The Physical Educator Vol. 79 • pp. 330–350 • 2022
https://doi.org/10.18666/TPE-2022-V79-I3-10696

PHYSICAL EDUCATION

Students' Attitudes Toward Physical Education: A Narrative Review

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Abstract

In recent years, there have been more studies on students' attitudes toward physical education (PE). Such interest has derived from the increased levels of physical inactivity and obesity, which have been associated to the quality of PE. This narrative review aims to reflect on current research trends in students' attitudes toward PE and to identify future areas for research in this field. The last two decades of research on this topic have increased our knowledge about students' attitudes toward PE and enhanced our understanding of the strategies that can enhance student development. Future research could focus on (1) validating instruments for measuring students attitudes toward PE, (2) defining the theoretical framework used, and (3) evaluating the effectiveness of educational systems.

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This work was supported by the National Funds through the FCT – Fundação para a Ciência e a Tecnologia, I.P., under the scope of the project UIDB/05198/2020 (Centre for Research and Innovation in Education, inED).

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Attitudes greatly influence what we do and how we value specific experiences in our lives (Phillips & Silverman, 2015). Attitudes can be understood as "a predisposition to respond in a favorable or unfavorable way to an object, person, institution, or event" (Ajzen, 1988, p. 4). According to Silverman (2017), differences in attitudes reflect the diversity of opinions and feelings individuals have toward a wide range of issues, such as the importance of physical education (PE).

In recent years, there has been increased research on students' attitudes toward PE and the influence of students' attitudes on their participation in extracurricular sport and physical activities (Chung & Phillips, 2002; Koca & Demirhan, 2004; Li et al., 2014; Ntovolis et al., 2015; Silverman & Subramaniam, 1999; Subramaniam & Silverman, 2000). In most developed countries, PE is a compulsory curricular subject with objectives aimed at helping students master sporting skills; fostering physical development (i.e., physical conditioning); and promoting student engagement in active, healthy, and long-lasting lifestyles that involve long-term participation in sport and physical activity (Rosado, 2009; Young et al., 2021). For Marttinen et al. (2018), the main goal of PE is to teach children and youth healthy lifestyles that allow them to remain physically active throughout their lives. However, in many cases, athletics and physical activities in PE classes do not satisfy the recommendations of the World Health Organization (Bull et al., 2020). Some advocate for increasing the number of hours spent in PE classes to enable autonomous extracurricular sports *(*Larouche et al., 2015; Stratton et al., 2008). Thus, the problems arising from the low levels of participation in physical activities and the increasingly sedentary behaviors of young people today can only be reduced and/or solved with strategies that foster students' engagement in active, healthy, and long-lasting lifestyles (Landolfi, 2014; Sevil et al., 2016).

Accordingly, the relevance of developing positive attitudes toward PE has been acknowledged and considered a critical goal to achieve over the coming decades (Sevil et al., 2016). In fact, the literature has shown how the development of positive attitudes toward PE can help young people engage in physical activities outside of school, as well as promote an active lifestyle throughout adolescence (Hagger et al., 2003; Haible et al., 2019; Harris, 2014; Mckenzie, 2003; Solmon & Lee, 1996) and adulthood (Kohl & Hobbs, 1998; Subramaniam &

Silverman, 2007). Indeed, several studies have shown that students' attitudes toward PE can change through meaningful experiences, relationships, and increased self-efficacy (Digelidis et al., 2003). In this sense, PE teachers can play an important role in promoting positive attitudes about PE by using appropriate pedagogical strategies, curriculum, instructional models, and teaching styles (Digelidis et al., 2003; Subramaniam & Silverman, 2000; Zeng et al., 2011). However, research must address the connection between quality PE settings and increased levels of physical activity or sport participation over a lifetime. Such a premise requires an ecological approach that situates what we already know and what we need to know moving forward.

Purpose

In this study, we conducted a narrative review focused exclusively on students' attitudes toward PE in elementary school (students between 7 and 11 years old), middle school (students between 12 and 14 years old), and secondary school (students between 15 and 18 years old). Although PE is compulsory, these contexts are crucial and may enhance our understandings. It is important to emphasize that other reviews (Silverman & Subramaniam, 1999; Silverman, 2017) have taken a different approach. Silverman and Subramaniam (1999) focused on the need to create and validate instruments that allow researchers to assess students' attitudes toward PE. On the other hand, Silverman (2017) analyzed students' and teachers' attitudes toward PE. Compared to Silverman (2017), we aimed to conduct a more detailed analysis of students' attitudes toward PE, including studies carried out in a vast array of contexts; we considered other variables, such as gender, socioeconomic status, and level of sports practice. Therefore, this narrative review aims to reflect on current trends of research in students' attitudes toward PE and to identify future directions for research in this field. Specifically, this review covers the measures used to assess students' attitudes, an overview of the main findings from previous studies, and implications for future research.

Prevalent Theoretical Model

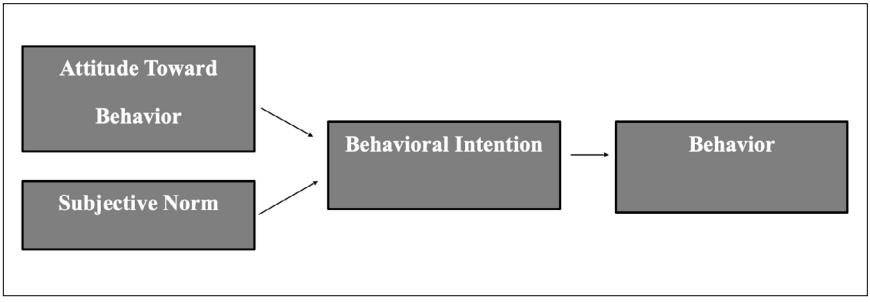
Fishbein and Ajzen (1975), alongside other researchers (Ajzen, 1988; Fishbein & Ajzen, 2010), have made an important contribution to help conceptualize attitudes. Such conceptualization led to several

reflections and discussions about the impact of attitudes on individuals' behaviors. According to Fishbein and Ajzen (1975), attitudes are important factors in predicting human behavior. This means that attitudes are not directly observable, but through them we can predict behavior. The theory of reflected action/theory of reasoned action (TRA) model developed by Fishbein and Ajzen (1975) has evolved over three stages. Despite these nuances, all three stages consider that individuals seek and evaluate the information available to them to make decisions about present and future behaviors.

Initially, Fishbein and Ajzen (1975) developed the TRA (Figure 1). It was developed with the purpose of predicting and understanding individuals' behaviors (i.e., resulting from their conscious choices) as well as specifying the intention to perform a behavior (Fishbein & Ajzen, 1975).

Figure 1

Theory of Reflected Action/Theory of Reasoned Action



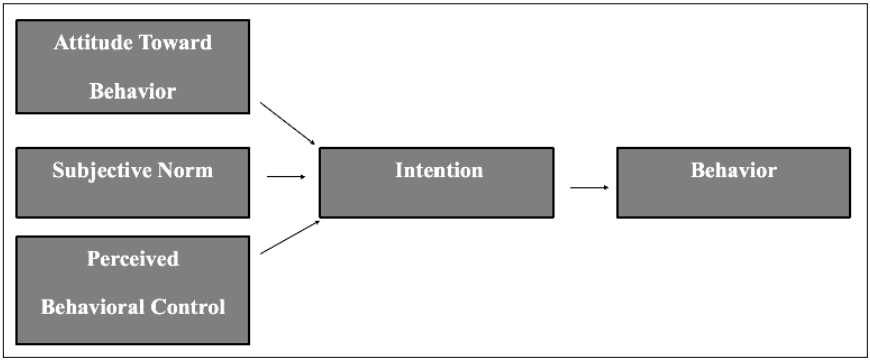
Considering the premises of TRA (Fishbein & Ajzen, 1975), behavior is a balanced choice among several alternatives. Therefore, behavioral intention (dispositions that lead to a behavior) is the best predictor of actual behavior (Fishbein & Ajzen, 1975). A behavioral intention is determined by two important factors: (a) individuals' attitudes toward the behavior—personal influence on the behavior, representing the individuals' judgment toward achievement—and (b) the subjective norms—social pressures that affect the occurrence of a behavior; Fishbein & Ajzen, 1975). Within TRA (Fishbein & Ajzen, 1975), individuals' attitudes toward a behavior are the result of the sum of the individuals' beliefs about a certain behavior and the evaluation of the consequences of that same behavior. In contrast, subjective norms represent the sum of normative beliefs

(i.e., expectations regarding the behavior) and the individual's motivation to adopt a behavior.

Ajzen (1985) modified and expanded the TRA to the theory of planned behavior (TPB; Figure 2). Ajzen (1985) considered TRA insufficient to explain certain behaviors. To the original model, Ajzen (1985) added a new behavioral determinant, perceived behavioral control (perceived difficulty in carrying out the behavior). According to this perspective, Ajzen (1985), the development of behavioral intentions results not only from attitudes toward a behavior and subjective norms but also from the perception of how difficult the behavior would be to implement. This means that the effect of perceived behavioral control on the individual's behavior is fully mediated by intention (Head & Noar, 2013).

Figure 2

Theory of Planned Action/Theory of Planned Behavior

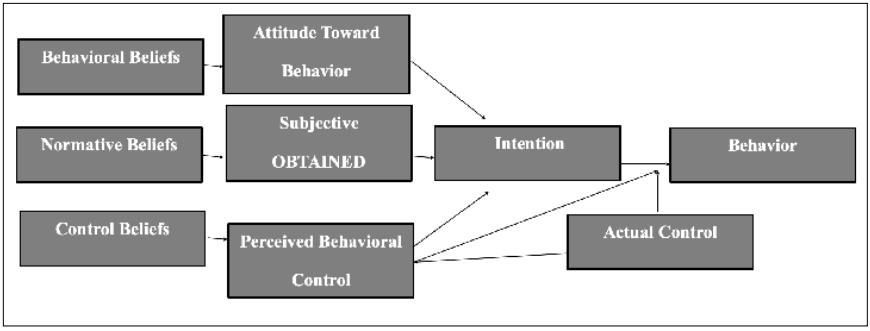


More recently, Fishbein and Ajzen (2010) developed the rational/reasoned action model (RAM; Figure 3). They created this model to identify a restricted set of variables that could contribute to a substantial variation in any behavior (Fishbein & Ajzen, 2010). These variables include intentions, attitudes, the perceived norm, the perceived behavioral control, beliefs about a behavior (usually called cost-benefit or expected results), normative beliefs, and behavioral control (Silverman, 2017).

Within RAM, beliefs acquire a more prominent position and clearly influence the variables included in previous models (Silverman, 2017). In fact, behavioral beliefs influence attitudes, normative beliefs determine the perceived norm, and control beliefs

influence perceived behavioral control. In this model, the subjective norm is now the perceived norm. This model is prevalent in most research on students' attitudes toward PE (Ajzen, 2012; Constantinides & Silverman, 2018; Mercier et al., 2017; Silverman, 2017).

Figure 3
Rational Action Model/Reasoned Action Approach



Research on Students' Attitudes Toward Physical Education

Instruments for Assessing Students' Attitudes Toward Physical Education

To assess students' attitudes toward PE, there are several instruments with appropriate psychometric properties (Subramaniam & Silverman, 2000). Among the main assessment instruments, those developed by Silverman and Subramaniam (1999) and Phillips and Silverman (2012) have been used in vast array of contexts (Mercier et al., 2017; Phillips & Silverman, 2015).

Subramaniam and Silverman (2000) developed the SAtPE (Students Attitudes Toward Physical Education). The SAtPE consists of 20 items (Subramaniam & Silverman, 2000). For each, the students decide their degree of agreement or disagreement on a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*). Nine hundred ninety-five North American students from the sixth, seventh, and eighth grade participated in the validation study (Subramaniam & Silverman, 2000). This instrument is the most frequently used in the high school context (Constantinides & Silverman, 2018; Donovan et al., 2015; Mercier et al., 2017; Scrabis-Fletcher et al., 2016; Scrabis-Fletcher & Silverman, 2017).

In this instrument, attitudes are conceptually understood as a construct comprised of a cognitive component (perceived utility) and an affective component (pleasure). According to this structure, the affective component assesses the degree of emotional attraction or feeling toward an attitude, and the cognitive component refers to beliefs about the characteristics of the attitude (Subramaniam & Silverman, 2007). This means that in the SAtPE the affective component is related to aspects of fun or pleasure while cognition refers to the perceived importance or usefulness of the attitude (Mercier et al., 2017). Each of these components contains two subfactors, the teacher and the curriculum. Since it is difficult to measure perceived behavioral control, Subramaniam and Silverman (2000) used a two-component attitude model.

The SAtPE has also been validated in several countries, such as China (Hu et al., 2014), Cyprus (Constantinides & Silverman, 2018), and Serbia (Lazarević et al., 2015). Phillips and Silverman (2012) adapted and validated the SAtPE (Subramaniam & Silverman, 2000) instrument for elementary school students (fourth and fifth grades). This questionnaire includes 16 items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Likewise, the instrument revealed adequate fidelity and validity for fourth- and fifth-year students (Mercier et al., 2017; Phillips & Silverman, 2015). Thus, to reinforce the notions conveyed in Silverman's (2017) review, there is the need for researchers to continue to validate measures that enable researchers to understand students' attitudes across sociocultural contexts and grade levels.

Findings From Research on Students' Attitudes Toward Physical Education

Research on students' attitudes toward PE has been developed mainly in the United States. However, in recent years, some studies have been carried out in several European and Asian countries (Constantinides & Silverman, 2018; Hu et al., 2014). Many researchers have been interested in verifying whether students have a positive attitude toward PE (Evangelou & Digelidis, 2018; Orlić et al., 2018). In general, studies carried out in the United States have shown that students have moderate to highly positive attitudes toward PE (Marttinen et al., 2018; Mercier et al., 2017; Montalvo & Silverman, 2008; Phillips & Silverman, 2015; Scrabis-Fletcher et al.,

2016; Subramaniam & Silverman, 2000, 2007; Zeng et al., 2011). Although European and Asian countries have different traditions and curricular content, the work developed in these contexts had led to similar results. Indeed, the investigations carried out in China (Hu et al., 2014), Cyprus (Constantinides & Silverman, 2018), Greece (Evangelou & Digelidis, 2018), Serbia (Lazarević et al., 2015; Orlić et al., 2018), and Turkey (Koca & Demirhan, 2004) have shown that students have an overall favorable to moderate attitude toward PE. Piéron (2005) pointed out that one of the reasons for this moderately positive attitude toward PE may be explained by the characteristics of PE itself. According to Piéron, PE has (unlike other academic disciplines) a more practical nature. There is greater freedom on the part of the student (i.e., possibility to make choices) and more opportunities for motor activity and play, which may explain these findings.

Other researchers have been concerned about the evolution of students' attitudes toward PE throughout compulsory education, that is, from elementary education to secondary education (Phillips & Silverman, 2015). Surprisingly, as Constantinides and Silverman (2018) stated, there are still few studies carried out in elementary education (i.e., students aged 7 to 11 years), at time when students are at a sensitive developmental stage and may start to develop motor skills and see PE as a fun, fulfilling, and intrinsically motivating discipline.

For instance, Phillips and Silverman (2015) designed a study to analyze elementary students' attitudes toward PE. One thousand three hundred forty-four North American students from the fourth and fifth grades participated in this study. The findings showed that the fourth-grade students had a significantly more positive attitude than the fifth-grade students. Phillips and Silverman (2015) suggested that the decline in attitude toward PE begins at a relatively early age. Constantinides and Silverman (2018), when examining 763 Cypriot students in fourth, fifth, and sixth grades, found that the younger students showed more favorable attitudes than the older ones. Constantinides and Silverman suggested that attitudes declined as the curriculum became less engaging and challenging.

With slightly different outcomes, the results of the Mercier et al. (2017) longitudinal study showed an increase in students' positive

attitudes from fourth grade to fifth grade; thereafter, they decreased progressively. Generally, research carried out in the United States, Europe, or Asia suggests that students' attitudes toward PE becomes less positive as they move toward the end of their education (Evangelou & Digelidis, 2018; Hu et al., 2014; Lazarević et al., 2015; Marttinen et al., 2018; Mercier et al., 2017; Scrabis-Fletcher et al., 2016; Subramaniam & Silverman, 2000, 2007). However, among the various studies, there are differences in the grade level at which this decrease in favorable attitudes appears. In fact, several studies have said it is in the transition from fifth grade to sixth grade (i.e., the transition from elementary education to middle education in the United States) that there is a significant decline in positive attitudes toward PE (Constantinides & Silverman, 2018; Mercier et al., 2017). Other studies have shown a decrease in later years, specifically in the seventh grade (Evangelou & Digelidis, 2018; Lazarević et al., 2015; Marttinen et al., 2018; Scrabis-Fletcher et al., 2016), eighth grade (Subramaniam & Silverman, 2000, 2007), and ninth grade (Hu et al., 2014). Notably, starting puberty can contribute to less favorable attitudes and studies have shown a similar decline in attitudes toward other curricular disciplines (Kim et al., 2014). In the literature, two reasons for this change are usually mentioned. One is related to the curriculum, particularly the repetition of the course content for PE classes (Carlson, 1995; Subramaniam & Silverman, 2007) and the perception that the curriculum is not useful (Constantinides & Silverman, 2018). The other reason is related to the varied cognitive and socioaffective development of students at different grade levels due to their diverse developmental needs (Subramaniam & Silverman, 2007).

There is little research about secondary education (students from 16 to 18 years old). Studies at this level of education have shown inconsistent results. In fact, while in some studies there was a decrease in students' attitudes toward PE (Evangelou & Digelidis, 2018), in others there was no decline (Orlić et al., 2018). Nonetheless, it is important to have in mind that students at this age become more autonomous and can commit to organized sports or choose extracurricular alternatives that have no physical activity at all. Such decision may derive from the types of experiences they have been exposed to and inherently the PE curriculum, as well as their motor

competence. Further, the resources available in public and private schools to engage students in quality PE may be distinct, which can influence the attitudes toward PE. These nuances may need to be further understood as an integrated system so that we can better explain the findings in studies such as Orlić et al. (2018).

Students' Gender and Attitudes Toward Physical Education

Research has highlighted the influence of students' gender on their attitude toward PE at different levels of education (Constantinides & Silverman, 2018; Phillips & Silverman, 2015). Most of the studies carried out in elementary education found no significant differences in attitudes toward PE between male students and female students (Constantinides & Silverman, 2018; Phillips & Silverman, 2015). However, by high school, there are differences. Thus, some investigations show that male students in secondary school have a more positive attitude toward PE than do their female counterparts, which may be explained by the lack of meaningful opportunities provided to female students and, in turn, motor competence (Koca & Demirhan, 2004; Lazarević et al., 2015; Mercier et al., 2017). However, most studies did not find statistically significant differences in attitudes by gender, whether in high school (Hu et al., 2014; Marttinen et al., 2018; Orlić et al., 2018; Scrabis-Fletcher et al., 2016; Subramaniam & Silverman, 2000, 2007) or in secondary school (Orlić et al., 2018; Zeng et al., 2011), which may be explained by female and male students experiencing PE similarly and being offered the same developmental opportunities. This creates a complex scenario in which many variables still need to be further examined so that we can understand how female and male students develop their perception about PE and the extent to which the developmental opportunities provided by teachers vary.

Students' Socioeconomic Status and Attitudes Toward Physical Education

Curiously, students' socioeconomic context has not received much attention in research on this subject (Aktop, 2010; Zeng et al., 2011). In the Zeng et al. (2011) study that sampled 1,317 American ninth to 12th graders, there were no significant differences in students' attitudes toward PE based on the students' socioeconomic

status despite the fact students were involved in five urban public school districts. Only when asked if there "is a scientific basis for the value of education/physical activity" did middle-class students show a significantly higher scores than those from low or high classes. Multiple schools that serve different socioeconomic regions (suburbs, rural, and urban) may have access to the same facilities and, therefore, have similar attitudes toward their PE. However, students at different schools—some better resourced than others—might show differences. This research venue may need to be further explored.

The Influence of Sports

The relationship between students' attitudes toward PE and sport has been the subject of several studies across the United States and other countries (Hagger et al., 2003; Solmon, 2003; Stewart et al., 1991). Currently, there is sufficient research to suggest that the development of positive attitudes toward PE is a decisive factor for young people to remain active outside of school (Hagger et al., 2003; Solmon, 2003). The results of several investigations on this subject have been converging. Koca and Demirhan (2004) evaluated Turkish secondary school students' attitudes toward PE based on those who practiced sports outside school and those who did not. They proved that male and female students who engaged in sport outside of school had more favorable attitudes toward PE than those who did not practice sport outside of school. Similarly, the Lazarević et al. (2015) study in Serbia found that high school students with better positive attitudes toward PE were more often involved in physical activities outside of the school environment. More recently, Orlić et al. (2018) also found, in another investigation in Serbia, that high school students who practiced sport outside of school had a more positive attitude toward PE than those who did not. These findings support the idea that positive attitudes toward PE can affect students' involvement in physical and sport activities outside of the school environment (Phillips & Silverman, 2015). However, more insight is needed so that we can understand how the quality of developmental experiences in sport also play a role in students' attitudes toward PE. We should have in mind that this is a reciprocal relationship. Further, research could also explore the effects of

collaborations between schools and sport organizations on students' attitudes toward PE.

The Influence of Contextual Variables

Attitudes are affected not only by students' profile but also by contextual factors (Phillips & Silverman, 2015). According to several authors (Mercier et al., 2017; Silverman, 2011; Subramaniam & Silverman, 2000), the teacher and the curriculum are two of the contextual factors that decisively influence students' attitudes toward PE. Luke and Sinclair (1991) concluded that the curriculum is the most important determining factor in the development of positive and negative attitudes toward PE. On the basis of the literature, we can say that several factors connected to the teacher and the curriculum contribute to the development of positive attitudes toward PE (Carlson, 1995; Luke & Sinclair, 1991; Marttinen at al., 2018; Mercier et al., 2017; Montalvo & Silverman, 2008; Orlić et al., 2018; Phillips & Silverman, 2015; Rikard & Banville, 2006; Scrabis-Fletcher & Silverman, 2017; Silverman, 2011; Subramaniam & Mercier, 2017; Subramaniam & Silverman, 2000, 2002, 2007).

First, it has been deemed crucial to provide students with meaningful and challenging PE experiences in which they can learn new activities and skills while being involved in appropriate levels of skill and appropriate levels of challenge. Second, it is equally important to develop activities that correspond to students' physical effort, motor competence, and overall developmental needs. Third, it is also recommended to avoid repetition of content such as the same approach to teaching a sport being used year after year. This also includes increasing students' opportunities to learn various sports activities, consequently reducing their number during the school year. Fourth, appropriately calibrating competitive environments is also paramount. Students need to be engaged in a challenging and inclusive environment. Finally, there is the need to use relevant content that can be transferred out of school and that can influence students' lives more broadly such as encouraging participation in an after-school sport program. On the basis of these recommendations, the teacher plays a crucial role in mediating students' experiences in PE and positive attitudes toward PE (Phillips & Silverman, 2015). The teacher is particularly important in developing students' attitudes because they often select and implement the PE curriculum (Silverman, 2011).

Therefore, it is necessary to understand how PE teachers conceive PE and operationalize these teaching principles.

Luke and Sinclair (1991) alluded to the notion that the teacher's behavior is the second most important determining factor in students' negative attitudes toward PE. According to these authors, the factors that most contribute to negative attitudes are the "evaluation methods" and "lack of opportunities to participate in decision-making." Several researchers have suggested that through several factors, the teacher can contribute to the development of students' negative attitudes toward PE (Constantinides & Silverman, 2018; Digelidis et al., 2003; Mercier et al., 2017; Orlić et al., 2018; Scrabis-Fletcher & Silverman, 2017; Siedentop, 1994, 2004; Silverman, 2011; Subramaniam & Silverman, 2002, 2007). Among these factors, it seems important to highlight the development of an ego-oriented motivational climate and teacher-centered models that do not provide an authentic sports environment wherein competition and inclusion are combined (e.g., sport education model) as well as the lack of maximization of time and students' motor engagement, which fosters fun and enjoyment. These nuances highlight the need to understand teacher education processes (i.e., how are teachers prepared to deliver sound programming?), school functioning (what are the guiding values, beliefs, and principles?), teaching practice (what are teachers actually teaching and how?), and students' attitudes toward PE as an integrated system.

Conclusion

This review examined research on students' attitudes toward PE, specifically considering a broad range of variables that could help situate current trends and identify future research directions. Such efforts may highlight the importance of encouraging participation in extracurricular physical activities as well as the role of context variables (e.g., curriculum, teacher education) in the development of quality PE programming.

Research on this topic is essential for teachers to verify whether students' attitudes are positive or negative and, subsequently, define the best pedagogical strategies to increase students' participation in PE classes, improve students' learning outcomes, and further encourage students' involvement in extracurricular physical activities and sport. Our review allows us to highlight several general

conclusions about research on students' attitudes toward PE. Studies show that, in general, students have moderate to high attitudes toward PE. However, these positive attitudes tend to decrease as students progress in schooling, particularly after puberty. Variables need to be considered concurrently for a better understanding about the quality of PE across sociocultural contexts. Thus, considering the existence of growing concern in several educational contexts toward PE, and in fostering the involvement in sports and physical activities throughout life, this review allows researchers to understand the trends over recent decades, facilitating a prospective look at what needs to be further examined and studied. It is essential to reflect on the cultural relevance of PE and to gather knowledge to enable changes in educational systems and influence how PE is delivered.

Future Studies

Some variables, whether associated with students' profile or context, have an impact on students' attitudes toward PE. More specifically, research shows that participation in extracurricular sports activities, as well as certain contextual factors, such as the teacher and the curriculum, influence students' attitudes toward PE. It should be emphasized that the cultural relevance of PE—specifically the curriculum, PE teachers' practices, and students' attitudes should be explored in future studies to effectively develop ecological changes in various educational systems. It is essential that studies longitudinally track students' behaviors and understand how the curriculum can contribute to helping students adopt active lifestyles, whether during school or in adulthood. The development and study of students' long-term experiences can be explored with the aid of longitudinal research designs that include process variables (e.g., curriculum, PE teacher strategies) and product variables (e.g., student learning outcomes and accession to physical and sports activities, students' motor skills).

The last two decades of research on this topic have increased not only our knowledge about students' attitudes toward PE but also how we can use certain strategies to enhance student development. Moving forward, we need to focus on several lines of inquiry. First, the validation of instruments for the evaluation of the variable "students' attitudes toward PE" may allow for more rigorous studies to be conducted across age groups, grades, and contexts. Second, it is

important to clearly define the theoretical model used and understand through deductive approaches how theory reflects practice. Further, developing new models and approaches that view attitudes toward PE as part of a larger system may impact the quality of PE programming. Finally, to evaluate the effectiveness of an educational system, researchers (and policy makers) may need to consider the need for longitudinal process–product designs wherein the relationship between curriculum, teacher education, teaching practice, among other context variables, and students' attitudes can be explored. Such designs may have the potential to engage educational changes in sustainable change.

The existent knowledge can be increased in realities where research on students' attitudes toward PE has been scarce. An ecological perspective that encompasses variables in the education system in an integrated way can help answer the research questions previously posed and can contribute to the existence of significant and sustainable changes in various education systems. The coming years of research may generate enthusiasm and provide valuable contributions to the creation of a truly transformative PE.

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