PART IX

Achievement motivation

Introduction

Motivation is a mental process that brings about and sustains goal-oriented actions (Pintrich & Schunk, 2002). Pioneer scholars, such as John Dewey, viewed motivation as an integral part of knowledge to be learned. He (1902) considered content that is not motivating to be an “evil” in education, stating, “What we mean by the mechanical and dead in instruction is this lack of motivation” (p. 354).

The learning environment has a direct and powerful influence on students’ motivation to learn and achieve. In this paradigm, researchers study how environmental events, such as rewards or punishment, motivate or demotivate individuals. Researchers also study motivation from a developmental perspective, examining if individuals can learn to regulate their own motivation in an externally controlled environment and, if so, how they learn to use self-regulated motivation strategies to achieve success. Quite a few theories have evolved from these research paradigms. Examples from the early behaviorist theory family include conditioning theory (e.g., Skinner, 1953), drive theory (Woodworth, 1918), and purposive behaviorism (Tolman, 1932). Examples from the cognitive theory family include arousal theory (James, 1922), cognitive consistency theory (Heider, 1946), and humanistic theories (Maslow, 1954).

In the past three decades, research on physical education students’ motivation has evolved into mainstream inquiry. This research is driven by a set of theoretical frameworks evolved from those mentioned above. They include expectancy–value theory, self-determination theory, achievement goal theory, and interest theory. Substantial evidence from this research has begun to transform ways researchers and practitioners understand learner motivation in PE (Chen, 2015). This rich body of evidence forms the knowledge base for this part.

The six chapters included in this part focus on issues critical to motivating children to learn in physical education and to apply what they learn to real life. The first chapter, Chapter 39, Motivation research in physical education: Learning to become motivated, serves as the introduction for the part. In it, Chen focuses on the important proposition that motivation, as a cognitive process, can be deliberately learned. In Chapter 40, Expectancy-value based motivation for learning, Ping Xiang summarizes research findings from expectancy–value theory. This theory attempts to explain which students’ beliefs for success and realization of task values motivate them. In Chapter 41, Maximizing student motivation in physical education: A self-determination
John Wang examines the research base supporting self-determination theory. By addressing issues associated with rewards and external regulations, Wang explores the role of self-determination theory in nurturing students’ intrinsic motivation to achieve externally determined goals by satisfying their innate needs for autonomy, competence, and relatedness. In Chapter 42, *Individual and situational interest*, Bo Shen provides a comprehensive review of research findings on student interests. Many PE practitioners intuitively emphasize strategies to integrate “fun” into PE to motivate students. As part of a detailed review of theoretical and empirical perspectives, Shen addresses pros and cons of relying on personal and situational interests to motivate students in physical education.

In Chapter 43, *Adaptation or maladaptation of achievement goals in physical education*, Sami Yli-Piipari presents research evidence that students adapt or mal-adapt their personal goals (e.g., performance vs. mastery goals) to position themselves to fulfill teacher-imposed external goals. He illustrates how adaptive and maladaptive goals can lead students to different motivation paths. In the last chapter in this section, Chapter 44, *Motivation as a learning strategy*, Haichun Sun integrates findings from several theoretical perspectives to answer the important question: Can motivation provide viable learning strategies to enhance learning in physical education? She carefully examines the role of self-initiated motivation through strategies students plan and employ to control their thoughts, feelings, and actions to attain learning goals. Sun concludes that motivation may provide effective strategies to help learners align personal goals with learning goals, regulate their learning behaviors, and develop interest in PE.

A goal of this part is to provide relevant empirical evidence for PE researchers and practitioners interested in theoretical and practical applications of student motivation. Each chapter author draws on a common body of literature from the achievement motivation scholarly research base while developing a unique perspective on a particular motivation theory. Because of the common origins of motivation constructs, for example, perceived competence, readers will find that authors have developed the primary constructs in different ways emphasizing unique findings and providing insights into practical applications. Continuing with the standard Handbook format, each chapter provides a chapter-specific historic overview, theoretical framework or frameworks, review and critique of empirical research findings, and a discussion for future directions. These should help distinguish each chapter and theory and facilitate understanding the practical implications of achievement motivation and strategies PE teachers can use to motivate student learning.

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**References**


MOTIVATION RESEARCH IN PHYSICAL EDUCATION

Learning to become motivated

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Motivation research has occupied an important space in the PE literature. The findings have furnished extensive evidence for a deeper understanding of K–12 students’ motivation to learn knowledge about physical activity and health, improve motor skills for sports and other physical activities, and develop personal fitness for health and performance. Consequences from childhood physical inactivity continue to challenge PE researchers to search for effective ways to motivate children to be physically active in and out of the school environment (Institute of Medicine, 2013).

These challenges are manifested on two fronts associated with changes in education and society in the twenty-first century. First, the most recent revision of the U.S. National Standards for PE (Society of Health and Physical Educators [SHAPE], 2014) establishes physical literacy as the ultimate goal for K–12 students. As an abstract idea (Whitehead, 2010), physical literacy seems to encompass a spectrum of components, including motivation, necessary for leading a physically active life. Although scholars are still debating whether it is feasible or realistic under the current school environment for the idea to take hold (Chen & Sun, 2015), a consensus is that children need to learn how to become motivated for physical activity in and out of school. Second, physical play is no longer the only leisure activity for children. The concept that a child must move physically to play is challenged by the reality of “cyber–space.” Children now can literally plan and play a virtual but real game on screen with someone from across the world.

Under these academic and leisure contexts, motivating children in PE and beyond requires more effort than ever from educators. A critical issue is what to do to maximize the motivation effect. Emerging research evidence on content specificity (Ding, Sun, & Chen, 2013) suggests that motivation is content specific and can be learned along with PE content. It is the goal of this chapter to review research evidence related to motivation development and acquisition and elaborate the possibility of teaching motivation to K–12 PE students. In the following sections I will (a) give a very brief historical overview, (b) discuss frequently used theoretical frameworks, (c) review current trends and issues, and (d) provide conclusions based on the review. I will close the chapter with a set of questions for reflection and further discussions.
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**Historical overview**

In a landmark survey of doctoral research from 1930 to 1946 (Cureton, 1949), motivation did not appear on any of the 420 dissertations in the 20 institutions granting doctoral degrees in PE. The first research on motivation as a construct seems to be a study of achievement motivation on risk taking by Glyn Roberts (1975). Before that, student motivation was understood through studies on students’ degree of likings or interest (that is, individual interest as conceptualized today). For example, Driftmier (1933) studied high school girls’ individual differences in interest as related to PE. She reported that the first two choices were rhythmic work (38% of the 245 girls) and stunts, tumbling, and pyramids (25%). In third place was marching tactics (9%). Basketball and tennis were among the least interesting activities with 2% and 1%, respectively. Although no motivation constructs were used in the study, Driftmier’s intention seems to be obvious: to explore what could motivate girls to better participate in PE. Other data from the same study support this observation. For example, Driftmier also reported that on the first day of class, 100% of the girls preferred the new self-directed squad teaching method to the traditional teacher-class method. An overwhelming number of girls (61%) still preferred the self-direct method on the last day of class. In fact, this type of motivation-equals-liking understanding has persisted for many years overlapping with the research on theoretical constructs of motivation. For example, Browne (1992) conducted a study similar to that of Driftmier’s (1933) on reasons girls selected PE. She reported that the top two reasons for high school girls to select PE were “I like physical activity” (99% of participants) and “Classes are fun” (95%).

It was not until the 1980s that motivation in PE was studied with established, mature theoretical frameworks and constructs. Most noticeably, all motivation theories originate from a cognitive perspective. They treat motivation, especially achievement motivation, as complex processes rather than a simple stimuli-responses loop. These theories include achievement goal theory (Nicholls, 1984), expectancy-value theory (Eccles, 1983), self-efficacy theory (Bandura, 1977), interest theory (Hidi, 1990), and self-determination theory (Deci, 1980).

Guided by these theories, motivation research in PE is almost completely focused on students. In their literature search, Chen, Chen, and Zhu (2012) identified over 200 published research reports focused on student motivation. Compared to this number, research on PE teacher motivation is rather scarce. This lack of empirical work has created a void in the literature and provided little generalizable evidence to address teacher motivation.

**Theoretical frameworks**

The achievement goal theory, expectancy-value theory, self-efficacy theory, interest theory, and self-determination theory are mature theories that have influenced motivation research in PE. Detailed descriptions of the theories are provided in other chapters in this handbook (see Solmon, Chapter 33). Here I present (a) a brief description of each theory and (b) a conceptual summary of their implications that inform current research.

**Dominant theories in PE research**

*Achievement goal theory* functions with an assumption that individuals not only are striving to achieve goals or outcomes that others determine for them but also are achieving the goals they choose by themselves. Researchers in psychology (e.g., Nicholls, 1984) have identified two
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goal orientations: an ego/performance goal orientation and a task/mastery goal orientation. Individuals with the ego/performance goal tend to become motivated when they perceive an opportunity to outperform others; whereas those with the task/mastery goal orientation become motivated to focus on the completion of the task at hand. Elliott and Harackiewicz (1996) further identified an approach–avoidance structure within each goal orientation. A mastery-avoidance goal, for example, motivates one to act to avoid difficult tasks, whereas a performance-avoidance goal motivates the individual to act to avoid showing incompetence. The theory also postulates that an environment can be performance- or task-prone. PE teachers can create either a performance-involving climate or a mastery-involving climate (Treasure, 1997). A particular goal orientation environment can strengthen learners’ corresponding goal orientation (Todorovich & Curtner-Smith, 2002).

Expectancy-value theory suggests that competence-based expectancy beliefs for success and perceived value in the task are motivators for action (Eccles, 1983). Expectancy beliefs refer to one’s judgment on the possibility of success in an activity. Task values are associated with the perceived worth or the benefits an activity may provide. Eccles and Wigfield (1995) proposed and validated a five-component theoretical model that contains expectancy beliefs and four task values. Attainment value is the importance the person acknowledges to him/herself when doing well in the activity. Intrinsic or interest value is the extent of enjoyment a task provides to the individual when completing the activity. Utility value refers to the usefulness of the activity to the person in current and future life. Cost is the negative consequence resulting from pursuing the activity. In PE, research evidence has shown that the theory is viable in predicting learner persistence and effort (Xiang, McBride, & Bruene, 2004), engagement and learning (Ding et al., 2013).

Interest theory conceptualizes motivation as a result of positive emotions from the interactions between the person and an object or activity. Interest is characterized by a high level of attention, intensive effort, and prolonged engagement with pleasant and successful feelings (Hidi, 2000). Individual interest refers to one’s psychological preferences for an activity, while situational interest refers to an activity’s appealing effect that triggers high level attention and engagement at the moment of person–activity interaction. In PE, situational interest has been validated as a multi-dimensional construct (Chen, Darst, & Pangrazi, 1999). Research evidence has shown that individual interest is associated with knowledge and skill gains, whereas situational interest is correlated with in-class physical activity levels (Chen & Darst, 2002; Chen, Martin, Ennis, & Sun, 2008).

Self-determination theory is an overarching theory for general motivation in life (Deci, 1980). Researchers assume that ultimately motivation derives from basic human psychological needs for competence, autonomy, and relatedness (Deci & Ryan, 1985). The theory further postulates that motivation comes from two basic sources, one is through regulations external to the individual and to the activity (extrinsic motivation); the other comes from the attraction and enjoyment the activity exerts on the individual (intrinsic motivation) (Deci & Ryan, 1985). Ultimate motivation derives from basic human psychological needs for competence, autonomy, and relatedness (Deci & Ryan, 1985). Research in PE has yielded limited evidence suggesting complex relations among the needs, regulation mechanisms, and extrinsic/intrinsic (Standage, Duda, & Ntoumanis, 2003, 2005).

Self-efficacy theorists believe that motivation depends on individuals’ “judgments of the likelihood that one can organize and execute given courses of action required to deal with a prospective situation” (Bandura, 1980, p. 263). The judgments, in turn, are functions of efficacious information individuals gather from multiple sources including their own competence perceptions and others’ input about their ability. In PE, research using the theory has been
scarce, which makes it difficult to summarize the research findings and implication (Chen et al., 2012).

**Implications**

One overarching underpinning for these theories is the way individuals perceive competence. In a mastery environment such as schools, individuals rely on self-perceptions of competence to determine the degree of effort (a proxy measure of motivation) they are willing to put forth. In children, the underlying power of perceived competence can be the most important source of motivation (Harter, 1982, 1985). In the physical activity domain, Marsh and his colleagues (Marsh, Hey, Roche, & Perry, 1997) examined physical self-concept and self-efficacy illustrating the generalizability of the perceived competence construct.

This line of empirical work has revealed two fundamental conceptions or beliefs children rely on to judge their own competence: an incremental belief or an entity belief (Dweck, 1999). The entity belief is the conception that competence is a fixed capacity one is born with. The incremental belief is the conception that competence is incrementally developed with effort and experience. Interacting with the effort concept, the two beliefs lead children to attribute success or failure differently. Low effort (or display of less effort) in completing a task suggests high competence. In contrast, high effort in completing the same task indicates low competence (Eccles, Wigfield, & Schiefele, 1998). These conceptions result in very different motivational behaviors. In PE, Li, Lee, and Solmon (2008) found that college students who were led to the entity belief were more likely than those who were led to the incremental belief to attribute success or failure to “fixed” competence. They were less likely to display intrinsic motivation, and did not put forth as much effort in pursuing the tasks.

Interest is another underlying thread found across several theories, especially the interest theory and expectancy-value theory. Research has revealed convincing evidence that interest, especially situational interest, is a primary motivator in PE (Chen, Darst, & Pangrazi, 2001). In the expectancy-value theory, interest is one of the values children are likely to recognize and rely on for motivation (Wigfield & Eccles, 2002). Even for interest development, the role of perceived competence cannot be overlooked. Research evidence has shown a close connection between individual interest and competence. Children often are most interested in doing those activities they are capable of doing well (Renninger & Wozniak, 1985).

The research based on these theories has made it clear that motivation and motivated behavior derive from a set of beliefs, values, goals, and emotions. One or more of the entities interact with environmental factors to lead the individual to adopt either a motivational or amotivational mental process when approaching the task at hand. Because beliefs, values, goals, and some emotions are learned during individuals’ development, it can be reasoned that motivation is an acquired mental state. An overall implication of the theories and their empirical research appears to be whether and how motivation can be taught to children and adolescents along with the content they are learning.

**Current trends and issues**

This section includes two parts. In the first part, the focus is on the current literature about motivation acquisition. It draws research evidence from studies using the dominant theoretical frameworks to illustrate how motivation is developed and whether motivation is a learnable entity. In the second part, I will focus on the issues in the current motivation research in PE by identifying the areas of research that most need to be strengthened.
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Current research on “becoming motivated”

In education, motivation has been studied as a mental process that is developed and sustained along with knowledge growth. Motivation strategies are for teachers to use rather than for students to learn. Seldom has motivation been considered a “content” that can be taught to students. Emerging evidence seems to suggest, however, it is possible that motivation can be a learned/acquired asset for the learner (see Sun, Chapter 44).

Achievement goal theory

Children’s goal orientations are nurtured and shaped by the immediate learning environment (Ames, 1992). Ames concluded that the classroom environment, as established by the teacher, presents numerous achievement-related cues to the learner. The goal-related cues are conveyed in six common instructional elements: task design (T), distribution of authority (A), success recognition (R), grouping structures (G), achievement evaluation (E), and time allocation (T) (Epstein, 1989). By absorbing the meaning of the cues, children learn what goals, mastery or performance, the teacher expects and will reward. As a result of using this TARGET strategy teachers can assist students to acquire a goal orientation.

In PE, Parish and Treasure (2003) conducted a correlational study with 442 middle school students and found a positive correlation ($r = .555$) between perception of a mastery climate and intrinsic motivation and a positive correlation ($r = .505$) between perception of a performance climate and amotivation. Wang, Liu, Chatzisarantis, and Lim (2010) examined the corresponding relationship between middle school students’ ($n = 781$) perception of goal climates and their goal orientations with enjoyment in PE. They concluded that “when the teachers create an environment whereby personal improvement and mastery are valued, the students are more likely to adopt mastery-approach goal” (p. 335). The findings clearly indicate the association between goal climate and learner goal orientation.

Studies using quasi-experimental designs have shown promising evidence supporting the goal acquisition notion. Solmon (1996) manipulated the motivational climate by creating a mastery or a performance instruction setting for middle school students ($n = 109$) to learn juggling to determine if a particular climate could lead to a corresponding motivational belief and attribution. The results showed that students in the performance climate were more likely to attribute success to natural ability than students in the mastery climate. Todorovich and Curtner-Smith conducted two studies with third grade ($n = 54$, 2003) and sixth grade ($n = 72$, 2002) students. They manipulated the goal climate in the gymnasium. Results from both studies showed that the students taught with a particular goal climate developed that goal orientation.

Expectancy-value theory

Eccles and her colleagues’ empirical and theoretical work has demonstrated that the expectancy beliefs for success and task values work together in developing motivational behaviors (e.g., Eccles et al., 1998; Wigfield & Eccles, 2002; see also Xiang, Chapter 40). One important finding from Eccles and her colleagues’ work is that children are able to differentiate expectancy beliefs from task values at a young age. This ability to differentiate leads them to adopt different motivational paths. It is this differentiation that provides a basis for educators to consider ways to teach beliefs and values to encourage learners to acquire and sustain motivation.

Based on the motivation specificity hypothesis (Bong, 2001), Chen et al. (2008) examined elementary school students’ ($n = 298$ from 48 intact classes) expectancy-value beliefs. They
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used different PE content (tasks) to examine the extent to which students could differentiate between expectancy beliefs and attainment, utility, interest, and cost values in the fitness development content they were studying. The results from correlation analyses on class means clearly showed that the students attached different task values to different fitness knowledge and exercise domains. The only exception was interest value which was invariantly high across all content domains in PE. Ding et al. (2013) further confirmed the expectancy–value specificity with a random student sample (n = 346) from eight Chinese middle schools. The results from both regression and structural equation modeling suggested that task values, especially the utility value, determined student achievement in learning fitness knowledge while expectancy beliefs determined achievement in learning motor skills.

These findings are especially meaningful for teaching PE. Because learning in PE encompasses and demands both physical as well as cognitive effort, results clearly indicate that learners may adopt differentiated motivational pathways to learn in the two distinct but related domains. The findings caution us to pay close attention to students’ motivational processes when using these pathways.

**Interest theory**

Interest research has long established the link between individual interest (personal preferences for an entity/activity) and learning achievement (see also Shen, Chapter 42). Its close relationship with knowledge and values suggests the potential for individual interest to be “learnable.” In other words, when a person begins to acquire knowledge or value, he/she simultaneously is acquiring an interest (or disinterest) associated with the knowledge or value. Hidi and Anderson (1992) hypothesized that situational interest can evolve into individual interest. When a child is exposed to an attractive activity/task over time, his/her situational interest will change from a “catching” type of interest to a “holding” type (Mitchell, 1993). Reinforced by knowledge and acquired values, situational interest can become stable and enduring individual interest.

In PE, Chen (1996) found that in secondary schools students are able to differentiate activities/tasks that catch their interest from those that do not. In follow-up research, Chen (1998) found that students are likely to become resistant when they perceive that the content is boring. In subsequent studies on situational interest, Chen and Darst (2001) manipulated the situational interest elements in tasks to determine the extent to which the content, by itself, contributed to situational interest. The results showed that the level of cognition in physical activity tasks is the determinant for situational interest. The findings reinforce the notion that through careful task design, PE teachers can help students acquire a sense of situational interest. There is little evidence, however, of students internalizing situational interest so that they acquire individual interest. Interest theorists (e.g., Hidi, 1990; Krapp, 1999) hypothesize that depending on what knowledge and skill the situational interest entails, the situational interest can evolve into individual interest. In other words, students can learn to become interested in the content they are learning if the knowledge and skills are taught with strong situational interest. The hypothesis is partially supported by a study in PE (Shen, Chen, Tolley, & Scrabis, 2003) in which boys who had low individual interest in learning dance became highly engaged in a dance unit when the teachers designed the content with strong situationally interesting tasks.

**Self-determination theory**

At the heart of self-determination theory is the notion that self-regulation coupled with rewards and punishment (e.g., grades by teachers) can motivate learners extrinsically (see also
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Wang, Chapter 41). However, when the rewards are no longer available, the motivated behavior is likely to stop unless the learner has begun the valuing process to appreciate the regulation strategies being learned. In fact, teaching students to self-regulate their own behavior has been a central goal of schooling. Because children often do not possess formal content knowledge when starting school, they are less likely to demonstrate intrinsic motivation in the classroom. Learner motivation, therefore, depends on how well the teacher is able to help children adopt one or more self-regulation mechanisms: external regulation, introjected regulation, identified regulation, and integrated regulation (Deci & Ryan, 1985). The premise of moving a child from extrinsic motivation to intrinsic motivation lies in the expectation that children are able to understand and learn the self-regulation processes and eventually align with the values embedded in the process (reflected in adopting the identified and/or integrated regulations).

In PE, Ntoumanis (2001) found a positive association between perceived competence and introjected and identified regulations in PE. The findings indicate a possibility that learners who adopt introjected (performing to satisfy others) or identified (performing because they value the activity) regulations may become competent through learning in PE. This and other findings (e.g., Standage et al., 2003, 2005) imply that self-regulation mechanisms can be included as part of the formal content for students to learn and acquire. Once students have acquired self-regulation strategies, they should be able to develop and maintain motivation to learn and achieve what is expected of them.

Self-efficacy theory

Classroom research has clearly demonstrated that self-efficacy is learned through interactions between the student and the classroom environment. There is evidence showing when children move through a well-sequenced curriculum their self-efficacy increases because of increased knowledge and competence (Shell, Colvin, & Bruning, 1995). Ironically many reports have documented a decline in self-efficacy as children become older and progress through the upper school grades. Researchers and theorists attribute this decline to classroom factors such as a norm-referenced grading system and a competitive atmosphere (e.g., Eccles, Wigfield, & Schiefele, 1998), because these factors negatively affect students’ self-appraisal processes.

In PE, studies on students’ self-efficacy development are lacking. An early study (Chase, 1998) attempted to identify sources of self-efficacy information in PE. With a small sample of children (n = 24), Chase was able to differentiate sources of information for young children in elementary schools: success in performance for younger children and effort and success by social norm comparison for older ones. One study (Pan, 2014) using structure equation models attempted to determine the extent to which PE teachers’ (n = 462) self-efficacy influenced students’ (n = 2,681) motivation. The results revealed a large impact of teacher efficacy on student motivation (factor loading = .70). The results suggest the influential role of teacher self-efficacy in PE students’ motivation (see Kulina and Cothran, Chapter 36). More research is needed to determine whether the impact can lead to an increase in students’ self-efficacy.

Current issues

A targeted review examining motivation acquisition suggests a possibility that motivation strategies may be taught to children and adolescents in PE and the strategies can be an integral part of PE content. To establish these relationships, we need additional research in the following areas to enrich our knowledge of motivation development: perceived competence and actual competence; gender differentiations in motivation; motivation and ethnicity identity; and knowledge
and motivation. Researchers should develop new hypotheses to further study learner motivation not only as an individual mental process but also as a curricular and pedagogical process.

**Perceived competence and actual competence**

The theories and supporting evidence seem to point to a single factor that is the foundation for most motivation constructs: perceived competence (see also Garn, Chapter 34). Although psychological research has long identified several critical sources influencing competence conception development, pedagogical research has generated little evidence to show the relationship between perceived competence and actual competence. More importantly we need to know how to teach children to correctly use relevant competence information, such as effort, success, expectancy, standards, to motivate themselves. Children come to PE with misconceptions about many aspects of physical activity (Pasco & Ennis, 2015; Placek et al., 2001). Correcting these misconceptions can be the first step to developing a positive conception about competence beliefs.

**Gender differentiations in motivation**

It is acknowledged that children’s conceptions about themselves and events around them are socially constructed as is the motivation process (Wentzel, 2004). Research has shown that boys and girls perceive their competence in different ways (Lee, Fredenburg, Belcher, & Cleveland, 1999), define success differently (Lee, Nelson, & Nelson, 1988), and believe gender-appropriateness in sports (Lirgg, George, Chase, & Ferguson, 1996). Solmon, Lee, Belcher, Harrison, and Wells (2003) conducted an interesting study with important implication for PE. They examined perceived gender appropriateness of hockey and a hockey skill (wrist shot) for male and female college students. Although students perceived hockey as a male sport and playing hockey was more male-appropriate than female-appropriate, their view about the specific skill was gender neutral. The female students who perceived hockey as gender neutral displayed stronger confidence in learning to play hockey than those females who believed it gender-inappropriate.

The finding from this study and others (e.g., Shen et al., 2003) have suggested gender appropriateness is a critical issue in motivating girls in PE. They also point out, however, that both female and male students can be motivated to learn if the content and tasks are structured carefully to enhance their perceived competence (Solmon et al., 2003) and interest (Shen et al., 2003). However, studies are urgently needed in this area to determine curricular and pedagogical characteristics that can motivate all students.

**Motivation and ethnic identity**

Although ethnic identity has been an important area of inquiry in education, specific research on ethnic minority student motivation is rarely found in the literature. Basch’s (2011) literature review convincingly documented health consequences in minority adolescents due to the disparity in participation in physical activity. Given that motivation processes are socially constructed (acquired), it can be hypothesized that children growing up in different ethnic cultures may be adapted to the motivation process endorsed by the culture. Cultural studies in sport have clearly shown that when minority youths assume ethnically unique identities (Harrison, Harrison, & Moore, 2002), they are likely to follow ethnically unique ways to learn in the sport domain (Harrison, Moore, & Evans, 2006). Further, they
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are likely to engage in an assimilation process to fit into the mainstream culture while maintaining their own identity (Zieff, 2000). These studies have laid a foundation for additional, motivation-specific inquiries into the motivation processes the ethnic minority students adopt in PE.

Harrison (1995) articulated the link between cultural upbringing and possible subjective physical activity choices arguing that the link is a function of cultural assimilation in a community. An individual’s upbringing can have a profound impact on the motivation process a child adopts in learning in PE. In an experimental study, Harrison (2001) found when students received an ethnicity-relevant cue for a physical activity, the information significantly amplified their prediction of their own performance, although it did not impact their actual performance. Vierling, Standage, and Treasure (2007) found that Hispanic students’ satisfaction of autonomy need predicted their motivation toward physical activity, leading to enhanced physical activity participation and positive attitudes. Additional studies examining ethnic minority learner motivation are needed to better understand unique culturally influenced processes in motivation development.

Implications for evidence-based practice

One of the most salient implications of the research is that PE students may learn motivation strategies as a content. Based on motivation specificity, teachers can match content/tasks with motivation strategies that are sensitive to content. For example, when teaching health-enhancing fitness activities, teachers can emphasize the value (importance and utility values) of the content. When promoting physical intensity, teachers can emphasize cognitive load along with physical load to show students how situational interest can motivate them to participate enthusiastically. Teachers also can teach students the appropriate ways to estimate or perceive their own competence using differentiated learning strategies that provide challenges appropriate to students’ abilities. In these ways teachers can help students learn motivational processes.

Instructional climate

A well-structured motivating environment is the basis for teaching motivation to students. A mastery-oriented climate is necessary for learners to develop motivational processes focusing on completion of learning tasks rather than on ability comparison. PE teachers can create a mastery climate that focuses on mastering the knowledge and skills being taught. In the meantime, teachers should minimize the effect of competition among individual students, such as ranking student performance on a fitness test.

Self-regulation

One determinant for motivation development is the adoption of appropriate external regulation mechanisms. It is necessary to implement external regulations to enhance student extrinsic motivation. Physical educators should realize that, although we hope students will have intrinsic motivation, not all students will develop high intrinsic motivation for all physical activities. Extrinsic motivation through positive self-regulation is necessary so that students can start the process of internalizing extrinsic motivation under teachers’ supervision and eventually become intrinsically motivated to participate in physical activities in which they have built competence.
Culturally relevant motivation

Cultural influence is a factor that can act as a powerful motivator. Limited evidence suggests that students with an ethnic minority background may demonstrate different types or degrees of motivation because of their upbringings. At present, there is little evidence to allow researchers to reach a conclusive determination about the extent ethnicity cultures influence motivation in PE. Physical educators should be sensitive about particular needs of ethnic minority students, especially the basic needs for autonomy, competence, and relatedness.

Gender equality

Research has provided extensive information examining gender and motivation. Research confirms that boys and girls can be mastery and performance oriented and can view their competence in different ways. Interestingly, they similarly value the benefits from regular physical activity and can be motivated by situational interest despite their different individual interests. Most importantly, most students like PE at least until they reach middle school age. In addition, students display gender-based preferences for sports (appropriateness) which can diminish when students direct their focus to specific skills and learning. The research findings are clear that the motivation strategies supported by the research evidence work effectively for both girls and boys.

It appears that although motivation has been studied as a psychological topic and motivation processes are indeed an individual mental process, motivation is also a curricular issue. Motivation, however, has rarely been studied as part of the curriculum. PE curriculum guide and textbooks usually do not include motivation strategies as part of instructional content to be taught. For children to develop and sustain strong motivation for physical activity, motivation needs to become part of the content in each PE lesson.

Future directions

We study motivation in PE with a hope that children will be able to motivate themselves for physical activity participation outside of PE. This expectation has become clear and increasingly important as is delineated in the current PE goals and standards (SHAPE, 2014). Adopting physical literacy as the goal of K-12 PE has designated learner motivation as one pillar in the curriculum (Whitehead, 2010).

Chen (2013) encouraged motivation researchers to move beyond current research paradigms to focus on: (a) the connection between individual dispositional variables (self-concept, values, expectancies) and environmental variables (motivation climates, policies, curriculum); (b) motivation specificity issues (what types of motivation can be learned for what activities, especially how to design motivating fitness activities for children); (c) the behavioral regulation processes that help internalize situational interest/motivation into self-initiated motivation; and (d) the transition processes that we can teach children to apply motivation learned in PE in after-school environments.

Summary of key findings

- Motivation research in PE has yet to change its focus due to the current change in PE goals and standards (SHAPE, 2014) and other policy changes in education.
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- Motivation research has been based on five dominant achievement motivation theories: achievement goals, expectancy-value, interest, self-efficacy, and self-determination. Most studies are descriptive and use correlational designs.
- Learner motivation, although an individual mental process, can be learned and acquired during the process of learning PE.
- Perceived competence is an underlying factor responsible for several motivation sources: goal orientations, expectancy beliefs, and self-efficacy. It is also found associated with individual interest and intrinsic motivation.
- Studies on motivation with ethnic minority cultures are lacking. Studies with gender as a variable have generated informative findings. Male and females may view sports through “gendered” lenses, but may likely view physical activity knowledge and skills as “gender neutral.” In addition, gender-appropriateness can be overcome by strong situational interest.
- Helping students learn motivation relies on creating a mastery-goal centered learning environment that deemphasizes social comparison of physical performance. Extrinsic motivation and its associated self-regulation may be helpful for developing positive motivation toward learning PE. Self-regulations can be acquired and should be part of the PE content. Future motivation research needs to further explore the way motivation is learned and internalized for children/adolescents to apply to non-school settings for an active lifestyle.

Reflective questions for discussion

1. In what ways will the PE Standards change affect motivation research in the twenty-first century?
2. Learner perceived competence is the underlying construct in several achievement motivation theories. Discuss the ways perceived competence and its function are viewed in these theories.
3. Motivation researchers believe motivation is based on the acceptance of certain beliefs, goals, values, and emotions. Why is this position important for studying motivation in PE?
4. Do you agree with the position that motivation can be learned and should be part of PE content? Explain your reasons and use research evidence to support them.
5. What implication can one draw from comparing Driftmier (1933) and Solmon et al. (2003) in terms of gender appropriateness?
6. In the limited studies with culturally diverse students (e.g., Vierling et al., 2007), theoretical frameworks developed with western, European student populations were used. Do you think this is a culturally relevant research practice? Why do you think so? Use evidence to support your arguments.

References


Motivation research


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