

## Original Article

### Student perception of PE teachers and its effect on their participation in PE classes and sports: a new perspective on teacher competencies

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Published online: April 30, 2021

(Accepted for publication April 15, 2021)

DOI:10.7752/jpes.2021.s2139

#### Abstract:

**Background and Study Aim:** A low level of physical activity (PA) is associated with higher mortality and numerous chronic diseases. It also negatively affects the quality of life. Generally, the amount of time children spend in sedentary behaviors increases with age. Therefore, the role of physical education (PE) teachers is very important. PE teachers are of key importance for students' experience of PE and the promotion of participation in sports and physical activity throughout their entire life. The aim of the study was to analyze students' perception of PE teachers and its determinants. **Material & Methods:** The present study is based on a questionnaire completed by 1797 students (979 females and 818 males). The survey was addressed to students attending various secondary schools in one of the districts in eastern Poland. The tool comprised 13 factors assessed on a 5-point scale, pertaining to personal and professional qualities of a teacher. The study also analyzed students' attitudes towards PE and extracurricular sports activities. **Results:** The study showed that communication skills ( $M=4.53$ ,  $SD=0.80$ ) and the ability to cooperate ( $M=4.53$ ,  $SD=0.78$ ) had the greatest impact on students' perception of PE teachers. The least important factor was physical appearance ( $M=3.10$ ,  $SD=1.35$ ). This variable was also the most heterogeneous one. The analysis demonstrated that such variables as gender and attitude to school-based and extracurricular PA differentiate students as regards their perception of teacher competencies. Male students less frequently reported a negative attitude to extracurricular sports activities ( $p<0.001$ ) and PE ( $p<0.001$ ) than female ones. Students displayed a negative attitude towards PE more frequently than to sports activities ( $p<0.001$ ). There is a correlation between male and female students having a negative attitude to PE classes ( $p<0.001$ ) and extracurricular sports activities ( $p<0.001$ ) and the grade in PE. **Conclusions:** The results of the study may contribute to a better understanding of students' needs and help provide teachers with tools to enhance positive student-teacher relations and improve the quality of education. Future research should be conducted on various levels of the educational system to provide a better insight about the relationship between students' perception of teachers and their involvement in physical activity. The study shows that students' perception of teachers differs depending on the former's gender, and attitude to PE and extracurricular sports activities.

**KeyWords:** competencies, habitus, physical education, sport, perception, relationship management

#### Introduction

A physically active lifestyle during adolescence is associated with numerous health and social benefits, including: improved muscular fitness, physical fitness, cardiorespiratory capacity (Smith et al., 2019), physical self-assessment, self-esteem, well-being, and development of self-regulation and coping skills (Lubans et al., 2016); it is positively associated with cognitive and academic performance (Esteban-Cornejo et al., 2015) and reduces the risk of obesity (Ness et al., 2007). It also seems that lifestyle patterns in young age may have their consequences later in life. For instance, research has shown that childhood obesity persists as adulthood obesity, which is associated with an increased risk for numerous diseases (Nadeau et al., 2011).

Despite multiple health, social and psychological benefits of regular PA, its levels have been decreasing all over the world. It is estimated that 30% of young people over 15 years of age and 80% of school-going adolescents aged 13-15 years do not meet the current World Health Organization recommendations on physical activity. Physical activity decreases with age, starting from childhood, through adolescence, to adulthood. This trend has been observed in numerous countries, e.g. the USA, Canada, Lithuania, Poland (Hallal et al., 2012; López-Sánchez et al., 2018; Metelski, 2019).

This points to the key role of schools and PE in promoting physical activity. To date, school interventions in this area have led to increased PA levels in students not only at school, but also outside of it. However, preparation of such interventions often requires intense involvement from principals, teachers and parents. The process is associated with the need to modify or develop new programs, organize additional classes

and introduce changes in the area of teacher competencies (Kriemler et al., 2011). These interventions also depend on various legal, organizational and financial factors. Thus, there is a need to search for other ways of promoting school-based and extracurricular PA within the existing educational programs and structures. One of the ways to achieve this goal is to create an atmosphere conducive to PA at school and during PE classes, and a positive image of PE teachers.

The classical model of a good teacher comprises two categories: personal qualities, and knowledge of the subject taught and professional and teaching skills (Arnon&Reichel, 2007), which have an impact on students. This suggests that exploring students' expectations about competencies of their PE teachers may allow for improving the quality of education and increase students' involvement in PE classes and extracurricular sports activities. Such an approach towards promoting PA stems from the fact that the perception of the school environment by students is related to, among other factors, their well-being (Konu et al., 2002), academic achievement (Wang & Holcombe, 2010), and attitude towards school-based PA (Evangelou&Digelidis, 2018).

The school environment is one of the most important factors shaping students' attitudes towards physical activity and health. A PE teacher who is the main representative of this environment, as a physical activity specialist, should be a role model for students as regards maintaining physical shape and fitness, and leading an active lifestyle. This is how he/she should be perceived. This complexity of a teacher's influence goes far beyond sharing their knowledge and skills. Searching for new ways of developing teachers' professionalism stems from social and economic changes that have taken place in recent years (Arnon&Reichel, 2007). To date, studies on student perception of teachers (competencies, traits) and its impact on student behavior have been selective. These studies pertained to the quality of communication and student-teacher relations, lesson topics, atmosphere, or teacher personality traits (Bavčević et al., 2018; Constantinou et al., 2009; Zalech, 2011). The present study aims to fill this gap and provide important information that is essential for the discussion of changes in the teacher education process and image management skills in the school environment.

The main assumption of the study is to test the concept of shaping students' attitudes towards PE and extracurricular sports activities based on the desired competencies of teachers, i.e. their positive image. The aim of the study is to: (a) determine which teacher qualities and skills affect students' perception of PE teachers; (b) examine students' attitude to PE and extracurricular sports activities. The study has focused on identifying differences and similarities in the profile of a good teacher in relation to students' gender, attitude to PE and extracurricular sports activities, and final grade in PE.

## **Material & methods**

### *Participants*

The selection of the research sample was carried out in two steps. The first step involved school selection. Sampling from the Ministry of Education database was performed using a simple random sampling procedure. The study was conducted in 20% of secondary schools in one of the districts in eastern Poland. In the second step, the number of classes to be included in the study was based on the type of school and the number of students. The average size of a class was 20-30 students. The classes were selected based on their availability, and the survey was anonymous. The present study was based on a questionnaire filled in by 1797 students (979 females  $M=15.92$ ,  $SD=0.82$  and 818 males  $M=16.02$ ,  $SD=0.86$ ), comprising 89% of all the respondents who completed the survey. Such sampling of the population studied can be classified as a mixed-mode sampling project. The variability and size of the sample ensured its representativeness enabling implementation of quantitative inferential methods.

### *Measure*

The analysis pertained to the part of the questionnaire that was used to examine students' expectations and preferences regarding the quality of work, traits, skills, behavior, attitudes, and values of a good PE teacher. During consultations held as part of the questionnaire preparation phase, both principals and teachers noted that it would be difficult to conduct a study involving students' direct assessment of specific teachers. This could result in teachers' lack of interest in such a study, or even their objection to having it carried out in a given school. Therefore, the questions did not directly pertain to specific teachers, but referred to the entire social group of PE teachers.

In the first question, the students assessed the impact of each of the 11 factors (qualities or skills) on their perception of a PE teacher. The responses were marked on a scale from 1 to 5 (1 = very small, 5 = very large). The participants assessed the teacher's: (I) motor (sports) skills; (II) communication skills; (III) outfit; (IV) physical appearance; (V) ability to cooperate with students; (VI) ability to maintain order and discipline; (VII) politeness; (VIII) attractiveness of classes; (IX) assessment method; (X) ability to create a positive atmosphere; (XI) teaching skills; (XII) personality, and (XIII) experience.

Two questions concerned students' attitudes to PE classes and extracurricular sports activities. These questions were answered on a dichotomous scale. Basic information, such as sex, age, and final grade in PE, was also collected.

*Statistical analysis*

All statistical analyses were performed and graphical representations were prepared using Statistica version 13.3 software. The results are presented as percentages, or means (M) and standard deviations (SD). Comparisons between two independent groups were performed using Student's t-test. Pearson's Chi-square test was used to compare categorical data ( $\chi^2$ ) and the z-test was used for a difference of proportions. A level of  $p < 0.05$  was considered statistically significant. Cramér's V coefficient was used to test the strength of association between the variables.

**Results**

Table 1 presents gender differences in how students perceive the importance of teacher qualities and skills. Factors that had the greatest influence on students' perception were the teacher's communication skills, and their ability to cooperate and create a positive atmosphere. On the other hand, the teacher's physical appearance and outfit had the least influence on that perception. Female students assigned lesser importance to physical appearance than male students. Male students assigned lesser importance to the influence of most of the factors analyzed on their perception of a PE teacher (Table 1).

**Table 1. Assessment of the influence of teacher qualities and skills on students' perception of PE teachers relative to gender**

Factors	Total (n=1797) M±SD	Males (n=818) M±SD	Females (n=979) M±SD	t	p
I	4.11±1.08	3.97±1.20	4.23±0.95	-5.17	0.000
II	4.53±0.80	4.40±0.89	4.63±0.69	-6.27	0.000
III	3.22±1.26	3.17±1.30	3.26±1.22	-1.53	0.125
IV	3.10±1.35	3.20±1.33	3.02±1.37	2.77	0.005
V	4.53±0.78	4.41±0.88	4.62±0.68	-5.80	0.000
VI	3.96±1.05	3.91±1.14	4.01±0.97	-2.02	0.044
VII	4.09±1.01	3.91±1.10	4.24±0.91	-7.01	0.000
VIII	4.28±0.94	4.18±1.01	4.37±0.86	-4.40	0.000
IX	4.16±0.97	4.02±1.03	4.27±0.89	-5.41	0.000
X	4.32±0.88	4.17±0.98	4.45±0.77	-6.91	0.000
XI	3.91±1.01	3.75±1.11	4.04±0.91	-6.15	0.000
XII	3.86±1.08	3.78±1.13	3.93±1.03	-2.81	0.005
XIII	3.77±1.24	3.72±1.27	3.81±1.21	-1.59	0.113

Among all the students surveyed, 69.09% (n=1241) had a positive attitude to both PE classes and extracurricular sports activities. The proportion of students who were positive about extracurricular sports activities, but had a negative attitude to PE classes was 16.25% (n=292). On the other hand, 3.67% (n=292) of students had a negative attitude to extracurricular sports activities, but a positive one to PE classes. Finally, 11.02% (n=198) of students had a negative attitude to both PE classes and extracurricular sports activities.

A lower percentage of male students were negative about extracurricular sports activities (10.51%) as compared to female students (18.18%) ( $\chi^2(1)=20.91$ ,  $p < 0.001$ ). A higher percentage of female students (33.50%) as compared to male students (19.80%) had a negative attitude to PE classes ( $\chi^2(1)=42.17$ ,  $p < 0.001$ ).

There is a correlation between the attitude to PE and the attitude to extracurricular sports activities ( $\chi^2(1)=355.52$ ,  $p < 0.001$ ). The result of the z-test ( $z=11.94$ ,  $p < 0.000$ ) indicates that the negative attitude towards PE classes is more frequent than the negative attitude to extracurricular sports activities.

The impact of the teacher's ability to maintain order and discipline ( $t=4.86$ ,  $p < 0.001$ ), attractiveness of classes ( $t=3.69$ ,  $p < 0.001$ ) and experience ( $t=2.32$ ,  $p=0.02$ ) on the perception of the teacher was significantly higher among students with positive attitudes toward extracurricular sports activities. On the other hand, the influence of the teacher's communication skills ( $t=2.22$ ,  $p=0.03$ ), ability to conduct attractive classes ( $t=4.80$ ,  $p < 0.001$ ), personality ( $t=2.79$ ,  $p < 0.005$ ), and experience ( $t=2.49$ ,  $p < 0.01$ ) were scored higher by those respondents who had a positive attitude to PE classes.

There was a significant correlation between the grade in the subject and the attitude to PE ( $\chi^2(4)=159.31$ ,  $p < 0.001$ ). Data interpretation yields a conclusion that students who had lower grades also presented a more negative attitude to PE. Cramér's V coefficient = 0.30 indicates a very strong relationship between the grade in PE and the attitude towards it (Table 2). Nearly 65% of students with the lowest grades had a negative attitude to physical education.

The percentage of students with a negative attitude decreased along with better grades in the subject. A negative attitude to PE classes was observed in 10% of students with the highest grades. A significant correlation was also revealed between the students' grades in PE and their attitudes to extracurricular sports activities ( $\chi^2(4)=203.73$ ,  $p < 0.001$ ). A lower percentage of students with high grades had a negative attitude to extracurricular sports activities. There was a very strong correlation between these variables, Cramér's V = 0.34 (Table 2).

**Table 2.** Percentage of students (n=1797) with a negative attitude to PE classes and sports activities relative to grade in PE

Negative attitude to:	Grades				
	6* A**	5* B**	4* C**	3* D**	1-2* F (E)**
PE	10.25%	21.56%	33.54%	54.70%	64.86%
Sports	3.18%	8.55%	20.86%	32.04%	70.27%

\* grading system in Poland, 1 – the lowest grade; 6 – the highest grade

\*\* grading system in the USA

There is a correlation between male and female students who have a negative attitude to PE classes ( $\chi^2(4)=28.92$ ,  $p<0.001$ ; Cramér's  $V=0.33$ ) and extracurricular sports activities ( $\chi^2(4)=30.89$ ,  $p<0.001$ ; Cramér's  $V=0.25$ ) and the grade in PE class (Table 3).

**Table 3.** Percentage of male and female students with a negative attitude to PE classes and sports activities relative to grade in PE

Negative attitude to:		Grades				
		6* A**	5* B**	4* C**	3* D**	1-2* F (E)**
PE	F (n=328)	2.74%	16.16%	37.50%	39.33%	4.27%
	M (n=162)	9.26%	28.40%	25.31%	27.78%	9.26%
Sports	F (n=178)	5.06%	17.98%	39.89%	33.71%	3.37%
	M (n=86)	19.77%	30.23%	36.05%	10.47%	3.49%

\* grading system in Poland, 1 – the lowest grade; 6 – the highest grade

\*\* grading system in the USA

## Discussion

The present study demonstrated that a good PE teacher is a person with well-developed communication skills and the ability to cooperate with students. In their study, Igwe & Joseph (2019) confirmed a significant relationship between students' perception of these teacher competencies and academic performance in theoretical subjects. The experiences of university students in PE also showed that the effectiveness of the teaching process depends on communication and content clarity, as well as openness and cooperation with pupils (Bavčević et al., 2018).

Other important skills of teachers which, according to students, significantly shape their positive image are the ability to conduct attractive classes and the ability to create a positive atmosphere. Both the variety of activities and the atmosphere are important determinants of a positive approach and may significantly improve attitudes to physical education among young people of both genders (Luke & Sinclair, 1991). Teachers' interpersonal skills are crucial in creating a positive atmosphere, as they determine student engagement and performance, and contribute to developing patterns of appropriate behavior towards peers (Barr, 2016). The present study also demonstrated that the importance attributed to the majority of skills and traits determining students' perception of a PE teacher depends on the former's gender, and attitudes to PE and extracurricular sports activities.

The least important factor influencing students' perception of teachers is physical appearance. This low significance of this factor requires a wider explanation, as the research conducted to date has indicated that people infer about character traits of others based on their appearance (Olivola & Todorov, 2010). However, this study suggests that the long-term relationship that takes place between teachers and students can significantly correct these spontaneous judgments. It is assumed that in the case of long-term relationships, the way the teacher is perceived is more influenced by his or her behavior and personality traits that are revealed in direct contact with students (Zalech, 2011). Furthermore, teacher outfits turned out to have little impact on students' perception. The low importance of this factor may result from the dress code that is required in the work of a PE teacher. Clothes of this type are characterized by a high degree of similarity and esthetics.

Most students in the present study had a positive attitude to PE classes and extracurricular sports activities. This finding is consistent with a study by Zorio-Ferreres et al. (2018), who also found that students attach great importance to the subject and participate in extracurricular physical activity. It should be noted that the attitude to PE is negatively correlated with the increase in the level of education and age (Evangelou & Digelidis, 2018). An important predictor of the interest in PE at the secondary school level is the perception of teachers' personality by students (Ampadu, 2012).

The present study showed that there was a relationship between the attitude to PE and that to extracurricular sports activities. A significantly higher number of both male and female students had a negative attitude to PE than to extracurricular sports activities. The attitude towards these two forms of physical activity during adolescence is an important predictor of physical activity in young adulthood (Kjønniksen et al., 2009).

The results of studies by various authors show that there are many factors determining gender differentiation in attitudes towards PE and sports activity. These are both environment-related and student-related factors, which include: fun and enjoyment, physical activity in free time, the possibility of improving physical fitness (Dismore & Bailey, 2011), the atmosphere of peer rivalry and behavior (Constantinou et al., 2009), and the amount and type of feedback (Nicaise et al., 2006).

The lower the grade in physical education, regardless of gender, the higher the percentage of students with negative attitudes toward this subject and extracurricular sports activities. Male students with high grades in physical education reported negative attitudes to physical education and extracurricular sports activities more often than female students with the same grades. Further research is needed to explain this issue.

### Conclusions

The present study was to assess which competencies of teachers determine their perception by students presenting different attitudes to school-based and extracurricular physical activity. A positive image of a PE teacher has a powerful impact on creating an appropriate educational setting and motivational atmosphere, which increase the effectiveness of promoting positive attitudes towards PA among students. The present identification of teacher competencies that are sought-after by students shows which of them should be emphasized during the educational process. To be positively perceived by students, teachers should improve their communication and group work skills, create a favourable atmosphere conducive to greater involvement, and conduct attractive classes. The results of the study demonstrated that skills and traits of a teacher are of greater importance to female students than to male ones. This suggests that creating a positive image among female students may be more demanding as compared to male students. An important variable affecting student perception of a teacher was the attitude to PE and extracurricular sports activities, which strongly correlated with the grade in PE. The study showed that the lower the grade, the higher the proportion of students who had a negative attitude to the subject. This points to a need of conducting further qualitative research in order to identify factors that affect students' attitude to PE and determine the role of a PE teacher in this area.

Teachers should be aware of the differing expectations that stem from the students' attitude to PE and extracurricular sports activities, gender (psychological differences), and academic performance. It is important to include a discussion on the role of the teacher's image in achieving teaching and educational goals in the vocational education and development of teachers, so that this tool could be consciously used in the educational process. This can be facilitated by the fact that most teachers have a positive attitude to professional development (Muszkieta et al., 2019). Thus, they are open to implementing interventions and changes within their subject, and improving their competencies.

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