., 2012). Flipping this effect, a recent study by Viira and Koka (2012) showed that participation in afterschool physical activity programs has a positive effect on students' self-determined motivation in PE. In line with these results, Barkoukis et al. (2010) found that out-of-school sport participation predicts task and ego achievement goals in PE students. There is little evidence available on students' in-class physical activity levels in regard to motivation. In a recent study, How et al.(2013) displayed that activity choices for students lead to higher autonomous motivation levels and (objectively measured) physical activity levels in students during PE class.

Motivational Factors

Factors that impact students' motivation in PE may be divided into internal and external aspects. Internal factors contain individual characteristics (e.g. age, gender, school grade level, ability level, physical attributes), dispositional variables (e.g. attitude, perceived competence, task and ego orientation, goal orientation, intrinsic motivation), and individual situational variables (e.g. sport practice during leisure time, motives for sport participation, perceptions of success) (Blanchard et al, 2007; Cloes, 2005). External factors include environmental situational variables (e.g. motivational climate of the class, teacher's expertise, school characteristics, social

environment, parents' involvement, providing choice), and contextual variables (e.g. PE curriculum, comprehensive intervention or PE programs, organized sports programs, PE teachers) (Blanchard et al., 2007; Cloes, 2005; Xu & Liu, 2013). Situational variables may refer to a single teaching period or pattern in particular PE classes, whereas contextual variables may relate to domain-specific aspects of PE. This structural distinction also implicates that variables underlying both factor categories may be equal in terms of terminology and construct, but may differ in measurement strategy and research focus. Furthermore, motivational constructs may account for diverse factor categories. For instance, constructs such as attitude or even motivation itself can account for dispositional, situational, or contextual categorization.

Internal Motivational Factors

In regard to individual characteristics, previous results examining age-related changes in student physical activity and motivation towards PE indicated that there is a trend of decline when students get older (Yli-Piipari, 2011). Results on gender differences in students' motivation and motivational change have been discussed controversial (Fairclough et al., 2012; Xiang et al., 2006; Yli-Piipari, 2011). However, boys tend to demonstrate higher levels of enjoyment, expectancy-related beliefs, perceived competence, physical self-perceptions, and expectations for success than girls (Johnson et al., 2011). Findings by Hagger et al. (2005) suggest that cultural differences in PE students' motivation towards PE may occur.

Four dispositional variables related to individual differences have been shown to influence intrinsic motivation in PE. These are perceived competence, perceived autonomy, achievement goal orientation, and perceived usefulness of the PE class (Hassandra et al., 2003). If students feel that they are competent in PE classes, they also enjoy their active participation (Cairney et al., 2012; Goudas et al., 2000). Students who feel autonomous for their actions in PE classes show higher degrees of intrinsic motivation (Goudas et al., 1994; Hagger et al., 2005). Standage et al. (2003) could show that task orientation is a positive predictor of self-determined styles of motivation in PE students. Achievement goal orientation also influences students' motivation in PE (Mouratidis et al., 2010; Xiang et al., 2007). PE students' expectancies about PE as well as students' attitudes towards PE also influence student motivation (Hassandra et al., 2003; Xu & Liu, 2013). For instance, Goudas et al. (2000) reported a positive effect of student perceptions that state useful and important outcomes of their PE classes on students' intrinsic motivation. In turn, in a study by Baena-Extremera et al. (2012), students' intrinsic motivation emerged as a predictor of the importance and usefulness of PE. Consistent within SDT, previous studies have shown that each basic psychological

need (competence, relatedness, autonomy) predicts autonomous motivation toward PE (Standage et al., 2012). In contrast to the positive findings regarding autonomous motivation, several studies have revealed that controlled motivation (e.g. external and introjected regulation) have been associated with PE students' boredom and unhappiness (Ntoumanis & Standage, 2009).

Concerning individual situational variables, research findings suggest that (positive) teacher feedback is associated with intrinsic motivation in PE students (Gao et al., 2011a; Koka & Hein, 2003). Moreno et al. (2010) showed that an induced incremental ability belief in regard to a lateral movement task lead to higher levels of intrinsic motivation in PE students. Chen (2001) concluded that activities that are novel, cognitively challenging, and generate instant enjoyment indicate student engagement in PE, thereby linking motivation and PE through interest. The contributing role of students' situational interest on their motivation toward PE is also emphasized by Subramaniam (2009). Additionally, students' attitudes also relate to students' motivation in PE (Moreno-Murcia et al., 2013). Students' attitudes towards PE may be influenced by the PE teacher, the PE curriculum, gender, age, school grade level, PE frequency, and skill level (Silverman & Subramaniam, 1999; Xu & Liu, 2013).

External Motivational Factors

Fitting into the category of environmental situational variables, Hassandra et al. (2003) identified social-environmental factors that have been shown to influence students' intrinsic motivation in PE. These are the motivational climate, teaching style, lesson content, and adult encouragement. Previous research indicated that the mastery dimension of perceived climate (Biddle et al., 1995; Cury et al., 1996) and perceived learning environment (Mitchell, 1996) are predictors of intrinsic motivation in PE. Jaakkola et al. (2012) showed that perceived competence and intrinsic motivation were significantly mediated between task-involving motivational climate and self-reported physical activity. Teachings styles that provide students with possible choice making have a positive effect on PE students' intrinsic motivation (Lonsdale et al., 2011; Prusak et al., 2004). In comparison to a command teaching style, Morgan and Kingston (2005) showed that a reciprocal and guided discovery teaching style lead to a mastery-oriented motivational climate, and resulted in a positive attitude change in PE students in both its cognitive and affective dimension. PE teachers reported that they perceived that authentic assessment positively enhanced students' motivation (Mintah, 2003). PE students' intrinsic motivation varies in regard to different activities or content (Bevans et al., 2010; Gao et al., 2011a; Hassandra et al., 2003). For instance, Gao et al. (2011b) reported higher values for PE students' outcome expectancy for fitness compared to soccer.

For a dance exergame, Gao et al.(2013) found a positive relation to students' physical activity enjoyment. Furthermore, supportive classmates, school athletic facilities, family's physical activity behaviors and encouragement, participation in out-of-school physical activities, media, and social preconceptions may influence students' motivation towards and in PE (Hassandra et al., 2003). Study results by González-Cutre et al. (2009) highlighted that a task-involving motivational climate emerged as a predictor for PE student's social goals (e.g. relationship and responsibility goals) as well as their perceived competence. In turn, social goals and perceived competence positively predicted PE students' dispositional flow. Additionally, in a study by Baena-Extremera et al. (2013), motivational climate in PE emerged as a predictor of students perceived importance and usefulness of PE. In relation to contextual variables, evidence from a study by Shen et al.(2008) indicated that students show a domain-specific intrinsic motivation regarding PE. On basis of the activity-specific effect on self-determined student motivation in PE, Hassandra et al.(2003) proposed that students' interest may be determined by the unique characteristics of the particular activity. Xiang et al.(2003) provided evidence for the importance of parental beliefs for student motivation in PE. Parents' competence and value beliefs predicted their children's persistence and effort. Motivation in PE may also vary from one class to another (Aelterman et al., 2012). Papaioannou et al.(2004) provided empirical findings that different classes also show different motivational climates. Students' motivation in a general PE context may differ from their situational motivation. Jaakkola et al.(2013) could show that students perceived higher intrinsic and identified motivation in PE classes that featured fitness testing compared to the general PE program activities.

Motivational Profiles

In PE, understanding the motivational profiles of students may influence the PE teachers' teaching strategies and approaches, being able to panelize teaching efforts according to student's individual motivational propositions. For instance, previous studies have shown that PE students with self-determined motivational profiles also connect with cooperative learning (motivational climate to the task) and positive motivational consequences (interest, effort, satisfaction, fun and high participation) (Moreno-Murcia et al., 2013), and show highest achievement outcomes (Boiche et al., 2008). Granero-Gallegos et al. (2012) proposed that most self-determined motivational profiles of students in PE may include satisfaction and the importance and usefulness of the subject together with larger frequency of regular out-of-school physical activity and sport. Papaioannou et al.(2004) found that task-oriented PE students benefit from a task-oriented motivational climate, as well as ego-oriented PE students benefit from an ego-oriented motivational climate. According to Shen et al.'s(2009) analysis of PE student's

motivational profiles, motivation in PE appears to be multidimensional and relates to in-class effort, learning, exercise behavior, and cardiovascular fitness.

Barriers to Motivation

Diverse barriers have been identified regarding student motivation in PE. Papacharisis and Goudas(2003) examined student perceptions about exercise and intrinsic motivation in PE. Several perceived barriers emerged out of their data. These are humiliation, changing, sweating (first period especially), gender appropriateness (activity preferences), and lack of or non-stylish clothing (e.g. sneakers). However, PE students' perceived barriers to exercise majorly influenced students' intrinsic motivation towards their PE program, whereas sex, attitudes towards physical activity, and perceived parents' participation in physical activity only showed minor influencing effects. On the contrary, the noticeable pattern of decline in student enjoyment of PE, as students grow older, particularly in female students, has been documented in countless studies (Parish & Treasure, 2003). Motivation and its barriers in the PE context have also been prominent in practical literature for physical educators. Based on qualitative empirical field data, Mowling et al.(2004) suggested six barriers to focus on when targeting a positive motivational change in PE students. These are intrinsic motivation, extrinsic rewards, the teacher, the curriculum, the administration, and the school setting.

Interventions

Braithwaite et al.(2011) reviewed 22 intervention studies with 24 independent samples that targeted a positive change in student motivation in PE through diverse treatments. They discovered an overall small treatment effect for student groups exposed to mastery motivational climates. Most consistent and largest overall treatment effects were found for behavioral outcomes (health and fitness, sports skills), followed by affective and cognitive outcomes (confidence and competence, ego orientation, mastery climate perceptions, performance climate perceptions, task orientation, outcomes commitment, learning strategies). Elementary PE students showed the largest treatment effect. However, only studies using the TARGET (Task, Authority, Recognition, Grouping, Evaluation, Time structures) framework (Ames, 1992) were included in their review. The PE teachers' motivating style towards students may cause different motivational dispositions in their students (Hastie et al., 2013). For instance, a change in the PE teacher's teaching style in terms of favoring adaptive student motivation led to a greater satisfaction of students' psychological needs, more self-determined motivation and greater commitment in class (Tessier et al., 2010). Hastie et al.(2013) analyzed 27 studies that intended to provide PE students with opportunities to become self-directed.

They found that the examined interventions lead to higher skill attainment, physical activity, and perceived competence. In a recent study, Amado et al. (2014) employed a multi-dimensional intervention program to enhance student motivation towards PE content. The experimental group showed an increase in perceived autonomy and self-determination towards the curricular PE content.

Conclusion

The aim of this review was to present the comprehensive empirical evidence according to student motivation in PE. The information presentation has therefore been conducted in a most brief and concise way. This may lead to lack in detail in certain cases. Thus, for a higher degree of detail for particular study characteristics and results, the reference list may serve as a directory for further and future in-depth investigation. Literature search on motivation in PE results in countless finds. Including all of the still growing body of research on (student) motivation in PE in a single review paper appears to be simply impossible (Lirgg, 2006). Motivation or associated aspects and constructs may impact multiple outcome variables on the one hand. On the other

hand, diverse variables may also influence motivational constructs and associated aspects respectively. In addition, correlates and moderator effects may extend mutual interrelations among and between motivation-related variables and constructs. In short, motivation in PE is quite a complex, multifaceted construct and phenomenon (Solmon, 2003). With regard to this complex structure, several studies' detail and empirical findings have been left out of this review in favor to concentrate on key categories from a contemporary PE teachers' perspective. For instance, research has shown that PE students' autonomous motivation predicts high levels of reported vitality, positive affect, self-esteem, health-related quality of life, concentration, effort, behavioral persistence, and objective achievement and performance (Ntoumanis & Standage, 2009). Despite the already large amount of studies on student motivation in PE, there is still need for future research in several areas in regard to sample, theoretical framework, research methodology, setting, outcome and predictor variables, intervention design, and focus (Braithwaite et al., 2011; Ntoumanis & Standage, 2009; Yli-Piipari, 2011). In conclusion, there is plenty of evidence, PE teachers and researchers may correspond to, when approaching student motivation in PE.

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MOTIVACIJA UČENIKA U TJELESNOM VJEŽBANJU – DOKAZI U ORAHOVOJ LJUSCI

Sažetak

Motivacija učenika igra važnu ulogu u nastavi i procesu učenja u općim edukacijskim postavkama kao i u tjelesnoj i zdravstvenoj kulturi (TZK). Ovaj članak treba ponuditi kratak i jezgrovit pregled empirijskih dokaza koji su dostupni u pogledu motivacije učenika u TZK. Pregled će organizirati rezultate istraživanja motivacije učenika u TZK sukladno njihovim odnosima prema TZK, motivacijskim faktorima, preprekama motivaciji, motivacijskim profilima i intervencijama.

Ključne riječi: motivacija studenata, tjelesna i zdravstvena kultura, prediktorske varijable

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Correspondence to:

Ass.Prof. Rolf Kretschmann, Ph.D.

Department of Kinesiology

University of Texas at El Paso

500 W. University Ave, El Paso, TX 79902, United States

Phone: +1 (915) 747-7245

E-mail: kretschmann.rolf@gmail.com