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Research Article


Investigation of Candidate Teachers' Early Teacher Identity with Public Personnel Selection Examination Anxiety Levels

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Abstract

In this research aims to examine the candidate teacher's identity with Public Personnel Selection Examination (PPSE) anxiety levels. The research included 302 candidate physical education teachers (140 female and 162 male) aged between 21 and 28 (23.95 ± 1.54). "Personal Information Form," "Early Teacher Identity Scale (ETIS)," and "Public Personnel Selection Examination Anxiety Level Scale (PPSEALS)" were used as data collection tools in the research. According to the data obtained from the research, there was no significant correlation between the candidate teachers' PPSEALS scores and the ETIS scores. A significant difference existed between candidate teachers' grade levels with PPSEALS scores and ETIS scores. Compared to 3rd-grade and graduate students, 4th-grade students scored higher on the PPSEALS and ETIS. Although there was a significant difference between PPSEALS scores according to gender, there was no significant difference in terms of ETIS scores. According to this, women have higher PPSEALS scores compared to men. According to academic achievement status, no significant difference was found between the scores of PPSEALS and ETIS. The results obtained from the research revealed that candidate teachers have PPSE anxiety at a medium level and teacher Identity perception at a high level. As a result, it can be said that 4th-grade students' high perception of teacher identity leads to higher levels of test anxiety.



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Introduction

The teaching profession is considered one of the professions that determine the fate of society. Therefore, everyone should not be expected to self-actualise in this profession (Şimşek, 2003). Teachers need to be able to define their professional identities and their education, knowledge, and competencies (Reio, 2005). Teacher identity is defined as how an individual perceives themselves in the teaching profession and what kind of teacher he/she wants to be (Beijaard et al., 2004). The elements that define the identity of an effective teacher

include subject knowledge, teaching methods, classroom management, and effective relationships with administrators and parents (Reio, 2005). Additionally, various factors influence teacher identity, including grade level, gender, language, age, and career stage. Each combination of these factors results in a different interpretation and perspective on a teacher's professional development. Therefore, it is not possible to have a single teacher identity (Samuel, 2008).

Candidate teachers are expected to develop a professional teacher identity while working and studying as teachers in today's challenging environment. However, teacher identity can change throughout a teacher's career due to interactions in school and society (Beauchamp & Thomas, 2009). A teacher's professional identity begins to form prior to entering teacher education and continues to develop throughout their career. Today, teachers are expected to be adaptable to change, have responsibility and initiative, plan and manage the learning process, monitor progress, use technology, collaborate, and be entrepreneurial (Tutkun & Aksoyalp, 2010). In the 21st century, the importance of the teacher education process in gaining the qualifications teachers should have emerges. Teacher candidates can gain teacher qualifications at the end of this process (Çengelci, 2021).

The term "anxiety" originates from the Greek language and is associated with notions of worry, curiosity, and fear as commonly understood. Anxiety is also interpreted as a reaction to internal stimuli from the environment and the individual. An anxious person experiences fear and worry about the future (Kaya & Varol, 2004). Although the cause and timing of anxiety remain a mystery, its effects can be observed, and it is obvious that this situation is not normal. It has been detected that anxiety exists throughout life and sometimes has a motivational role, such as the failures it causes. However, anxiety has become an emotion that often causes discomfort and affects social life in terms of development and transformation (Öner, 1997). A high level of anxiety leads to not being able to make decisions for the future and not knowing how to behave. While anxiety brings success when it is used positively, it can have negative results when it is not controlled (Ahmad & Aziz, 2019; Şimşek, 2023). One of the most critical stages students must overcome in their educational life is exams. It is common for a person to experience anxiety if he/she does not feel sufficiently prepared and adequate for the exams. It is known that candidate teachers study for the Public Personnel Selection Examination (PPSE), which is very important for themselves and their families, especially in their last year (Tümekaya &

Çavuşoğlu, 2010). In Turkey, teacher candidates take the Public Personnel Selection Examination (PPSE) to be employed in the public sector. Therefore, PPSE is one of the most challenging stages to be employed in the public sector. Therefore, PPSE creates intense pressure on candidate teachers. As a result of this intense pressure, exam anxiety emerges, which has a direct effect on success (Çapulcuoğlu & Gündüz, 2013).

In the literature review, we discovered research analyzing the PPSE burnout and anxiety levels of pre-service biology teachers (Köse et al., 2017) and pre-service science teachers (Yavuz & Akdeniz, 2019) according to various variables. Therefore, research on test anxiety and burnout levels is available but not sufficient. Additionally, what we know about teacher identity is generally obtained from research on teachers (Özdemir, 2010). According to this information, it is essential to determine how candidate teachers construct their teacher identities and which factors contribute to their identity development (Lerseth, 2013). Moreover, it is known that anxiety and hopelessness levels increase in graduated candidate teachers (Tümekaya & Çavuşoğlu, 2010). In this context, this research aimed to investigate candidate teachers' early teacher identity with PPSE anxiety levels. For this aim, answers to the following questions were searched during the research.

1. What is the level of early teacher identity perceptions of candidate physical education teachers?
2. What is the level of candidates' physical education teachers' anxiety towards PPSE?
3. Is there a significant relationship between early teacher identity perceptions of candidate physical education teachers and their PPSE anxiety levels?
4. Do physical education teacher candidates' early teacher identity perceptions and PPSE anxiety levels differ according to class, academic achievement, and gender?

Method

Research Model

The survey model, one of the quantitative research methods, was used. In this context, the participants' opinions on the subject were obtained using a scale (Karasar, 2015). At the same time, the relational research method was used to determine the relationship between variables. The relational research method is a method that determines the relationship between variables by analyzing the relationship between two or more variables (Büyüköztürk et al., 2009).

Research Group

The research population consisted of a total of 302 volunteer candidate physical education teachers, 140 females, and 162 males, aged between 21 and 28 years (23.95 ± 1.54), with an academic grade points average between 2.00-3.90 ($3.08 \pm .384$), who had graduated from physical education teaching or were continuing their education, completed or were continuing their pedagogical formation. Exclusion criteria were determined: a) Not signing the informed consent form, b) Deliberate manipulation of research data, c) Creating conflict in the work environment, and d) Having problems with other participants or the research team. G*Power analysis was conducted to calculate the sample size of the participants to be included in the research. The analysis showed that at least 115 samples were needed to obtain an effect size of 0.3 at a 90 percent difficulty level and 95 percent confidence interval. The scales were applied to 302 students to increase the validity of the research and in case the participants quit or the scales contained errors.

Data Collection Tools

"Personal Information Form," "Early Teacher Identity Scale," and "PPSE Anxiety Level Scale" were used as data collection tools in the research.

Personal Information Form

It includes complimentary questions such as age, gender, grade level, and grade point average (GPA) of the participants.

Early Teacher Identity Scale (ETIS)

The scale was developed by Friesen and Besli (2013) and adapted into Turkish by Arpacı and Bardakçı (2015). The scale consists of three sub-dimensions and seventeen five-point Likert-type questions. The scale questions have factor loadings ranging from .34 to .81. Cronbach's alpha coefficient for the internal consistency of the scale is .87. The reliability analysis conducted by Arpacı and Bardakçı (2015) showed that the Cronbach alpha value for the internal consistency of the scale was .93. In this research, Cronbach's alpha coefficient for internal consistency was found to be .75.

Public Personnel Selection Exam Anxiety Level Scale (PPSEALS)

The scale was developed by Karaçanta (2009). The scale consists of four sub-dimensions: "general anxiety," "concern about how you perceive yourself and how others perceive you," "future anxiety," and "exam preparation."

This scale comprises nineteen items presented in a 5-point Likert format, consisting of eight negative and eleven positive items. Cronbach's alpha internal consistency coefficient

calculated for the whole scale is .95. In this research, Cronbach's alpha internal consistency coefficient was determined as .83.

Statistical Analysis of Data

After the data obtained at the end of the research were checked, they were tested for normality using SPSS software. Skewness and kurtosis values were analyzed to decide the appropriate analysis methods. Values between -2+2 are accepted as normal distributions (Kim, 2013). In the research, the skewness values ranged from-.885 to 1.225, and kurtosis values ranged from-.112 to 0.470, indicating that the data were normally distributed. Therefore, parametric tests were used in the research. The Pearson correlation test was used to examine the relationship between the variables. An independent sample T-Test and a One-Way ANOVA Test were also used to compare the groups. The significance level was set as .05 in all analyses.

Findings

Table 1. Findings related to the relationship between the PPSE anxiety scale and early teacher identity scale

Variable	n	M	SD	1	2
1. PPSEALS	302	2.80	.645	—	
2. ETIS	302	3.55	.469	-.039	—

PPSEALS: Public Personnel Selection Exam Anxiety Level Scale, **ETIS:** Early Teacher Identity Scale, **n:** Number of persons, **M:** Mean, **SD:** Standard deviation

When Table 1 was analyzed, no significant relationship was found between the participants' PPSEALS scores and ETIS scores ($r=.039$, $p>.05$). At the same time; it was determined that PPSEALS scores of pre-service teachers were at the medium level ($M=2.80$) and ETIS scores were at a high level ($M=3.55$).

Table 2. Findings related to the comparison of the PPSE anxiety scale and early teacher identity scale scores of the participants according to gender variable

Gender	Female (n=140)		Male (n=162)		t (300)	p	Cohen's d
	M	SD	M	SD			
PPSEALS	2.89	.616	2.72	.659	2.33	.020*	.639
ETIS	3.57	.455	3.54	.482	.524	.600	.470

* $p<.05$

When Table 2 is analyzed, no significant differences were found between the ETIS scores of the participants according to their gender ($p=.600$, $p>.05$). On the other hand, it was found that there were significant differences between the PPSEALS scores of the participants according to their gender ($p=.020$, $p<.05$). Accordingly, it was determined that Females ($M=2.89\pm.616$) had higher PPSE anxiety levels than Males ($M=2.72\pm.659$).

Table 3. Findings related to the comparison of the PPSE anxiety scale and early teacher identity scale scores according to participants' grade point averages

GPA	2.00-3.00 (n=121)		3.01-4.00 (n=181)		t (300)	p	Cohen's d
	M	SD	M	SD			
PPSEALS	2.80	.631	2.80	.655	0.48	.962	.645
ETIS	3.57	.455	3.54	.479	.633	.527	.470

* $p<.05$

When Table 3 is analyzed, no significant differences were found between PPSEALS ($p=.962$, $p>.05$) and ETIS scores according to the grade point averages of the participants ($p=.527$, $p>.05$).

Table 4. Findings related to the comparison of the PPSE anxiety scale and early teacher identity scale scores according to participants' grade levels

Grade Level	Grade 3 (n=113)		Grade 4 (n=135)		Graduate (n=54)		F	p	η^2	
	M	SD	M	SD	M	SD				
PPSEALS	2.71	.672	2.91	.638	2.73	.566	3.46	.033*	.023	4>3
ETIS	3.46	.513	3.60	.462	3.62	.352	3.69	.026*	.024	4>3

* $p<.05$

According to Table 4, It was determined that there were significant differences between the PPSEALS scores of the participants according to their grade levels ($p=.033$, $p<.05$). Accordingly, it was determined that 4th-grade students had a higher average ($M=2.91\pm.638$) than 3rd grade and graduate students. According to another finding of the table, It was determined that there were significant differences between the ETIS scores of the participants according to their grade levels ($p=.026$, $p>.05$). According to this finding, it was determined that 4th-grade students had a higher average ($M=3.60\pm.638$) than 3rd-grade students. Although the mean ETIS scores of graduate students were higher than those of 3rd and 4th-grade students, no significant difference was found ($p>.05$).

Discussion and Conclusion

Teachers' professional identity is at the center of the teaching profession. Professional identity is how teachers form ideas about how they should behave and understand (Sachs, 2005). Prospective teachers are required to take the PPSE in order to commence teaching. This exam, which is a step for prospective teachers, is associated with anxiety. Therefore, candidate teachers' early teacher identity with PPSE anxiety levels were examined in this research.

According to the results of the research, it was determined that the anxiety levels of candidate teachers related to PPSE were at a moderate level. The literature review showed that PPSE-related anxiety was at a moderate level in studies conducted with students from different disciplines (Yavuz & Akdeniz, 2019). These findings support the results of the study. Another result of the research showed that the average scores of candidate teachers from the early teaching identity scale were high. It is seen that the results of the studies in the literature are similar to the results of the research (Çelik & Kalkan, 2019; Eğmir & Çelik, 2019). When the theoretical studies in the literature are evaluated, it has been shown that teacher identity perceptions increase with the time spent in faculty (Chong et al., 2011) and increase as they teach (Samuel, 2008). At the same time, it has been reported that teacher education programs will increase teacher awareness and facilitate future professional challenges (Beauchamp & Thomas, 2009). According to this information, it can be said that the level of identity perception of candidate teachers is high, and their professional identities develop before they become teachers.

In the research, no significant relationship was found between candidate teachers' perceptions of early teacher identity and PPSE anxiety levels. Since no research in the literature directly investigates the relationship between candidate teachers' perceptions of early teacher identity and PPSE anxiety levels, the research results were compared with studies examining different variables. In a study investigating the relationship between attitude toward the teaching profession and anxiety level, a weak, significant negative relationship was found between attitude and anxiety (Doğan & Çoban, 2009). In another study, no significant difference was found between pre-service teachers' attitudes toward the teaching profession and the sense of pressure they felt to prepare for the PPSE (Hüdavendigâr, 2018). The research findings show that having a high teacher identity may

increase the desire to start teaching as early as possible. We can say that this situation also increases the level of PPSE anxiety.

The research found no significant difference between early identity perceptions of candidate teachers according to gender. In the literature, there are studies in which there is no significant difference between the total scores of pre-service teachers' professional identity scale according to gender (Kan & Yel, 2020). In contrast to this study, Cattley's (2007) study on candidate teachers showed that professional identity varies according to gender. In the literature, there are studies in which early identity perception is higher in favor of female candidate teachers (Alptekin-Yolcu, 2018; Çelik & Kalkan, 2019; Eğmir & Çelik, 2019). Saylam et al. (2017), in their research on sports sciences students, found that female students had a higher perception of teacher identity than male students, and Cinpolat et al. (2016) found that female sports sciences students had higher perceptions of the teaching profession. Özdemir (2008) asserts that the teaching profession is more suitable for females in terms of social gender roles, and some affective qualities required for the teaching profession are more common in females. The idea that teaching is more suitable for females is widely accepted in society (Sayılan, 2012). Female teacher candidates are more willing to become teachers (Kingir et al., 2020). However, the fact that the study's findings did not differ according to gender contradicted these ideas that are thought to be generally accepted in society.

The results of the research on the differences between PPSE anxiety and gender show that female candidate teachers have a higher level of PPSE anxiety than male candidate teachers. When the literature was examined, significant differences were found between PPSE anxiety and gender (Özay et al., 2017). Many studies have indicated that PPSE anxiety is higher in females than males (Özsarı, 2008). When the studies related to the anxiety dimension are investigated, the results of some research shows that, depending on the gender, female candidate teachers' anxiety levels about PPSE are higher than male candidate teachers' anxiety levels (Çimen, 2007). In contrast to these researches, there are many studies in the literature showing that there is no significant difference between the level of anxiety about PPSE and the gender variable (Coşkun et al., 2021; Tümkaya & Çavuşoğlu, 2010; Yavuz & Akdeniz, 2019). In line with the available information, the literature has no unity. This is thought to be because the sample groups included in the studies have different characteristics (such as program, age, and grade level).

In the research, no significant differences were found between early identity perceptions of candidate teachers according to their academic achievement. In contrast to the study, several studies in the literature report that candidate teachers with high preprofessional identity perceptions also have high academic grade point averages (Alptekin & Kingır, 2021). Alptekin Yolcu (2018) concluded in his research with candidate classroom teachers that students with high general identity perceptions also had high academic grade point averages. Hanna et al. (2020) noted that professional identity affects teachers' attitudes, ideas, and feelings. The findings of the research do not coincide with the literature. This may be because the samples were formed from different branches.

The research found no significant difference between the KPSS anxiety scores of candidate teachers according to their academic achievement. Özay et al. (2017) reported that there was no significant relationship between KPSS anxiety and academic achievement and that test anxiety levels were not reflected in academic performance. However, several research studies show that anxiety decreases as academic performance increases (Akgün et al., 2007). A different research found that candidate teachers' KPSS anxiety levels varied according to their academic performance (Coşkun et al., 2021). When the literature is investigated, it is concluded that academic performance affects the anxiety level of candidate teachers in many studies (Jacobs & Dodd, 2003).

The research determined differences in early teacher identity according to the grade variable of candidate teachers and that 4th-grade students had higher early teacher identity scores than 3rd-grade students. There are studies in the literature where similar results are obtained with the research. Ulubey et al. (2018) examined the identity perceptions of candidate teachers at the beginning and end of teacher education. They found that the identity perceptions of candidate teachers were higher at the beginning of teacher education than those measured at the end of teacher education. In another research, the preprofessional identities of teachers differed significantly according to the grade level. 4th grade students were found to have a significantly higher level of qualification than students in other grades (Eğmir & Erdem, 2021). Çelik and Kalkan (2019) found that 4th-grade students had a higher level of early identity. Eğmir and Çelik (2019) found that 4th-grade candidate teachers' professional identity perceptions were higher than candidate teachers at other grade levels. However, these results differ from some studies in the literature. Several studies show no significant difference between candidate teachers' perceptions of professional identity

according to grade level (Alptekin-Yolcu, 2018). The research conducted by Erdem (2020) supported this result and reported that the difference between the professional identity perceptions of candidate teachers in the 1st and 4th grades was not significant. Although there is no unity in the literature based on the research findings, upper-class students' high perception of teacher identity can be attributed to the fact that visiting schools and doing internships affect the perception of teacher identity (Eğmir & Çelik, 2019).

In the research, significant differences were found between the PPSE anxiety levels of the prospective teachers according to their grade level. When the literature is reviewed, In the research conducted by Tümkaya and Çavuşoğlu (2010), it was reported that the anxiety and hopelessness scores of graduates were higher than those of non-graduates. A different research found that as the students' grade levels increased, their exam anxiety also increased (Ekiz, 2023). According to the findings of the study conducted by Yavuz and Akdeniz (2019), it was found that 1st and 2nd-grade students at the beginning of their education had more negative thoughts, while 3rd and 4th-grade students approaching the end of their education had more positive thoughts. Çakmak and Hevedanlı (2005) found that 1st-grade students experienced more anxiety than 2nd-grade students. These results coincide with the results of this research. In addition, in a few studies in the literature, no significant difference was found between education level and anxiety level (Ahmad & Aziz, 2019).

As a result, no significant relationship was found between PPSEALS scores and ETIS scores of candidate teachers. At the same time, it was determined that the PPSEALS scores of candidate teachers were at a medium level, and ETIS scores were at a high level. There was a significant difference between the grade level with PPSEALS and ETIS scores. Accordingly, fourth-grade students' anxiety levels and teacher identity perceptions were higher than other grades. There were significant differences between the PPSEALS scores of candidate teachers according to their gender, and it was determined that females had higher PPSE anxiety levels than males. The research investigating candidate teachers' identity perception and PPSE anxiety levels together is limited in the literature, which can be considered as the strength of the research. On the other hand, the limitation of the research is that it covers a limited number of teacher candidates who have studied and graduated from the physical education and sports department.

Suggestions

Future research involving many candidate teachers in different university departments in different regions may provide more reliable and comprehensive results. In order to reduce PPSE anxiety, counseling services can be provided to candidate teachers to raise awareness about the importance of the field and pedagogical formation courses from their first year. In addition, giving candidate teachers enough time and opportunity to make decisions and learn through research may contribute to developing a positive teacher identity.

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Name of the board that carries out ethical assessment: Erzurum Technical University Research and Publication Ethics Committee

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Author Contribution Statement

Selim ASAN: *Conceptualization, literature review, data analysis, data collection, translation, and writing.*

Edanur YAĞIN: *Conceptualization, literature review, data collection and writing.*

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