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Self-efficacy: Its Effects on Physical Education Teacher Candidates' Attitudes toward the Teaching Profession*

Cihan Eroglu[a]
Atatürk Anatolian High School

Huseyin Unlu[b]
Aksaray University

Abstract

This study's main aim was to determine physical education (PE) teacher candidates' self-efficacy levels and attitudes toward the PE teaching profession. Designed on a survey model, this study was conducted during the 2011-2012 academic year. A total of 601 PE teacher candidates studying in the PE and sports teaching programs of six different universities in Turkey participated in the study. Study data were collected using the "Teacher Self-Efficacy Scale (TSES)" and the "Attitude Scale for the Profession of Physical Education Teaching (ASPPET)." Descriptive analysis, t-test, Pearson Correlation Coefficient Technique, and Multiple Regression Analysis methods were used for data analyses. PE teacher candidates were observed to deem themselves as moderately self-efficient in terms of the points they scored on the TSES as a whole (M = 142.56, SS = 40.820) and on its subscales (M_{IS} = 47.62, SS = 14.169; M_{CM} = 47.97, SS = 13.885; M_{SE} = 46.96, SS = 13.873). In addition, PE teacher candidates scored high points on the ASPPET as a whole (M = 83.49, SS = 16.584) and its subscales (M_{AP} = 48.38, SS = 10.613; M_{CP} = 35.10, SS = 8.731). The study found no gender-based statistically significant difference between the self-efficacy of PE candidate teachers ($t(599) = 1.363$, $p > .05$) and their attitudes toward the PE teaching profession ($t(599) = 1.943$, $p > .05$). Another result gleaned from this study was the positive and statistically significant relationship between the points scored on the TSES as a whole and its subscales and on the ASPPET as a whole and its subscales ($r = .247$, $p < .01$). The study also showed that PE teacher candidates' self-efficacy levels did not constitute an important predictor for either the ASPPET as a whole (R2 = .062, F = 13.072, $p < .01$) or for its subscales (AP = R2 = .081, F = 17.497; $p < .01$; CP = R2 = .017, F = 3.410 $p < .01$).

Keywords: Physical education • Candidate teacher • Teacher self-efficacy • Teaching profession • Attitude • Prediction

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a Cihan Eroglu, Atatürk Anatolian High School, Aksaray, Turkey
Email: chner58@gmail.com

b **Corresponding author**
Huseyin Unlu, Aksaray University, School of Physical Education and Sport, 68100, Aksaray, Turkey
Research areas: Teaching and learning in physical education, physical education teachers' self-efficacies, attitudes to physical education lessons, the physical education teaching profession
Email: huseyinunlu68@gmail.com

One of the basic concepts of Social Learning Theory, "self-efficacy" is defined as "one's belief in one's ability to succeed in specific situations" (Bandura, 1977, 1986). Gawith (1995) states that a person will not be able to carry out a certain task for which he has the ability unless he has the confidence to do so. Just as the self-efficacy, conceptually understood as a person's own judgment regarding her/his skills to achieve a specific thing (Zimmerman, 1995), is a factor effective on performance and making duty decisions, so is it important in setting motivation (Humphries, Hebert, Daigle, & Martin, 2012).

Self-efficacy is a concept that has been studied for a long period of time within many different disciplines, varying from medicine (James et al., 2006) to economy (Latham & Brown, 2006) and from military (Britt, Davison, Bliese, & Castro, 2004) to education (Tschannen-Moran &Woolfok Hoy, 2001).

The importance of self-efficacy in the teaching-learning process continues to be a subject attracting researchers' and practitioner's attention alike. For the last three decades, researchers have emphasized the relationship between teachers' perceived self-efficacy levels, which also include student achievement and achievement of desired results (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Teacher self-efficacy has therefore been the subject of many studies (Ashton & Webb, 1986; Dembo & Gibson, 1985; Gibson & Dembo, 1984; Tschannen-Moran et al., 1998). In this context, teacher self-efficacy is defined as teachers' belief in their ability to learn and use the skills required to promote their students to learn (Armor et al., 1976; Woolfolk-Hoy & Burke-Spero, 2005). Teacher self-efficacy is a teacher's belief related to his/her abilities to affect the learning outcomes of students, including both poorly-motivated students and students with disabilities (Tschannen-Moran & Woolfolk Hoy, 2001).

Teachers who hold high levels of high teacher self-efficacy are suggested to be more skillful in using teaching strategies more effectively, in ensuring that student will remain engaged, and in implementing classroom management skills (Brouwers & Tomic, 2000; Caprara, Barbaranelli, Stece, & Malone, 2006). In addition, teachers with high levels of teacher self-efficacy are reported not only to exert more effort in overcoming the problems that they encounter, but continue making such effort for a longer time (Bandura, 1977, 1986). There are differences between teachers with high and low levels of teacher self-efficacy, particularly in terms of using new teaching techniques and providing feedback to students with learning disabilities (Tschannen-Moran & Woolfolk Hoy, 2001). At the same time, teachers with high teacher self-efficacy are reported to be open to new ideas and develop a positive attitude toward teaching (Gibson & Dembo, 1984; Tschannen-Moran et al., 1998).

In the light of the above-mentioned explanations, teacher self-efficacy is seen to be considered as an important factor in the teaching-learning process (Guskey & Passaro, 1994; Soodak & Podell, 1996; Tschannen-Moran et al., 1998).

There are quite high numbers of studies addressing both teachers' and candidate teachers' self-efficacy levels within various disciplines in the education process (Akçay & Akkuzu, 2012; Ekici, 2008; Önen & Muşlu-Kaygısız, 2013; Rigg & Enochs, 1990; Yalçın, 2011). One of the fields where teacher self-efficacy has been studied is PE teaching (Block, Hutzler, Barak, & Klavina, 2013; Feltz, Short, & Sullivan, 2008; Mirzeoğlu, Aktağ, & Boşnak, 2007; Seçkin, 2011; Ünlü, Sünbül, & Aydos, 2008).

In studies examining self-efficacy in PE teaching, a set of factors, including both environmental factors and the active engagement of students in the learning process, are generally observed to effect self-efficacy levels of PE teachers (Martin & Kulinna, 2003; Martin, Kulinna, Eklund, & Reed, 2001). In addition, previous studies are observed to have addressed the relationship between teacher self-efficacy and teacher-student behaviors (Martin & Kulinna, 2004, 2005) and its relationship with PE teachers' professional development (Martin, McCaughtry, Kulinna, & Cothran, 2008). These studies have emphasized that PE teaches' levels of self-efficacy decrease when students do not fulfill their educational duties, do not direct their attention to the lesson, and do not like the physical activities offered during the lesson. Moreover, both PE teachers' insufficient knowledge and underdeveloped teaching skills are reported to affect their willingness to teach (Martin et al., 2008; Siedentop 2002; Tsangaridou 2002). Another striking point regarding the self-efficacy studies conducted in the PE field is the fact that most studies in the literature have concentrated on experienced teachers and that there have only been a limited number of studies conducted on teacher candidates' self-efficacy levels and perceptions (Zach, Harari, & Harari, 2012).

Analyses of the studies on teacher self-efficacy shows that self-efficacy is generally addressed together with such variables as student motivation, student achievement, the self-efficacy beliefs of students, self-management, the establishment of a productive

school environment, teachers' classroom management strategies, and irregular student behaviors (Allinder, 1995; Chambers & Hardy, 2005; Evers, Brouwers, & Tomic, 2002; Gibson & Dembo, 1984; Komarraju, 2008; Ritter, Boone, & Rubba, 2001; Tschannen-Moran & Woolfolk Hoy, 2001).

The attitudes of candidate teachers toward the teaching profession is yet another variable addressed together with teacher self-efficacy in studies conducted in more recent years (Arastaman, 2013; Çaycı, 2011; Demirtaş, Cömert, & Özer, 2011).

Attitude is defined as the emotional tendency, either negative or positive, of an individual toward people, places, ideas, and objects (Papanastasiou, 2002). Studies point to a measureable relationship between attitude and behaviors, which in other words means that attitudes affect behaviors (Robbins, 1994). Attitude is also regarded as an important factor determining individual's interest in his/her planned future profession (Çağlar, 2013).

Playing an important role in the development of an individual's believes, attitudes are at the same time closely related to their behaviors (Bandura, 1982). In other words, changes in attitudes occur due to the interaction between attitudes, behaviors, and beliefs, further resulting in a change in beliefs and behaviors. Although self-efficacy alone is not enough to be an ideal PE teacher, it is thought that PE teacher candidates should have positive attitudes toward their future profession. This situation points to the existence of a relationship between teacher self-efficacy levels and their attitude toward the teaching profession. In parallel to this suggestion, Lewitt (2002) states that teachers' beliefs regarding teaching and learning are what lead them to developing a certain attitude toward the profession itself. For this reason, it may be stated that not only do teachers' professional efficacy beliefs and professional attitudes play a significant role in being a successful teacher, but so does having the required knowledge and skills (Oral, 2004a, 2004b).

It is impossible to expect from any candidate teacher who has poor belief in his/her efficacies related to field knowledge, general culture, and both professional knowledge and skills – three qualifications required by the profession of teaching – to exert effort in performing her/his profession effectively. For this reason, among the objectives set by teacher education institutions are to ensure that teacher candidates develop a positive attitude toward the profession and attain professional competence in their discipline. It is though that a candidate teacher with a positive attitude toward his/her profession will not only strive to improve his/her professional competence, but also to evaluate his/her self-efficacy level more objectively and to work harder to remedy his/her deficiencies (Demirtaş et al., 2011).

PE teacher candidates' self-efficacy levels and attitudes toward the PE teaching profession seem to be highly important in their ability to fulfill the responsibilities related to the teaching profession. For this reason, it was considered important in the scope of this study to ascertain PE teacher candidates' self-efficacy levels and attitudes toward teaching profession and to define any relationship and interaction between them. In addition, no previous literature study addressing PE teacher candidates' self-efficacy levels and attitudes toward the PE teaching profession was encountered. For this reason, the present study has aimed to ascertain PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession. Moreover, the relationships between PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession and the effects of teacher self-efficacy on the attitudes toward the PE teacher profession, in specific, have been addressed in this study.

Aim of the Study

This study aimed mainly to detect PE teacher candidates' self-efficacy levels and attitudes toward the PE teaching profession. In addition to this main aim, the study attempted to reach comprehensive information and findings regarding the relationship between PE teacher candidates' self-efficacy levels and their attitudes toward the PE teaching profession. A further aim of the study was to examine the effects of PE teacher candidates' self-efficacy levels on their attitudes toward the profession of PE teaching.

Method

Study Model

A general screening model was used to detect PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2010; Karasar, 2009). In addition, a relational screening model was adopted to reveal whether there existed a relational change in PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession and to ascertain the type of any such change (Büyüköztürk et al., 2010; Karasar, 2009).

Study Group

The study group consisted of 601 PE candidate teachers (age = 21.99±2.248) selected using simple random sampling from each of the four years of the undergraduate PE and sports teaching programs of six universities during the 2011-2012 academic year. From among the 601 participants who participated in the study and whose answers were evaluated, 263 were female (43.8%) and 338 were male (56.2%) PE teacher candidates.

An examination of the PE teachers candidates who participated in the study showed that 150 (25%) were in their 1st year of university, 153 (25.5%) in their 2nd year, 163 (27%) in their 3rd year, and 136 (22.6%) in their 4th year. The six universities from which study participants were sampled showed the following distribution: Aksaray University - 119 students (19.8%), Ahi Evran University - 92 students (15.3%), Muğla University – 109 students (18.1%), Gazi Osman Paşa University - 93 students (15.5%), Cumhuriyet University - 81 students (13.5%), and Niğde University - 107 students (17.8%). All of these universities were located within the Republic of Turkey.

Data Collection Tools

Study data were collected using the "Personal Information Form," the "Teacher Self-Efficacy Scale (TSES)," and the "Attitude Scale for the Profession of Physical Education Teaching (ASPPET)."

Personal Information Form: The form used in the study was developed by the researcher in order to detect the demographic characteristics of the PE candidate teachers. Previous studies and expert opinions were benefitted from while developing the form.

Teacher Self-efficacy Scale (TSES): TSES, developed by Tschannen-Moran and Woolfolk Hoy (2001) and adopted into Turkish by Çapa, Çakıroğlu, and Sarıkaya (2005), was used in this study to detect PE teacher candidates' self-efficacy levels.

This 24-item scale consists of three subscales; namely, "Student Engagement (SE)," "Classroom Management (CM)," and "Instructional Strategies (IS)." The first subscale, "SE," consists of items related to the extent to which a teacher makes students believe that they can be successful in school activities. The second subscale, "CM," consists of items related to the extent to which a teacher can control undesired behaviors shown in the classroom. The third subscale, "IS," consists of items related to the extent to which a teacher can use different instructional and evaluation strategies. The TSES is a 9-point Likert-type scale which enables PE teacher candidates to score a maximum of 216 points (24x9) and a minimum of 24 points (24x1). Each subscale consists of 8 items and PE teacher candidates can score a maximum of 72 points (8x9) from each subscale.

Analyses were performed by Çapa et al. (2005) to test the reliability of the Turkish adaptation of the scale produced the following internal consistency coefficients for both the entire scale and for each of its subscale: .82 for the SE subscale, .84 for the CM subscale, and .86 for IS subscale. The reliability coefficient for the whole scale was calculated to be .93. Analyses made to test the scale's reliability for the present study, on the other hand, produced the following coefficients: .75 for the SE subscale, .74 for the CM subscale, .77 for the IS subscale. The reliability coefficient for the whole scale was found to be .82.

Attitude Scale for the Profession of Physical Education Teaching (ASPPET): The ASPPET, developed by Ünlü (2011) to ascertain PE teacher candidates' attitudes toward their profession, was used in this study. This is a scale aimed to measure both the attitudes of PE candidate teachers attending at PE Teaching Department and those of the PE teachers.

This 23-item scale consists of two subscales: Affection for Profession (AP) and Concern about the Profession (CP). The AP subscale consists of 13 items offering positive statements while the CP subscale consists of 10 items offering negative statements.

In this 5-point Likert-type scale, positive statements are scored as "Strongly Disagree (1 point)," "Disagree (2 points)," "Neither Agree nor Disagree (3 points)," "Agree (4 points)," and "Strongly Agree (5 points)" while the negative statements are scored reversely. This 5-point Likert-type scale enables PE candidate teachers to score a maximum of 115 points (23x5) and a minimum of 23 points (23x1). PE Candidate teachers can score a maximum of 65 points from the AP subscale and 50 points from the CP subscale.

The Cronbach alpha coefficients were calculated to test reliability of the scale and were found to be 0.90 for the first subscale, 0.86 for the second subscale, and 0.88 for the whole scale. The internal consistency coefficients calculated by the present study, on the other hand, were recorded to be 0.83 for the AP subscale, 0.78 for the CP subscale, and 0.81 for the whole scale.

Data Analyses

In this study, the independent variable was "gender" and the dependent variables were "teacher self-efficacy" and "attitude toward the teaching profession." Statistical analyses of the study data were made in a pattern revealing the effects of the independent variable on the dependent variables. The distribution of the points scored from each scale was computerized after being coded according to the related independent variable.

The SSPS 17.0 package program was used for data analyses. In the first part of the questionnaire, statistical methods, such as percentage and frequency, were used in the analyses of the data related to personal and professional acts of the teacher candidates. The statistical techniques of "arithmetic mean" and "standard deviation" were used to ascertain PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession.

In this study, the *t*-test technique was used for the independent groups in order to define the differences between the two-group variables. To detect the relationship between two factors, on the other hand, the Pearson Correlation Coefficient technique was adopted. In addition, a multiple regression analysis was used to predict PE teacher candidates' attitudes toward the PE teacher profession. The statistical significance was set at "0.05" for the statistical analyses made for the study.

Findings

Study findings and their interpretations are presented in this section of the study. Table 1 lists the points scored by PE candidate teachers from the TSES and ASPPET scales as a whole and for each subscale of these two scales.

Table 1
Points Scored by PE Candidate Teachers from the TSES and ASPPET

TSES	**N**	***M***	**SD.**
IS	601	47.62	14.169
CM	601	47.97	13.885
SE	601	46.96	13.873
Whole TSES Score	601	142.56	40.820
ASPPET	**N**	***M***	**SD.**
AP	601	48.38	10.613
CP	601	35.10	8.731
Whole ASPPET Score	601	83.49	16.584

Table 1 presents the points scored by the PE teacher candidates from the TSES scale as a whole and from each of its three subscales. PE candidate teachers are observed to have scored M = 47.97 points on the CM subscale and M = 46.96 points on the SE subscale. They scored M = 142.56 points on the whole TSES.

An examination of the points scored by the PE teachers candidates in relation to their attitudes toward the teaching profession shows that they scored M = 35.10 points on the CP subscale, M = 48.38 points on the AP subscale, and M = 83.49 points on the whole ASPPET.

A *t*-test for the independent groups was used to ascertain the self-efficacy levels and attitudes toward the teaching profession of the participant PE candidate teachers in terms of "gender." Results are presented in Table 2.

Table 2
PE Teacher Candidates' Self-efficacy Levels and Attitude toward the PE Teaching on the Basis of Gender

	Variables	**Gender**	**N**	***M***	**SD**	**Sd**	***t***	***p***
TSES	IS	Female	263	48.36	14.808	599	1.126	.261
		Male	338	47.05	13.645			
	CM	Female	263	48.73	14.411	599	1.174	.241
		Male	338	47.39	13.454			
	SE	Female	263	48.04	14.641	599	1.687	.092
		Male	338	46.12	13.206			
	Whole TSES Score	Female	263	145.14	42.654	599	1.363	.173
		Male	338	140.56	39.282			
ASPPET	AP	Female	263	49.39	10.141	599	2.055	.040
		Male	338	47.60	10.917			
	CP	Female	263	35.58	8.590	599	1.191	.234
		Male	338	34.73	8.833			
	Whole ASPPET Score	Female	263	84.98	16.447	599	1.943	.052
		Male	338	82.33	16.623			

$p < .05$

Table 3
Relationship Between PE Teacher Candidates' Self-efficacy Levels and Attitudes toward the Teaching Profession

Variables		A	B	C	D	E	F	G
TSES	IS (A)	1						
	CM (B)	.927**	1					
	SE (C)	.924**	.914**	1				
	Whole TSES Score (D)	.977**	.973**	.971**				
ASPPET	AP (E)	.280**	.263**	.277**	1			
	CP (F)	.121**	.128**	.126**	.465**	1		
	Whole ASPPET Score (G)	.243**	.235**	.244**	.247**	.885**	.824**	
Descriptive	M =	47.63	47.98	46.97	142.57	48.39	35.10	83.49
	SD =	14.169	13.885	13.873	40.820	10.613	8.731	16.584

**$p < .01$

Table 2 compares PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession on the basis of gender. Accordingly, no gender-based statistically significant difference is observed between the points scored by the PE candidate teachers on the TSES as a whole and on its subscales ($p > .05$). Moreover, no gender-based statistically significant difference is observed between the points scored by the PE candidate teachers on the ASPPET as a whole and on its CP subscale ($p > .05$). There was, however, a statistically significant difference in terms of the points scored on its AP subscale ($p < .05$).

The Pearson Correlation Coefficient technique was used to ascertain the relationship between PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession. The results of which are shown in Table 3.

Table 3 presents the relationship between PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession. All subscales of the TSES are seen to have a moderate positive relationship with the AP subscale of the ASPPET. Moreover, all subscales of the TSES are seen to have developed a low-level positive relationship with the CP subscale of the ASPPET. The table also shows a low-level positive relationship between the points scored on TSES as a whole and on ASPPET as a whole.

The results of the multiple regression analyses performed on the PE candidate teachers for the ASPPET's AP subscale are listed in Table 4.

An examination of the findings presented in Table 4 shows the statistical importance of the prediction equation measuring the extent to which the TSES subscales predict the ASPPET's CP subscale($R^2 = .081$, $F = 17.497$, $p < .01$). The variables constituting the subscales of the TSES predict 8% of the total variance in the ASPPET's AP subscale. The relative importance of the predictive variables in the AP subscale according to the standardized regression coefficient (ß) is as follows: IS, SE, and CM, respectively.

Analyses of the results related to the statistical significance of the regression coefficients reveals that the TSES subscales are not statistically significant predictors of the ASPPET's AP subscale.

Table 5 lists the multiple regression analyses results of the PE candidate teachers for the ASPPET's CP subscale.

The findings presented in Table 5 show the statistical importance of the prediction equation measuring the extent to which the TSES subscales predict the ASPPET's CP subscale ($R^2 = .017$, $F = 3.410$, $p < .01$). The variables constituting the subscales of TSES predict 2% of the total variance in the ASPPET'S CP subscale. The relative importance of the predictive variables in the AP subscale according to the standardized regression coefficient (ß) is as follows: CM, SE, and IS.

Analyses of the results related to the statistical significance of the regression coefficients reveals that the TSES subscales are not statistically significant predictors of the ASPPET's CP subscale.

Table 4
Multiple Regression Analyses Results for the AP Subscale

Variable	B	Standard Error	β	*t*	*p*	Paired r	Partial r
Fixed	38.108	1.517	-	25.113	.000		-
IS	.134	.091	.178	1.468	.143	.060	.058
CM	-.025	.087	-.033	-.292	.770	-.012	-.011
SE	.109	.086	.143	1.279	.201	.052	.050
R = .284	= .081	F = 17.497	*p* = .000				

Table 5
Multiple Regression Analyses Results for the CP Subscale

Variable	B	Standard Error	β	*t*	*p*	Paired r	Partial r
Fixed	31.148	1.291		24.126	.000		
IS	-.009	.077	-.014	-.113	.910	-.005	-.005
CM	.051	.074	.081	.689	.491	.028	.028
SE	.041	.073	.065	.560	.576	.023	.023
R = .130	= .017	F = 3.410			*p* = .017		

The results of the multiple regression analyses related to the interpretation of the total attitude scores for the PE teacher candidates toward the PE teaching profession are listed in Table 6.

An examination of the findings presented in Table 6 shows the statistical importance of the equation of prediction of the total attitude toward the PE teaching profession by the TSES's subscales (R^2 = .062, F = 13.072, $p < .01$). The variables constituting the subscales of the TSES predict 6% of the total variance in the total attitude toward the PE teaching profession. The relative importance of the predictive variables in PE candidate teachers' the attitudes toward the PE teaching profession according to the standardized regression coefficient (ß) is as follows: SE, IS, and CM, respectively.

Analyses of the results related to the regression coefficients' statistical significance reveals that the TSES subscales are statistically significant predictors of the total attitude toward the PE teaching profession.

Discussion

The study's findings are interpreted and discussed in the light of the literature in this section of the study; suggestions on the basis of the study's results are also offered.

The study has demonstrated that the participating PE candidate teachers regard themselves as moderately self-efficient based on the points they scored on the TSES as a whole and on its subscales. This result does not comply with some of the studies in the literature. Specifically, Varol (2007) found in his study of PE teacher candidates' self-efficacy levels toward the teaching profession, that PE teacher candidates' self-efficacy level was high. Moreover, Mirzeoğlu et al. (2007) compared how PE teachers, PE teacher candidates, and instructors employed in PE and sports high schools perceived professional competence, finding these three groups to have a high perception of their levels of profession competence. Similar studies made to determine both PE teachers and PE teacher candidates' self-efficacy levels also showed both groups to have high self-efficacy (Ünlü, 2008; Yılmaz, Yılmaz, & Türk, 2010).

This specific result of the present study may have been caused by the fact that the participant PE teacher candidates had not yet completed their license education at the time the study was conducted. In a similar study on PE teacher candidates made by Zach et al. (2012), all scores related to professional competence in the field of teaching, in general, and in PE teaching, in particular, were observed to increase after the third year of license education. Moreover, it was emphasized that while teacher education programs alone cannot increase teaching competence in one year, the education to be received in the first three years can increase teaching competence. Similarly, in their laboratory-based and field-based study on competence of candidate teachers, Gurvitch and Metzler (2009) brought attention to the importance of teacher education programs, particularly in teacher' self-efficacy development.

When the PE teachers' self-efficacy levels are considered within the context of its effects on students, the following positive effects can be listed: motivating students, ensuring student engagement, and encouraging them to enjoy course activities

Table 6
Results of the Multiple Regression Analyses Related to the Interpretation of the Total Attitudes toward the PE Teaching Profession

Variable	B	Standard Error	β	*t*	*p*	Paired r	Partial r
Fixed	69.256	2.396		28.906	.000		
IS	.125	.144	.107	.869	.385	.243	.036
CM	.026	.138	.022	.187	.852	.235	.008
SE	.150	.135	.126	1.112	.267	.244	.045
R = .248	= .062	F = 13.072			*p* = .000		

can be listed as such effects. Besides, PE teachers' self-efficacy levels can be effected by the dominant attitude toward physical education in teachers' place of employment, the preparation and arrangement of physical area for PE, and the time allocated for and duration of PE courses each semester (Chase, 2001; Goudas & Dermtizaki 2004; Hutzler, Zach, & Gafni 2005). As such, PE teacher candidates are expected to gain the above-listed qualifications, which are effective on teachers' self-efficacy levels in the pre-service training processes.

Another important result gleaned from the present study is related to PE teacher candidates' attitudes toward the PE teaching profession. Based on the their scores on the ASPPET both as a whole and its subscales, the participant PE teachers candidates' attitudes toward the teaching profession were found to be high and, as such, PE candidate teachers are understood to have positive attitudes toward the teaching profession.

In a similar study examining PE teacher candidates' attitudes toward the teaching profession, Yalız (2010) fond PE teachers' attitudes to be very high (Yalız, 2010). Studies aimed to examine attitudes held by candidate teachers of different disciplines toward the teaching profession have generally revealed high attitudes toward it (Abbasoğlu, 2011; Çağlar, 2013; Çetinkaya, 2009; Terzi & Tezci, 2007). These results can be concluded to comply with the results of the present study. However, in the studies by Ünlü (2013) and Z. Pehlivan (2010), PE teachers candidates were found to have moderate attitudes toward the teaching profession. Ünlü (2013) suggested that the employment-related problems experienced in Turkey by PE teacher candidates to be the reason for the moderate attitudes they displayed toward the teaching profession. In another study, those who liked their job and who were optimistic about finding a job were reported to have more positive attitudes toward the teaching profession (Doğan & Çoban, 2009).

In the light of PE teacher candidates' high attitudes toward the teaching profession found in the present study, it can be concluded that they chose the PE teaching profession knowingly and willfully.

The present study also compared the self-efficacy beliefs of the participant PE teacher candidates on the basis of gender. No statistically significant gender-based difference was recorded in terms of the points scored by the PE candidate teachers on the TSES as a whole and on its subscales. In the studies by Koparan, Öztürk, and Akbulut (2011) and Seçkin (2011), self-efficacy levels were found not to differ at a statistically significant level on the basis of gender. However, in the study conducted by Yılmaz et al. (2010), a statistically significant gender-based difference was recorded in favor of female PE teacher candidates' self-efficacy levels. In another study by Akdağ and Walter (2005), female teacher candidates were recorded to perceive themselves as more self-efficient than did their male colleagues. Although the points scored by the female PE candidate teachers did not substantiate a statistically significant difference, they were found to be higher compared to male PE candidate teachers. Female PE teacher candidates can therefore be concluded to believe in their skills more than their male colleagues.

The present study also made a gender-based comparison of PE teacher candidates' attitudes toward the PE teaching profession. This comparison produced no statistically significant gender-based difference either in terms of the ASPPET as a whole or its CP subscale. However, a statistically significant difference was found in the ASPPET's AP subscale. In general, female participants were observed to score higher points than the male participants on the ASPPET as a whole and its subscales. According to this result, both female PE teacher candidates' AP and CP scores were found to be higher than those of male PE teacher candidates. In the study by Semerci and Semerci (2004), a gender-based comparison of PE teacher candidates' attitudes toward the teaching profession was made, finding that female and male participants scores were quite close and that there was no statistically significant difference between genders.

Another gender-related result gleaned by the present study was the statistically significant difference between the points scored by female and male PE candidate teachers on the AP subscale. In his study on classroom candidate teachers, B. K. Pehlivan (2008) detected that female candidate teachers had more positive attitudes toward their profession compared to their male colleagues. In addition, similar results were discovered in the studies conducted by Bozdoğan, Aydın, and Yıldırım (2007), Doğan and Çoban (2009), Tekerek and Polat (2011), and Yalız (2010). However, in the study conducted by Ünlü (2013) on PE candidate teachers, male PE candidate teachers were found to have more positive attitudes toward their profession, explained to be a result of the heavy workload and responsibilities related to the PE teaching profession. As such, it can be interpreted that female PE candidate teachers want to work in

this field more than male PE candidate teachers.

Another result of the present study is in regard to the relationship between the PE teacher candidates' self-efficacy levels and their attitudes toward the PE teaching profession. All subscales of the TSES were observed to have a moderately positive relationship with the AP subscale and a positive low-level relationship with the CP subscale of the ASPPET. Points scored on the TSES as a whole and from the ASPPET as a whole were found to have a positive low-level relationship.

Based on this finding, it can be suggested that PE teacher candidates' attitudes toward their profession increases in parallel with an increase in their self-efficacy. PE teacher candidates' high self-efficacy levels are an indicator that (*i*) PE teacher candidates have the professional competence required by the teaching profession, (*ii*) they have classroom management, education planning, implementation, and assessment knowledge and skills, and (*iii*) they are equipped with the skills required to motivate students in their class and in their overall education. Having all these skills means having developed positive attitudes toward the teaching profession.

This study examined whether PE teacher candidates' self-efficacy levels were an important predictor of the ASPPET's AP subscale, finding that despite the positive moderate relationship between the two variables, teachers' self-efficacy levels were not an important predictor of the ASPPET's AP subscale. The study also examined whether PE teacher candidates' self-efficacy levels were an important predictor of the ASPPET's CP subscale, finding that despite the significant low-level relationship between the two variables, teacher self-efficacy levels were not an important predictor of the ASPPET's CP subscale. This study also revealed that PE teacher candidates' self-efficacy levels were not an important predictor of the ASPPET as a whole. PE teacher candidates' self-efficacy levels were found to bring no change in attitude towards the teaching profession. In the study conducted by Arastaman (2013), teacher candidates' self-efficacy levels were also found not be an important predictor of their attitudes toward the teaching profession.

PE teacher candidates' self-efficacy levels were found in the present study not to be an important predictor of the ASPPET's AP and CP subscales nor of participants' general attitude toward the PE teaching profession. Moderate points scored by the PE candidate teachers on the TSES are considered to be effective on these results.

Pre-service training given to PE teacher candidates should include such skills and knowledge that will be sufficient to satisfy their professional needs when they start their career in teaching. Considering the importance to the practical dimension of PE teaching, courses such as school experience and teaching implementations should be given higher priority during the education period. Such an increase is thought to make positive contributions to PE teacher candidates' self-efficacy and positive professional attitudes. Moreover, PE teacher candidates' attendance in instructional activities and events such as seminars, conferences, courses, etc. aimed at personal and professional development will positively contribute to improving their self-efficacy levels and developing a positive attitude toward the profession. The present study was conducted on PE candidate teachers studying PE and sports education programs in six different universities' PE and sports departments in Turkey. Expanding the study scope in such way so as to include different samples from other universities will also provide more general information on PE candidate teachers' self-efficacy and attitudes toward the teaching profession. The study determined quantitatively PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession. Future studies using quantitative research methods will contribute to obtaining detailed information on PE teacher candidates' self-efficacy levels and attitudes toward the teaching profession.

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