

The Effect of “Physical Education and Sport Culture” Course on the Attitudes of Preservice Classroom Teachers towards Physical Education and Sports

Yakup Koç¹

¹ Faculty of Education, Erzincan University, Erzincan, Turkey

Correspondence: Faculty of Education, Erzincan University, Erzincan, Turkey. E-mail: ykoc79@gmail.com

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Abstract

The study aims to investigate the effect of “Physical Education and Sport Culture” (PESC) course on the attitudes of preservice classroom teachers towards physical education and sports. The one group pre-test post-test design among experimental models which is included in quantitative research designs was employed in the study. The study was conducted on a total of 90 sophomores (66 female and 24 male) taking PESC course offered in Erzincan University Faculty of Education Classroom Teaching Program during the fall term in 2016-2017 academic year. The “Physical Education and Sports Scale” was used to measure attitudes of students towards physical education and sports both at the beginning and end of the term, and the “personal details form” prepared by the researcher was used for data collection purpose. An analysis of pre-test post-test attitude scores of preservice teachers taking PESC course indicated a significant difference between pre-course ($\bar{x}=94.43$) and post-course attitude scores ($\bar{x}=97.49$) ($t_{(89)}=-2.291, p<0.05$). The size of effect that is calculated after the test ($d=.25$) showed a medium level of difference. The results concluded that PESC course taken by preservice classroom teachers has a positive effect on their attitudes towards physical education and sports.

Keywords: Attitude, Physical education and sports, Preservice classroom teachers, Physical activity

1. Introduction

Educating individuals in terms of physical, cognitive, emotional and social aspects as a whole is among basic principles of the modern education concept. Achieving educational aims with this modern perspective is only possible through physical education of individuals along with cognitive education. Physical education is an ideal field where cooperation, a suitable level of competition, personal and social responsibility are taught (Pettifor, 1999), and it is an inseparable part of the general education (Aracı, 1998). Games as well as activities which are arranged in the form of games and which prepare the students for future sports activities beginning from the primary school are of great importance. It is hard or even impossible to acquire some skills and physical activity habits after a certain age (Tamer, 1987). Therefore, it is schools' responsibility to create a suitable learning environment, and make students get into the life-long habit of daily physical activities and gain a healthy life style. In fact, when we look at children in school, we find that attitudes towards physical education and sport courses are positive in general (Güllü, 2007; Koç & Tamer, 2016). However, as the age increases, the attitudes of the students decrease and the physical activities could not become lifelong habits (Arabacı & Çankaya (2007; Savcı, Öztürk, Arkan, İnal, & Tokgözoğlu, 2006; Şanlı, 2008).

Although benefits of regular physical education in primary schools for the purpose of making children get into healthy life habits are constantly emphasized, unfortunately many classroom teachers keep away from physical education courses since they lack confidence, teaching knowledge and time required to instruct physical education courses effectively (Morgan & Bourke, 2004; Yıldız & Güven, 2014). Some classroom teachers refuse to integrate new ideas with regard to physical education into their knowledge and practice or stay indifferent to such ideas, and maintain outdated knowledge and practices (Barnes, 2002). Yet teachers instructing physical education courses at the primary school stage are held responsible to prepare and execute a syllabus that would make students get into physical activity habits due to its positive effects on development of children (Darst & Pangrazi, 2009). In Turkey,

physical education courses in primary schools during grades 1-4 are instructed by classroom teachers. In general, the “Games and physical activities” course which is included in the curriculum of primary schools appears to be an activity which is mentioned in weekly schedules, but which is only filled with tests aiming to support mathematics and Turkish courses (Gürsel, 2005). Although classroom teachers believe in the importance of the games and physical activities course, they have difficulty in what to teach during the class. As a result, well-rounded education and development of children, who require activities and games more than anyone else, are hindered (Pehlivan, 2001).

Among reasons for classroom teachers for their nonattendance to physical education programs are their knowledge levels, experiences, attitudes and environmental conditions (Kim & Taggart, 2004; Roth, 2005). A quality physical education course requires an effective teacher. Knowledge, skills and attitudes of teachers are important in learning of students. An attitude is defined as “a disposition attributed to an individual who regularly creates feelings, thoughts and behaviors with regard to a psychological object” (Kağıtçıbaşı, 1999). In general, attitudes of classroom teachers towards practices regarding physical education course syllabus can be considered as negative (Arslan & Altay, 2008). In their studies, Xiang, Lowy and McBride (2002), and Portman (1996) have found that many teachers who have not gained a good level of physical education understanding adopt negative attitudes towards physical education. Attitudes of preservice or regular classroom teachers towards physical education and sports have been studied by their grades, genders, activity in sports etc. (Dalaman, 2015; Yazıcı, Kalkavan & Özdilek, 2016; Yıldız, 2010). However, a literature review did not return any study on attitudes of preservice classroom teachers towards physical education and sports by their body mass indices or physical activity levels. In general, there is only a few numbers of large-scale studies in Turkey on physical activity levels (Savcı et al., 2006).

A great majority of the community perceives the physical activity concept as the synonym for “sports” and “exercise” words. Although physical activity, sports and exercise concepts have different meanings, most of the time they are used interchangeably (Caspersen, Pereira & Curran, 2000). According to Rowland and Freedson (1994), physical activity is the energy consumed by a body by means of its skeletal muscles or amount of daily movement of an individual. Among significant reasons that increase prevalence of chronic diseases such as obesity, cardiovascular diseases, hypertension, diabetes and osteoporosis are insufficient knowledge of individuals regarding physical activity, unawareness with regard to importance of physical activity for health, and sedentary lifestyle becoming widespread along with the rise in technology (MacAuley, 1994; U.S. Department of Health and Human Services, 1996). A great diversity of methods in the literature regarding measurement of the physical activity level poses a challenge in comparison of results (Laporte, Montoye, & Caspersen, 1985). Due to economic reasons, many researchers prefer questionnaires among subjective methods (Kreska & Caspersen, 1997) to which the International Physical Activity Questionnaire (IPAQ) can be given as an example (Atenz, 2001; www.ipaq.ki.se).

The effect of courses related to physical education and sports which are taken in universities has not been researched sufficiently in field studies. However, Allison (1990) has emphasized the need for researchers to focus on studies related to preservice and regular classroom teachers and the physical education course due to the responsibility that classroom teachers have with regard to instructing physical education courses. Some courses are offered during undergraduate study of preservice classroom teachers to develop their competence with regard to the physical education course. According to the teacher education program introduced in 2006-2007 Academic Year, “Physical Education and Sport Culture” (PESC) and “Physical Education and Game Teaching” courses which are offered in the third and fourth terms of the classroom teaching undergraduate program consist of two parts, namely theoretical and practical parts, and each has 3 weekly course hours (Board of Higher Education, 2007). The content of PESC course, which is offered in faculties of education’ programs in Turkey, is determined by the Board of Higher Education and covers subjects such as orders, marching, turns, line forming, tools and materials used in physical education courses, free gymnastics exercises, injuries, first aid and sport branches such as soccer, volleyball and basketball. The Physical Education and Game Teaching course covers subjects such as lecturing methods in physical education courses, classroom management, assessment and evaluation, syllabus and working plans, educational games, modern folk dances and game teaching (Aracı, 2007). It has been argued that attitudes of preservice classroom teachers towards courses they take during preservice education period play an important role in all activities they attend to during their professional life (Bağcı, 2007) and particularly, their attitudes towards the physical activity significantly affect the behaviors and learning outcomes which they will offer to their students (Parks, Solmon, & Lee, 2007). A literature review did not return any qualitative or quantitative study on to what extent courses related to physical education which are offered during undergraduate study affect attitudes of preservice classroom teachers in terms different variables. Understanding the effect of PESC course on attitudes of Preservice teachers towards physical education and sports would enhance the importance of this course in the university.

The main aim of the study is to investigate the effect of “Physical Education and Sport Culture” course on the attitudes of preservice classroom teachers towards physical education and sports. Another aim of the study is the investigation of attitudes of preservice classroom teachers towards physical education and sports in terms of independent variables.

2. Method

2.1 Model of the Study

The study was built on the quantitative research model, and one group pretest-posttest design was employed (Karasar, 2006).

2.2 Study Group

The study group consisted of 105 sophomores studying in Erzincan University Faculty of Education Department of Classroom Teaching during 2016-2017 academic year. All data regarding 90 preservice teachers (being 65 females and 25 males) of the study group were collected and these data were used in the study. Age range of the preservice teachers was 19 - 28 with a mean of 21.12 (Sd=1.48).

2.3 Data Collection Tools

The “Physical Education and Sports Scale”, the International Physical Activity Questionnaire (IPAQ) (short form) and a “Personal Details Form” were utilized in the study as a means of collecting data.

2.3.1 The Physical Education and Sports Scale (PESS)

This scale was developed by Demirhan and Altay (2001) and it consists of a total of 24 items (12 of them positive and 12 of them negative). Questions may be replied with a 5-point Likert scale represented by “Strongly disagree”, “disagree”, “neutral”, “agree”, “strongly agree” answers. The highest possible score is 120 and the lowest possible score is 24. In the exploratory factor analysis of BESTÖ for preservice classroom teachers (n= 90), KMO value was found .83 and Bartlett test was significant ($\chi^2=1049.83$; $p < .001$). It is understood that the one factor structure reflected 34.21% of total variance. In social sciences, a value greater than 30% is sufficient for a one-factor scale (Büyükoztürk, 2008). The correlation values between the items and total ranged between .34 and .72. No items were excluded. The reliability of Cronbach Alpha internal consistency of the scale was .91. The scale was found to be valid, reliable and suitable for this study group.

2.3.2 The International Physical Activity Questionnaire (IPAQ) (Short Form)

The questionnaire which was used to portray the study group consists of 4 separate sections and a total of 7 questions. It is recommended to use the questionnaire for adults with an age range of 18-69. Studies have shown that IPAQ (short form) is a reliable and valid method for determining physical activity (Craig, Marshall, Sjostrom, Bauman & Booth, 2003; Ateiz, 2001). Besides, validity and reliability of its Turkish version have been accepted for Turkey (Öztürk, 2005). The questionnaire contains questions about physical activities performed for at least 10 minutes within the last 7 days. The questionnaire tries to find the answers for how much time and for how many days in the recent week a) Vigorous physical activities (High), b) Moderate level physical activities (Moderate), c) Walking (Low) have been performed. MET method is used to determine the physical activity level. In IPAQ, consumption assumptions are as follows: Vigorous Intensity = 8.0 MET, Moderate Intensity = 4.0 MET, Walking = 3.3 MET. A total consumed MET amount during three different physical activities performed by a person is calculated based on duration of such activities and their weekly frequencies. Physical Activity levels have been classified in 3 categories (Inactive, Minimally Active and HEPA active) based on the obtained MET values (Ateiz, 2001; IPAQ, 2017).

2.3.3 Personal Details Form

Heights and weights of the students in the study group were measured using sensitive devices during the pre-test and post-test, and their Body Mass Indices (BMI) were calculated. BMI classification was made according to World Health Organization (WHO) evaluation (Underweight=below 18.5, Normal= 18.5-24.99, Overweight= 30-39.99, Obese=above 40).

2.4 Procedure

The study group consisted of a total of 105 preservice teachers in 3 classes. At the beginning of the term, the “Physical Education and Sports Scale” and the International Physical Activity Questionnaire form (Short Form) were applied, and heights and weights of the students were measured and recorded in the personal details form. After pre-test details were obtained, 2 hours per week of practical and 1 hour per week of theoretical courses were lectured

for 12 weeks during the term. The same program was implemented for all classes. Practical lessons were offered as a block class (100 minutes). All the students were strongly encouraged to attend the class actively as far as possible. The syllabus was followed attentively. On the average, each class consisted of gathering and an introductory speech (10 min), warming-up (15 min), the main part (45 min), educational games (15 min) and free activity and ending up (15 min). At the end of the term, the “Physical Education and Sports Scale” was implemented on preservice teachers and their weights were measured and recorded in the personal details form.

2.5 Analysis of Data

The obtained data were analyzed using SPSS (Statistical Package for Social Sciences) statistical software package. Frequency, arithmetical mean, standard deviation, t-test and one-way analysis of variance (ANOVA) were utilized as statistical methods for evaluation of the data. Based on the Skewness and Kurtosis values (-2,+2 range), and the results of Levene (homogeneity of variances) test for normal distribution status of data, it was decided whether the data satisfied preconditions of parametric tests or not (Field, 2013).

3. Results

Table 1. Personal information of the preservice classroom teachers

Variables	Groups		
		f	%
Gender	Female	66	73.3
	Male	24	26.7
IPAQ (Short Form) Classification	Inactive (1)	15	16.7
	Minimally Active (2)	62	68.9
	Hepa Active (3)	13	14.4
BMI Classification (Pre-test)	Underweight (1)	14	15.6
	Normal (2)	60	66.7
	Overweight (3)	14	15.6
	Obese (4)	2	2.2
BMI Classification (Post-test)	Underweight	9	10.0
	Normal	65	72.2
	Overweight	14	15.6
	Obese	2	2.2

Table 2. Descriptive statistics of preservice classroom teachers

	\bar{x}	Sd	Min.	Max	Skewness	Kurtosis
IPAQ (Short Form) Classification	1.98	.56	1	3	-.01	.30
BMI Classification (Pre-test)	2.04	.63	1	4	.51	1.17
BMI Classification (Post-test)	2.10	.58	1	4	.70	1.99
Attitude (Pre-test)	94.43	14.54	53	120	-.31	-.54
Attitude (Post-test)	97.49	15.92	44	120	-1.00	1.50

Table 2 contains descriptive statistics of preservice classroom teacher (Means and standard deviations, normality). An analysis of table 2 indicates that skewness and kurtosis values of the data of preservice classroom teachers which would be used in the study were suitable for usage of parametric tests.

Table 3. Comparison of pre-test and post-test attitudes of preservice classroom teachers by gender (t-Test)

	Gender	N	\bar{x}	Sd.	df.	t	p
Pre-test	Female	66	92.76	14.76	88	-1,837	.070
	Male	24	99.04	13.12			
Post-test	Female	66	95.68	15.26	88	-1,809	.074
	Male	24	102.46	16.95			

As indicated by Table 3, while no significant difference was observed between pre-test and post-test attitudes of preservice teachers by gender ($p>0.05$), male attitudes were higher.

Table 4. Comparison of pre-test attitudes of the students in terms of their IPAQ classification (One-Way Anova)

Factor	Physical Activity Level	N	\bar{x}	Sd	F	p
IPAQ (Short Form) Classification	Inactive	15	88.47	14.48	2,828	.065
	Minimally Active	62	94.44	14.30		
	Hepa Active	13	101.31	13.74		

No significant difference between attitudes of preservice teachers by their physical activity levels was observed ($p>0.05$). However, attitudes of preservice teachers increased as their activity levels increased (Table 4).

Table 5. Comparison of pre-test and post-test attitudes by BMI levels (t-Test)

Group	Test	N	\bar{x}	Sd.	df	t	p
Underweight	Pre-test	14	94.14	16.06	13	.225	.825
	Post-test	14	93.14	21.20			
Normal	Pre-test	60	94.65	14.52	59	-2,151	.036
	Post-test	60	98.03	14.94			
Overweight and Obese*	Pre-test	16	93.88	14.16	15	-2,092	.054
	Post-test	16	99.25	14.62			

$p<.05$ *Due to low number of obese group participants (n =2), the obese group was merged with the overweight group.

Table 5 shows a significant increase in attitudes of preservice teachers with normal BMI values ($p<.05$). On the other hand, no significant difference was observed between attitudes of preservice teachers included in the underweight group and in the merged overweight-obese group ($p>0.05$).

Table 6. Comparison of pre-test and post-test attitudes of preservice teachers (t-Test)

Group	Test	N	\bar{x}	Sd.	df	t	p
Female	Pre-test	66	92.76	14.76	65	-1,822	.073
	Post-test	66	95.68	15.26			
Male	Pre-test	24	99.04	13.12	23	-1,421	.169
	Post-test	24	102.46	16.95			
All	Pre-test	90	94.43	14.54	89	-2,291	.024
	Post-test	90	97.49	15.92			

$p<.05$

An analysis of pretest-posttest physical education and sports attitude scores of all preservice teachers taking PESC course indicated a significant difference between pre-course ($\bar{x}= 94.43$) and post-course attitude scores ($\bar{x}= 97.49$) ($t_{(89)} = -2.291, p<0.05$). The size of effect that was calculated after the test ($d=.25$) showed a medium level of difference.

No significant difference was found between pre-test and post-test results of females and males ($p>0.05$). However, an increase was observed in post-test attitudes of both genders (Table 5).

4. Discussion

The results of the study on investigation of the effect of compulsory PESC course offered to preservice classroom teachers in the university on their attitudes towards physical education and sports were discussed below.

Among preservice classroom teachers included in the study, 17% of them were physically inactive, 69% were minimally active and only 14% of them were sufficiently active. A few other studies have demonstrated a similar distribution. For instance, a study on university students has found approx. 15% of the student as physically inactive, 68% of them as minimally active and only 18% of them as sufficiently active (Savcı et al., 2006). Another study by Arabacı and Çankaya (2007) on physical education teachers has demonstrated their physical activity levels as inactive for 41.6% of them, as minimally active for 41.6% of them and as HEPA active for 16.8% of them. Likewise, Şanlı (2008) has reported that 17.1% of teachers are physically inactive, 63.9% of them display a poor level of physical activity and 19% of them are satisfactory in terms of maintaining their physical activity levels. It is remarkable that physical activity levels of university students are notably low all over the world (Hallal, Victora, Wells, & Lima, 2003).

Whereas an analysis of pre-test and post-test attitudes of preservice teachers failed to show a significant difference, attitudes of males towards physical education and sports were higher. This was considered to be due to the small size of the study group. Dalaman (2015) could not find a significant difference between attitudes of preservice teachers towards the “Physical education and game teaching” course by gender. In general, studies covering various age groups have resulted in higher attitudes of males towards physical education and sports (Arslan & Altay, 2009; Chung & Philips, 2002; Koca & Demirhan, 2004; Matanin & Collier, 2003; Öncü, 2013; Stelzer Ernest, Fenster, & Langford, 2004; Yıldız, 2010). However, some studies on students from primary schools report higher attitude scores for female students compared to male students (Aydoğan, 2016; Aydoğan, 2017; Koçak & Hürmeriç, 2006; Birtwistle & Brodie, 1991). Apart from these, it has reported a higher attitude for female students until age 14 compared to males and vice versa after that age. Similar studies have emphasized on development characteristics of female students as a cause of their development of low attitude especially after puberty, and female students have been shown to feel uncomfortable in coeducation systems (Kimball, 2007). A reason for attitudes of female students towards physical education activities being less compared to male students may be socio-cultural factors. Particularly, in some areas, female students abstain from bringing their body image into the forefront in coeducation environments (Koç & Tamer, 2016). Therefore, it could be said that the result of the study is consistent with other relevant studies in the literature.

No significant difference among pre-test attitudes of preservice teachers by their physical activity levels was observed either. However, attitudes of preservice teachers increased as their activity levels increased. A literature review did not return any study on investigation of the relationship between the physical activity level and attitudes towards physical education and sports. However, some other relevant studies such as Sherrill, Holguin and Caywood (1989) have concluded that students who are physically more suitable have more positive attitudes towards physical education and physical activity. In his study on secondary and high school students, Koç (2009) has determined that endurance among physical suitability parameters predicts the attitude towards physical education and sports. Although a significant difference could not be observed in the study, it is expected that an increase in physical activity level of a person would have a positive effect on his/her attitude towards physical education and sports. Particularly, educators are required to encourage students in this sense and rise their awareness.

A significant increase was observed in post-test attitudes of preservice teachers with normal BMI values who were included in the study group compared to their pre-test attitudes. On the other hand, no significant difference was observed between attitudes of preservice teachers included in underweight and overweight groups. Particularly, preservice teachers with normal BMI values who take courses related to physical education and sports in university are expected to develop their attitudes towards physical education and sports positively. A comparison could not be performed since the literature lacked a similar study.

An analysis of pretest and posttest physical education and sports attitude scores of preservice teachers taking PESC course indicated a significant difference between pre-course and post-course attitude scores. The size of effect that is calculated after the test showed a medium level of difference. No significant difference was found between pre-test and post-test results of females and males. However, an increase was observed in post-test attitudes of both genders. The literature lacks experimental studies on attitudes of preservice teachers towards physical education and sports. However, some studies have found higher attitudes for junior and senior preservice classroom teachers taking

relevant courses compared to those who do not (Alemdağ, Öncü, & Sakallıoğlu, 2014; Öncü, 2013). Said studies support the results of the current study. Furthermore, some researchers have emphasized the importance of supporting studies with qualitative data so as to interpret results with regard to attitudes of preservice classroom teachers towards physical education and sports more clearly (Alemdağ et al., 2014; Yazıcı et al., 2016). In general, studies have reported that classroom teachers adopt negative attitudes towards the physical education course (Arslan & Altay, 2008; Faucette & Patterson, 1989; Kim, & Taggart, 2004; Xiang et al., 2002). Besides, based on the result of their studies, Moore, Webb, & Dickson (1997) and Thompson (1996) have reported that classroom teachers deprive of qualifications that allow to execute physical education at a sufficient level and that the main reason for this is inadequate teacher education programs. Parks (2003) has pointed out lack of training (50%) as the second top obstacle for failure of integration of movement into physical education course by classroom teachers. In this sense, researchers have to exert more vigorous efforts to enhance attitudes of preservice classroom teachers towards physical education and sports.

The limitations of the study were its sample characteristics and target sample. The study group consisted of students only from one university. In order to overcome these limitations, it is recommended to include preservice classroom teachers also from different universities in future studies. Furthermore, results of future experimental studies with controlled groups would be more beneficial in terms of generalization. Further studies should also include qualitative tools such as interviews, which may help provide further understanding about the issue.

5. Conclusion

It was concluded that physical activity levels of preservice classroom teachers were inadequate and therefore, a focus on effective educational approaches on boosting their motivations in this subject was required. Attitudes of preservice teachers with normal BMI values were observed to have developed better when they took courses related to physical education and sports. Finally, it was concluded that the “Physical Education and Sport Culture” course had a medium level of positive effect on the attitude of preservice classroom teachers towards physical education and sports.

Effective and efficient lecturing of compulsory courses related to physical education and sports which were given to preservice classroom teachers in universities was considered to reflect on their attitudes positively and they could contribute to their health and sportive nature.

Researchers are recommended to conduct an experimental study of their work with a controlled group in their future studies. Besides, comparisons of attitudes of preservice teachers with different variables are recommended.

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