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# Examining the Relationship Between Physical Education and Sports Teacher Candidates' Speaking Self-Efficacy Perceptions and Speech Anxiety

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## Abstract

The study was conducted to determine the speaking self-efficacy perception and speaking anxiety levels of prospective physical education and sports teachers and to test the predictive effect of speaking self-efficacy perception on speaking anxiety. The research was designed in quantitative research method and relational survey model. The research was conducted on 309 physical education teacher candidates studying at different universities. The data of the study were obtained by using Personal Information Form, Speaking Self-Efficacy Scale for Student Teachers and Speaking Anxiety Scale for Student Teachers. Since the data were normally distributed, descriptive analysis, independent sample t-test, one-way analysis of variance, Pearson correlation analysis and simple linear regression analysis were used to analyze the data. According to the results of the analysis, it was observed that pre-service teachers' speaking self-efficacy perceptions were at a high level and their speaking anxiety was at a low level. It was determined that pre-service teachers' perceptions of speaking self-efficacy and speaking anxiety differed significantly in favor of those who had an athlete background and those who regularly read books. It was determined that as the pre-service teachers' perceptions of speaking self-efficacy increased, their speaking anxiety decreased, and it was concluded that their perceptions of speaking self-efficacy negatively affected their speaking anxiety. As a result, it can be said that having done sports in the past and reading books regularly can be effective in increasing speaking self-efficacy perception and decreasing speaking anxiety in pre-service teachers. In addition, considering that speaking self-efficacy perception negatively predicts speaking anxiety, it is recommended that practices that will increase speaking self-efficacy perception should be emphasized to reduce speaking anxiety.
**Keywords:** Speaking self-efficacy perception, Speech anxiety, Physical education and sports teacher candidates

# Beden Eğitimi ve Spor Öğretmeni Adaylarının Konuşma Öz Yeterlik Algıları ve Konuşma Kaygıları Arasındaki İlişkinin İncelenmesi

## Öz

Araştırma, beden eğitimi ve spor öğretmeni adaylarının konuşma öz yeterlik algısı ile konuşma kaygı düzeylerini belirlemek ve konuşma öz yeterlik algısının konuşma kaygısı üzerindeki yordayıcı etkisini test etmek amacıyla gerçekleştirilmiştir. Araştırma nicel araştırma yönteminde, ilişkisel tarama modelinde tasarlanmıştır. Araştırma, farklı üniversitelerde eğitim gören 309 beden eğitimi öğretmeni adayı üzerinde yürütülmüştür. Araştırmanın verileri; Kişisel Bilgi Formu, Öğretmen Adaylarına Yönelik Konuşma Öz Yeterliği Ölçeği ve Öğretmen Adayları İçin Konuşma Kaygısı Ölçeği kullanılarak elde edilmiştir. Veriler normal dağılım gösterdiği için verilerin çözümlenmesinde betimleyici analizler, bağımsız örneklem t-testi, tek yönlü varyans analizi, pearson korelasyon analizi ve basit doğrusal regresyon analizi kullanılmıştır. Analiz sonuçlarına göre, öğretmen adaylarının konuşma öz yeterlik algılarının yüksek düzeyde olduğu, konuşma kaygılarının ise düşük düzeyde olduğu gözlemlenmiştir. Öğretmen adaylarının konuşma öz yeterlik algılarının ve konuşma kaygılarının, sporcu özgeçmişine sahip olanlar ve düzenli kitap okuyanlar lehine anlamlı farklılık gösterdiği belirlenmiştir. Öğretmen adaylarının konuşma öz yeterlik algılarının arttıkça konuşma kaygılarının azaldığı tespit edilmiş ve konuşma öz yeterlik algılarının konuşma kaygılarını negatif yönde etkilediği sonucuna varılmıştır. Sonuç olarak, öğretmen adaylarında geçmişte spor yapmış olmanın ve düzenli olarak kitap okumanın konuşma öz yeterlik algısını arttırmada ve konuşma kaygısını azaltmada etkili olabileceği söylenebilir. Ayrıca konuşma öz yeterlik algısının konuşma kaygısını negatif yönde yordadığı dikkate alındığında, konuşma kaygısını azaltmak için konuşma öz yeterlik algısını arttıracak uygulamalara önem verilmesi önerilmektedir.
**Anahtar Kelimeler**: Konuşma öz yeterlik algısı, Konuşma kaygısı, Beden eğitimi ve spor öğretmeni adayları

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## INTRODUCTION

Education, which essentially consists of a communication environment, is the most important element for individuals and societies to develop in the desired direction (Hayran, 2020). Communication refers to a necessary process for people living in society to express themselves, their knowledge, feelings, thoughts and wishes accurately and effectively (Temizyürek et al., 2013). This process takes place through speaking and listening. Speaking is the act of conveying one's thoughts and ideas verbally by using the vocabulary and syntax of a particular language. (TDK, 2022) or communicating a subject or idea after being designed in the mind through various processes (Kurudayıoğlu, 2003). Speech not only enables people to establish healthy communication and understanding with other people, and to take part in their social and cultural environment, but it is also an important tool that can directly affect people's professional and private lives, either positively or negatively. For this reason, people want to try to address themselves more beautifully and effectively while socializing (Sevim, 2012). Because "speech is a reflection of mental development, personality formation and social relations" (Sever, 2017). In addition, people who can speak effectively also can influence and direct communities (Özkan & Kınay, 2015).

The primary people who need to have effective speech skills are teachers and teacher candidates who are on the path to becoming educators of the future. Teachers are the ones who initiate and direct communication by assuming a guiding role in the education and training process (Çetinkaya, 2011; Senemoğlu, 2018). Communication encompasses a process. The process unfolds as the teacher communicates information verbally to the students, aiming to assist them in achieving the intended cognitive, emotional, and physical outcomes aligned with educational objectives (Taşer, 2001). In other words, the teacher uses communication to create permanent behavioral changes in the desired direction. In this case, learning can be expressed as the product of good communication. Unless good communication occurs, it is very difficult for learning to occur (Ergin, 2020). For this reason, the teacher must use language effectively and provide an efficient communication environment to successfully achieve his teaching goals. At this point, the teacher must be competent in the features and elements of speech to communicate efficiently. Teachers who can speak at a competent level; while speaking, he can use his voice effectively in syllables, words and sentences, pronounce words understandably, convey his thoughts correctly, emphasize emotions effectively, and use body language (physical movements, gestures and facial expressions) in harmony with his speech (Katrancı & Kuşdemir, 2015; Kurudayıoğlu, 2003; Sever, 2017). However, if any element is missing or inadequate in the speaking process, it may cause problems with speaking skills (Güneş, 2013). At this point, some positive and negative elements prevent speaking at a competent level. These elements can be listed as the characteristics of the classroom or environment where the speech will be held, the topic to be discussed, the overlap of this topic with the interests of the students and the teacher, and the emotional state of the teacher. Additionally, another important factor that prevents teachers from speaking is speech anxiety (SA) (Sevim, 2012).

Anxiety can be described as an intense sensation of discomfort experienced by individuals when confronted with a situation that makes them uneasy (Arslan et al., 2019). Anxiety is an emotion in which fear and anxiety dominate the individual (Sevim, 2012). SA can be defined as a reaction that individuals develop against speech (Melanlıoğlu & Demir, 2013). However, people may fear physiological and psychological speaking problems in prepared or unprepared speeches. Physiologically, examples include shaking hands, body, and voice, and avoiding eye contact. Psychologically, it can be given as examples of negative emotions and thoughts such as forgetting what to say, being afraid of making mistakes, looking at oneself, and boring the audience (Demir & Melanlıoğlu, 2014; Vural, 2004). SA or public SA is considered a type of social phobia, and it is noted that it occurs in three out of every four people (Niles et al., 2015). It is stated that SA may cause people to hold back or not want to speak, and it will also have negative effects on the quality and success of the speech (Arslan, 2012; Pribly et al., 2001). This may also be true for teachers and teacher candidates, for whom speaking plays a decisive role in the teaching profession. For example, Arslan (2012) states that teacher candidates experience physical and psychological problems when speaking in front of the public. They state that teacher candidates get psychologically excited, forget what they have to say, and feel worthless. Physically, they stated that their hands were stiff and that they experienced problems such as vision and breathing problems. For this reason, when speaking skill is considered as an important factor affecting the education process, it reveals its importance in teacher training institutions (Yelok & Sallabaş, 2009). In this situation, it is considered vital to identify the SA levels of future teacher candidates during their education phase and to examine the factors that may affect their anxiety. Thus, precautions to be taken for teacher candidates to overcome their SA can be determined.

Situations such as individuals' ability to cope with their stress, anxiety, depression, and life choices, motivating themselves, and showing patience in the face of obstacles to their work are related to their self-efficacy perceptions (SEP) (Pajares, 2007). SEP is defined as an individual's confidence or perception of their capability to successfully execute a specific task (Bandura, 1997). People who possess low SEP may find themselves in situations where they avoid or refrain from undertaking tasks, often influenced by their anxiety levels. People with a strong SEP tend to invest significant effort in achieving tasks, experience reduced stress and anxiety, and demonstrate persistence and patience when confronted with adverse circumstances, ultimately refraining from giving up (Aşkar & Umay, 2001; Bandura, 1986; Hoy & Spero, 2005; Işıksal & Aşkar, 2003; Pajares, 2002; Wood & Bandura, 1989). Within this framework, it can be thought that one of the factors affecting teacher candidates' SA is their speaking self-efficacy perceptions (SSEP). Hence, it is crucial to identify the factors that may have an impact on teacher candidates' SSEP. Katrancı & Melanlıoğlu (2013) emphasize that there may be a relationship between teacher candidates' SA and SSEP and that a decrease in individuals' SSEP will increase SA. Similarly, Hayran (2020) points out the importance of SSEP in reducing teacher candidates' SA. When the relevant literature was examined, few studies examining this relationship were found. The majority of these studies examined the relationship between foreign language SSEP and foreign language SA of foreign language students and found that there was a negative relationship between them (Gürsoy &

Karaca, 2018; Jee, 2019; Mardianti et al., 2023; Okyar, 2023;). The only study conducted by Demir (2023) was conducted on teacher candidates. Consequently, the research revealed that as SSEP increased, SA decreased.

In this context, improving the speaking skills of teacher candidates, increasing their SSEP and reducing their SA will positively affect their future professional lives, teaching quality and academic success. "Enhancing teacher competencies is crucial for elevating the quality of education (Bulut, 2014). An area where few studies have been conducted on this subject and which needs to be examined is physical education and sports teacher candidates (PESTC). When the relevant literature was examined, a small number of studies were found examining the SSEP and SA of PESTC (Bayraktar et al., 2022; Harmandar-Demirel et al., 2017; Katrancı, 2014; Tan et al., 2023; Vaizoğlu & Gacar, 2022). In light of this, it is considered important to examine the SSEP and SA of PESTC. Additionally, no study has been found examining the relationship between PESTC' SSEP and SA. In this regard, it is thought that it will make significant contributions to the relevant literature by filling this gap.

Therefore, the first objective of the research is to define the SA and SSEP levels of PESTC. The second objective of the research is to define whether PESTC' SA and SSEP differ significantly according to gender, sports background, regular book reading status, and grade level. The third objective of the research is to define whether there is a significant relationship between PESTC' total SSEP and total SA. The fourth objective of the research is to define whether total the SSEP of PESTC significantly predicts their total SA.

## MATERIAL AND METHOD

### Research Model

This study was conducted in a quantitative research method using the relational screening model. The survey model is a research model used to describe a situation that existed before or continues to exist. The purpose of this research model is to investigate whether a relationship exists between two or more variables and, if so, to quantify the extent of this relationship (Karasar, 2016).

### Research Group

The criteria used to select participants for this study were grounded in "easily accessible case sampling", which is one of the purposeful sampling methods. The study took place during the academic year 2021-2022 and involved 309 participants enrolled in the sports science faculties of Ankara University, Süleyman Demirel University, Burdur Mehmet Akif Ersoy University, Mus Alparslan University, and Manisa Celal Bayar University.

**Table 1.** Characteristics of the participants

| Variables | Groups | Frequency (f) | Percentage (%) |
|---|---|---|---|
| **Age** | 18-22 Age | 241 | 78.0 |
| | 23-27 Age | 68 | 22.8 |
| **Gender** | Female | 134 | 43.4 |
| | Male | 175 | 56.6 |
| **University** | Süleyman Demirel University | 113 | 36.6 |
| | Manisa Celal Bayar University | 78 | 25.2 |
| | Mus Alparslan University | 49 | 15.9 |
| | Burdur Mehmet Akif Ersoy University | 30 | 9.7 |
| | Ankara University | 39 | 12.6 |
| **Grade** | 1st grade | 82 | 26.5 |
| | 2nd grade | 37 | 12.0 |
| | 3rd grade | 85 | 27.5 |
| | 4th grade | 105 | 34.0 |
| **Sports Background Status** | No | 93 | 30.1 |
| | Yes | 216 | 69.9 |
| **Reading Books Regularly Status** | No | 192 | 62.1 |
| | Yes | 117 | 37.9 |
| **Total** | | 309 | 100.0 |

## Data Collection Tools

*Participant Information Form:* The researchers designed a questionnaire comprising six questions to assess the age, gender, university, academic year, sports background, and regular book reading habits of the PESTC.

*Speaking Self-Efficacy Scale for Teacher Candidates:* The scale developed by Katrancı & Melanlıoğlu (2013) was used to examine the SSEP of PESTC. The scale is made up of 25 items and 5 sub-dimensions, all of which are positive, in a 5-point Likert format (1 = Never, 5 = Always). These sub-dimensions are listed as "Public Speaking", "Effective Speech", "Applying Speech Rules", "Editing Speech Content", and "Evaluating Speech". The scale does not contain items that require reverse-coding. The scale provides a range of possible scores between 1 and 5. An increase in the average score derived from the scale signifies an increase in SSEP. The scale's reliability was assessed using the Cronbach's Alpha (Cronbach α) internal consistency coefficient. These values are stated to be 0.85 for public speaking, 0.80 for effective speech, 0.78 for applying speaking rules, 0.70 for regulating speech content, 0.71 for speech evaluation, and the total scale is 0.92. In the current research, the Cronbach's Alpha internal consistency coefficients for the sub-dimensions of the scale were computed as follows: 0.87, 0.86, 0.85, 0.77, and 0.82, the total of the scale was 0.87, respectively.

*Speech Anxiety Scale for Teacher Candidates:* The scale developed by Kinay & Özkan (2014) was used to measure the SA of PESTC. This scale is a 5-point Likert type (1 = Never, 5 = Always), and consists of 40 items and 3 sub-dimensions, all of which are positive. These sub-dimensions are “Psychological State”, “Physiological Symptoms” and “Skill Related Anxiety”. The scale does

not contain items that require reverse-coding. The scale provides a range of possible scores between 1 and 5. Increasing mean scores from the scale indicate that SA is increasing. The reliability of the scale was determined by the Cronbach Alpha (Cr α) internal consistency coefficient. The psychological state was reported as 0.92, the physiological symptoms as 0.83, the skill-related anxiety as 0.78, and the entire scale as 0.94. In the current research, the Cronbach's Alpha internal consistency coefficients for the sub-dimensions of the scale were computed as follows:0.95, 0.90 and, 0.82, respectively, and the total of the scale was 0.96.

**Ethical Approval**

All participants signed an "Informed Consent Form" stating that they voluntarily participated in the study. Ethics committee approval was received with the decision of the Süleyman Demirel University Social and Human Sciences Ethics Committee dated 15.09.2022 and numbered 125/10.

**Analysis of Data**

The data were subjected to analysis utilizing Statistical Package for Social Sciences (SPSS) version 23,0. Before conducting data analysis, a verification process was carried out to identify any missing or incorrect responses. The data were analyzed using both descriptive and inferential statistics. Within the scope of descriptive analysis, frequency, percentage, arithmetic mean kurtosis, and skewness values of the data were calculated. To examine whether the data were normally distributed, kurtosis and skewness values were checked and evaluated according to whether the values were between +1.5 and -1.5 (George & Mallery, 2010; Tabachnick & Fidell, 2013). Based on this criterion, it was observed that the data exhibited a normal distribution, leading to the utilization of parametric tests. To address the initial research question, the means and standard deviations of the scores that the participants received from all scales and their sub-dimensions were calculated and interpreted using the arithmetic mean ranges determined by Tekin (1996). These ranges; "1.00 –1.80 = Very Low", "1.81–2.60 = Low", "2.61–3.40 = Medium", "3.41–4.20 = High", "4.21–5.00 = Very High". To answer the second problem of the research, an independent sample t-test was used to compare two groups, and a one-way analysis of variance (ANOVA) was used to compare three or more groups. The Levene test was performed to determine whether the groups were homogeneous or not, and as a result of the test, it was seen that the groups were homogeneous. If a statistically significant difference was found as a result of one-way analysis of variance, the Bonferroni test, one of the Post Hoc tests, was used to determine the source of the difference. Eta square $\eta^2$ value was calculated to calculate the size of the significant difference as a result of an independent sample t-test and one-way analysis of variance (ANOVA). The Eta squared ($\eta^2$) effect size was reported in accordance with the criteria set by Ellis (2010), where values of .01 indicate a small effect, .06 indicate a medium effect, and .14 indicate a large effect. For the third problem of the research, Pearson correlation analysis was used and the results of the analysis; 0.00-0.30 is reported as low, 0.30-0.70 as medium and 0.70-1.00 as large (Büyüköztürk, 2019). Finally, for the fourth problem of the research, a simple linear regression analysis was performed. In all analyses, a significance level of $p<0.05$ was adopted.

## RESULTS

The mean and standard deviation values, which were used to determine the levels of total SSEP, total SA, and sub-dimensions of PESTC, are displayed in Table 2.

**Table 2.** Descriptive statistics of variables

| Variables | N | M | S | Min. | Max. | Skewness | Kurtosis | Level |
|---|---|---|---|---|---|---|---|---|
| Public Speaking | 309 | 3.61 | .80 | 1.57 | 5.0 | -.327 | -.369 | High |
| Effective Speech | 309 | 4.00 | .69 | 1.17 | 5.0 | -.909 | 1.409 | High |
| Applying Speech Rules | 309 | 4.11 | .69 | 1.60 | 5.0 | -.736 | .606 | High |
| Editing Speech Content | 309 | 3.73 | .77 | 1.25 | 5.0 | -.456 | .129 | High |
| Evaluating Speech | 309 | 4.01 | .79 | 1.67 | 5.0 | -.673 | .059 | High |
| Total Speaking Self-Efficacy Perception | 309 | 3.87 | .65 | 1.44 | 5.0 | -.621 | .776 | High |
| Psychological State | 309 | 2.12 | .85 | 1.0 | 4.78 | .874 | .276 | Low |
| Physiological Symptoms | 309 | 1.97 | .77 | 1.0 | 4.55 | 1.12 | 1.14 | Low |
| Skill Related Anxiety | 309 | 2.23 | .81 | 1.0 | 4.83 | .779 | .663 | Low |
| Total Speech Anxiety | 309 | 2.09 | .77 | 1.0 | 4.73 | .945 | .802 | Low |

As seen in Table 2, the mean scores of PESTC in total SSEP and its sub-dimensions were found to be at a high level (M = > 3.41). However, it was found that the scores of PESTC in total SA and its sub-dimensions were low level (M = < 2.60).

**Table 3.** Independent group t-test results by gender

| Variables | Group | N | M | S | t | Sd | η2 | p |
|---|---|---|---|---|---|---|---|---|
| Public Speaking | Female | 134 | 3.66 | .79 | 1.087 | 307 | | .278 |
| | Male | 175 | 3.56 | .81 | | | | |
| Effective Speech | Female | 134 | 4.09 | .63 | 2.096 | 307 | .23 | .037* |
| | Male | 175 | 3.93 | .72 | | | | |
| Applying Speech Rules | Female | 134 | 4.21 | .60 | 2.274 | 307 | .26 | .024* |
| | Male | 175 | 4.03 | .74 | | | | |
| Editing Speech Content | Female | 134 | 3.77 | .74 | .943 | 307 | | .346 |
| | Male | 175 | 3.69 | .79 | | | | |
| Evaluating Speech | Female | 134 | 4.09 | .78 | 1.568 | 307 | | .118 |
| | Male | 175 | 3.95 | .79 | | | | |
| Total Speaking Self-Efficacy Perception | Female | 134 | 3.94 | .60 | 1.791 | 307 | | .074 |
| | Male | 175 | 3.81 | .68 | | | | |
| Psychological State | Female | 134 | 2.02 | .74 | .868 | 307 | | .146 |
| | Male | 175 | 1.94 | .80 | | | | |
| Physiological Symptoms | Female | 134 | 2.21 | .72 | -.321 | 307 | | .386 |
| | Male | 175 | 2.24 | .87 | | | | |
| Skill Related Anxiety | Female | 134 | 2.04 | .78 | -1.458 | 307 | | .748 |
| | Male | 175 | 2.18 | .90 | | | | |
| Total Speech Anxiety | Female | 134 | 2.05 | .69 | -.769 | 307 | | .443 |
| | Male | 175 | 2.12 | .82 | | | | |

*p<0,05; **p<0,01 level is significant.

In Table 3; it was examined whether the sub-dimensions of SSEP of PESTC differed according to gender. Accordingly, it was found that there was a significant difference in the sub-dimensions of effective speech (t (307) = 2.096, p<0.05) and applying speech rules according to gender.

Considering the averages, these differences were found to be in favor of female PESTC. The effect sizes for the sub-dimensions of effective speech (η2=.23) and applying speech rules (η2=.26) were found to be high. However, no significant difference was found in public speaking (t (307) = 1.087, p>0.05), editing speech content (t (307) = .943, p>0.05), evaluating speech (t (307) = 1.568, p>0.05) and total SSEP (t (307) = 1.791, p>0.05) scores according to gender.

In addition to these findings, it was examined whether the total SA and sub-dimensions of PESTC differ according to gender. Results showed that psychological state (t (307) = .868, p>0.05), physiological symptoms (t (307) =-.321, p>0.05), skill-related anxiety (t (307) = -1.458, p> 0.05) and total SA (t (307) = -.769, p>0.05) did not differ according to gender. This finding shows that male and female PESTC have similar levels of SA.

The independent group t-test results regarding whether PESTC' total SSEP, total SA and their sub-dimensions differ according to their sports background status are displayed in Table 4.

**Table 4.** Independent group t-test results according to sports background status

| Variables | Group | N | M | S | t | Sd | η2 | p |
|---|---|---|---|---|---|---|---|---|
| Public Speaking | No | 93 | 2.78 | .58 | -15.822 | 307 | .44 | .000** |
| | Yes | 216 | 3.96 | .60 | | | | |
| Effective Speech | No | 93 | 3.33 | .62 | -14.508 | 307 | .40 | .000** |
| | Yes | 216 | 4.29 | .49 | | | | |
| Applying Speech Rules | No | 93 | 3.48 | .60 | -12.916 | 307 | .35 | .000** |
| | Yes | 216 | 4.38 | .53 | | | | |
| Editing Speech Content | No | 93 | 3.02 | .63 | -13.170 | 307 | .36 | .000** |
| | Yes | 216 | 4.03 | .60 | | | | |
| Evaluating Speech | No | 93 | 3.27 | .67 | -13.696 | 307 | .37 | .000** |
| | Yes | 216 | 4.33 | .60 | | | | |
| Total Speaking Self-Efficacy Perception | No | 93 | 3.15 | .47 | -18.108 | 307 | .51 | .000** |
| | Yes | 216 | 4.18 | .45 | | | | |
| Psychological State | No | 93 | 2.47 | .75 | 4.973 | 307 | .07 | .000** |
| | Yes | 216 | 1.96 | .85 | | | | |
| Physiological Symptoms | No | 93 | 2.18 | .73 | 3.104 | 307 | .03 | .002** |
| | Yes | 216 | 1.89 | .78 | | | | |
| Skill Related Anxiety | No | 93 | 2.53 | .82 | 4.384 | 307 | .05 | .000** |
| | Yes | 216 | 2.10 | .77 | | | | |
| Total Speech Anxiety | No | 93 | 2.39 | .69 | 4.711 | 307 | .06 | .000** |
| | Yes | 216 | 1.96 | .76 | | | | |

*p<0,05; **p<0,01 level is significant.

Table 4 shows whether disparities exist in the total SSEP and its sub-dimensions among PESTC based on their sports background. Accordingly, public speaking (t (307) = -15.822, p<0.05), effective speech (t (307) = -14.508, p<0.05), applying speech rules (t (307) = -12.916, p<0.05). ), editing speech content (t (307) = -13.170, p<0.05), evaluating speech (t (307) = -13.696, p<0.05), and total SSEP (t (307) = -18.108 , p<0.05) was found to differ significantly. When the averages are taken into account to determine the significant difference; It was observed that there was a difference in all sub-dimensions and total SSEP in favor of PESTC with a sports background.

These findings indicate that PESTCs with a sports background have higher SSEP than those without a sports background.

Moreover, it was examined whether there was a difference in the speech self-anxiety and sub-dimensions of PESTC according to their sports background. As a result, it was observed that PESTC differed significantly in psychological state (t (307) = 4.973, p<0.05), physiological symptoms (t (307) = 3.104, p<0.05), skill-related anxiety (t (307) = 4.384, p<0.05) sub-dimensions, and total SA (t (307) = 4.711, p<0.05). As a result, it was noticed that PESTC differed significantly in psychological state, physiological symptoms, skill-related anxiety sub-dimensions, and total SA. The effect sizes of the physiological symptoms (η2=.03) and skill-related anxiety sub-dimension (η2=.05) were small, while the effect sizes of the psychological anxiety sub-dimension (η2=.07) and total SA (η2=.06) were medium. When the averages were examined to determine in which group the significant difference was in favor of, it was seen that there was a difference in favor of PESTC with a sports background in all sub-dimensions and total SA. These findings indicate that PESTC with a sports background experience lower SA than those without a sports background.

The independent group t-test results regarding whether PESTC' total SSEP and total SA and their sub-dimensions differ according to regular book reading status are displayed in Table 5.

**Table 5.** T-test results according to regular book reading status

| Variables | Group | N | M | S | t | Sd | η2 | p |
|---|---|---|---|---|---|---|---|---|
| Public Speaking | No | 192 | 3.46 | .81 | -4.253 | 307 | .05 | .000** |
| | Yes | 117 | 3.85 | .72 | | | | |
| Effective Speech | No | 192 | 3.89 | .72 | -3.561 | 307 | .03 | .000** |
| | Yes | 117 | 4.18 | .60 | | | | |
| Applying Speech Rules | No | 192 | 4.04 | .70 | -2.134 | 307 | .01 | .034* |
| | Yes | 117 | 4.21 | .65 | | | | |
| Editing Speech Content | No | 192 | 3.62 | .77 | -3.081 | 307 | .02 | .002** |
| | Yes | 117 | 3.90 | .74 | | | | |
| Evaluating Speech | No | 192 | 3.89 | .77 | -3.577 | 307 | .04 | .000** |
| | Yes | 117 | 4.21 | .77 | | | | |
| Total Speaking Self-Efficacy Perception | No | 192 | 3.76 | .66 | -3.921 | 307 | .04 | .000** |
| | Yes | 117 | 4.05 | .59 | | | | |
| Psychological State | No | 192 | 1.96 | .80 | 2.561 | 307 | .02 | .011* |
| | Yes | 117 | 2.21 | .87 | | | | |
| Physiological Symptoms | No | 192 | 2.00 | .80 | .796 | 307 | | .427 |
| | Yes | 117 | 1.93 | .73 | | | | |
| Skill Related Anxiety | No | 192 | 2.29 | .79 | 1.637 | 307 | | .103 |
| | Yes | 117 | 2.13 | .83 | | | | |
| Total Speech Anxiety | No | 192 | 2.16 | .78 | 2.007 | 307 | .01 | .046* |
| | Yes | 117 | 1.98 | .73 | | | | |

*p<0,05; **p<0,01 level is significant.

Table 5 examines whether there is a difference in the SSEP and sub-dimensions of PESTC according to their regular book reading status. Accordingly, It was noted that there were significant differences in the sub-dimensions of public speaking (t (307) =-4.253, p<0.05), effective speech (t

(307) =-3.561, p<0.05), applying speech rules (t (307) = -2.137, p<0.05), editing speech content (t (307) = -3.081, p<0.05), evaluating speech (t (307)=-3.577, p<0.05), and total SSEP (t (307) = -3.921, p<0.05). It was observed that the effect size (η2=<.06) was small in total SSEP and its sub-dimensions. When the means were taken into account to determine which group showed a significant difference in favor, it was seen that there was a difference in favor of the PESTC who read books regularly in all sub-dimensions and in the total SSEP. These findings show PESTC who read books regularly have higher SSEP than those who do not read books regularly.

The analysis aimed at determining if there is a significant difference in the SA and sub-dimensions of PESTC according to their regular book reading status. It was noticed that there was a significant difference in the total SA (t (307) = 2.007, p<0.05) and psychological state (t (307) = 2.561, p<0.05) sub-dimension. It was observed that the effect size was small in total SA (η2=.01) and psychological state sub-dimension (η2=.02). Averages were taken into account to determine in which groups the significant difference was in favor of. Accordingly, a significant difference in the total SA and psychological state sub-dimension was observed in favor of the PESTC who read books regularly.

The independent group t-test results regarding whether PESTC' total SSEP and total SA and their sub-dimensions differ according to grade level are displayed in Table 6.

**Table 6.** One-way anova test results according to grade level

| Variables | Group | N | M | S | F | p |
|---|---|---|---|---|---|---|
| Public Speaking | 1st grade | 82 | 3.80 | .92 | 1.168 | .174 |
| | 2nd grade | 37 | 3.59 | .78 | | |
| | 3rd grade | 85 | 3.58 | .75 | | |
| | 4th grade | 105 | 3.78 | .74 | | |
| Effective Speech | 1st grade | 82 | 3.95 | .69 | .188 | .905 |
| | 2nd grade | 37 | 4.03 | .58 | | |
| | 3rd grade | 85 | 4.01 | .60 | | |
| | 4th grade | 105 | 4.02 | .79 | | |
| Applying Speech Rules | 1st grade | 82 | 4.05 | .64 | .402 | .752 |
| | 2nd grade | 37 | 4.15 | .67 | | |
| | 3rd grade | 85 | 4.16 | .64 | | |
| | 4th grade | 105 | 4.09 | .76 | | |
| Editing Speech Content | 1st grade | 82 | 3.64 | .78 | 2.247 | .083 |
| | 2nd grade | 37 | 3.62 | .75 | | |
| | 3rd grade | 85 | 3.66 | .77 | | |
| | 4th grade | 105 | 3.88 | .75 | | |
| Evaluating Speech | 1st grade | 82 | 3.91 | .79 | .588 | .623 |
| | 2nd grade | 37 | 4.05 | .63 | | |
| | 3rd grade | 85 | 4.04 | .84 | | |
| | 4th grade | 105 | 4.05 | .79 | | |

**Table 6 (Continue).** One-way anova test results according to grade level

| Variables | Group | N | M | S | F | p |
|---|---|---|---|---|---|---|
| Total Speaking Self-Efficacy Perception | 1st grade | 82 | 3.77 | .67 | 1.179 | .318 |
| | 2nd grade | 37 | 3.87 | .60 | | |
| | 3rd grade | 85 | 3.87 | .59 | | |
| | 4th grade | 105 | 3.95 | .70 | | |
| Psychological State | 1st grade | 82 | 2.21 | .79 | .749 | .523 |
| | 2nd grade | 37 | 1,95 | .72 | | |
| | 3rd grade | 85 | 2,10 | .90 | | |
| | 4th grade | 105 | 2,12 | .90 | | |
| Physiological Symptoms | 1st grade | 82 | 2,12 | .74 | 1.893 | .131 |
| | 2nd grade | 37 | 1,77 | .73 | | |
| | 3rd grade | 85 | 1,92 | .80 | | |
| | 4th grade | 105 | 1,97 | .78 | | |
| Skill Related Anxiety | 1st grade | 82 | 2,30 | .70 | .813 | .487 |
| | 2nd grade | 37 | 2,05 | .74 | | |
| | 3rd grade | 85 | 2,23 | .88 | | |
| | 4th grade | 105 | 2,24 | .84 | | |
| Total Speech Anxiety | 1st grade | 82 | 2,19 | .69 | 1.090 | .353 |
| | 2nd grade | 37 | 1,92 | .70 | | |
| | 3rd grade | 85 | 2,07 | .79 | | |
| | 4th grade | 105 | 2,09 | .81 | | |

When the analyses in Table 6 are examined; public speaking [F(3, 305)= 1.668; p>0.05], effective speech [F(3, 305)= .188; p>0.05], editing speech content [F(3, 305)= 2.247; p>0.05], evaluating speech [F(3, 305)= .588; p>0.05] sub-dimensions and total SSEP [F(3, 305)= 1.179; p>0.05] did not differ according to grade level. These findings show that PESTC in different classes have similar levels of SSEP. It also shows that grade level does not affect SSEP.

In addition, psychological status of PESTC [F(3, 305)= .749; p>0.05], physiological symptoms [F(3, 305)= 1.893; p>0.05], skill-related anxiety [F(3, 305)= .813; p>0.05] sub-dimensions and total SA [F(3, 305)= 1.090; p>0.05] did not differ according to grade level. This finding indicates that PESTC in different classes have similar levels of SA. Furthermore, it demonstrates that the grade level exerts no influence on SA.

The outcomes of the Pearson correlation analysis conducted to assess the presence of a significant relationship between the total SSEP and total SA of PESTC are displayed in table 7.

**Table 7.** Pearson correlation analysis results of the relationship between SSEP and SA

| | PS | ES | ASR | ESC | ES | TSSEP | PS | PS | SRA | TSA |
|---|---|---|---|---|---|---|---|---|---|---|
| PS | 1 | | | | | | | | | |
| ES | .733** | 1 | | | | | | | | |
| ASR | .606** | .798** | 1 | | | | | | | |
| ESC | .721** | .718** | .675** | 1 | | | | | | |
| ES | .696** | .739** | .664** | .704** | 1 | | | | | |
| TSSEP | .893** | .915** | .844** | .862** | .843** | 1 | | | | |
| PS | -.382** | -.444** | -.417** | -.302** | -.379** | -.443** | 1 | | | |
| PS | -.269** | -.379** | -.273** | -.182** | -.292** | -.322** | .743** | 1 | | |
| SRA | -.296** | -.386** | -.376** | -.296** | -.387** | -.390** | .824** | .719** | 1 | |
| TSA | -.364** | -.453** | -.404** | -.292** | -.391** | -.436** | .972** | .864** | .885** | 1 |

*p<0,05; **p<0,01 level is significant. **PS:** Public Speaking, **ES:** Effective Speech, **ASR:** Applying Speech Rules, **ESC:** Editing Speech Content, **ES:** Evaluating Speech, **TSSEP:** Total Speaking Self-Efficacy Perception, **PS:** Psychological State, **PS:** Physiological Symptoms, **SRA:** Skill Related Anxiety **TSA:** Total Speech Anxiety

Upon reviewing Table 7, it was determined that a moderate negative correlation existed between PESTC's total SSEP and total SA (r= -.436; p<0.05). This finding shows that as PESTC' SSEP increase, their SA decreases.

Table 8 presents the outcomes of the simple linear regression analysis investigating whether PESTC's total SSEP predicts their total SA.

**Table 8.** Simple linear regression analysis results regarding SSEP predicting SA

| **Variables** | **B** | **S.E.** | **β** | **T** | **p** |
|---|---|---|---|---|---|
| Constant * | 4.076 | 0.237 | - | 17.233 | 0.000 |
| Total Speaking Self-Efficacy Perception | -0.512 | 0.060 | -0.436 | -8.495 | 0.000 |
| R= -0.436 | $R^2$=0.190 | | | | |
| F(1, 307)= 72.170 | p<0.05 | | | | |

*Dependent Variable: Total Speech Anxiety; S.E: Standard Error; Total Speech Anxiety = 4.076 + (-0.512). Total Speaking Self-Efficacy Perception

Upon reviewing Table 8, it becomes evident that PESTC' total SSEP is a significant predictor of SA ($r^2$=0.190, p<0.05). 19% of the total variance regarding total SA is explained by total SSEP. Accordingly, when the total SSEP increases by one unit, the total SA (B = -0.512) decreases. These findings show that as PESTC's total SSEP increases, their SA decreases significantly.

## DISCUSSION

This research primarily aims to establish the SSEP and SA levels of PESTC. The first finding of the research was that PESTC had high levels of total SSEP and sub-dimensions. This finding demonstrates the high degree of self-expression perception held by these teaching candidates. Upon reviewing the literature, it becomes apparent that PESTC (Katrancı, 2014; Tan et al., 2023) and teacher candidates in different branches have high total SSEP and its sub-dimensions (Alan, 2021; Demirel et al., 2020; Paradewari, 2017). At this point, it can be said that our findings are consistent with the literature. However, Oğuz (2009) states that there are a limited number of prospective teachers showing that their SSEPs are at a low level. Akkaya (2012) stated that teacher candidates experience speaking problems for many different reasons. For this reason, it was stated that teacher candidates were reluctant to speak individually and in public. It is thought that the reason why PESTC have high levels of SSEP may be due to the fact that, as stated in our research findings, PESTC who have a sports background have higher SSEP than those who do not have a sports background. Since sports take place in a social environment, people both move and constantly communicate. Thus, people have opportunities to improve their communication skills, express themselves, and gain self-confidence. Studies also show that PESTC have high communication skills (Bilir et al., 2021; Tepeköylü et al., 2009).

The second finding of the research was that PESTC had low levels of total SA and its sub-dimensions. This finding shows that PESTC do not experience SA. When the literature was examined, no findings were found regarding the SA levels of PESTC. However, there are also studies showing that teacher candidates in different branches have low SA (Deringöl, 2018; Durmuş & Baş, 2016; Karalı et al., 2021; Tolun & Güvey-Aktay, 2020). At this point, it can be stated that our findings overlap with the literature. Nevertheless, there is a scarcity of studies in the literature suggesting that teacher candidates' SA is high (Arslan, 2012; İşcan & Karagöz, 2016). It is stated that this difference in research findings may be due to the number of samples, measurement tools used, and different cultures from which data is collected (Demir, 2023a). Additionally, based on our research findings, it has been observed that PESTC with a sports background have lower SA than those without a sports background. At this point, it is thought that our findings will explain this difference. However, due to the lack of sufficient studies, it is advisable to pursue additional research in this area on the SA of PESTC.

The secondary objective of this research is to ascertain whether the SA and SSEP of PESTC differ according to gender, sports background status, regular book reading status and grade level. The third finding of the research was that PESTC did not differ according to gender in the sub-dimensions of public speaking, editing speech content, evaluating speech, and total SSEP. This finding shows that male and female PESTC are at similar levels in these sub-dimensions and their total SSEP. However, a notable contrast emerged in favor of female candidate teachers in the sub-dimensions of effective speech and applying speech rules among PESTC. This finding shows that female PESTC have higher efficacy beliefs that they express themselves effectively and comply with the rules of conversation when communicating compared to men. When the studies are

examined, some studies find that teacher candidates' total SSEP and its sub-dimensions do not differ according to gender (Akın, 2016; Baki, 2018; Özden, 2018), but there are also studies indicating that there is a difference according to gender and that this difference is in favor of women (Bozpolat, 2017; Hayran, 2020; Katrancı, 2014 Tan et al., 2023). At this point, it is thought that the reason why different research results appear in the literature may be due to people's different social and cultural experiences (Newman et al., 2008). Since there are limited studies on the SSEP of PESTC, it is recommended to conduct more research.

The fourth finding of the research is that there isn't a significant difference in the total SA and sub-dimensions of PESTC according to gender. This finding shows that PESTC have similar levels of SA, and that gender does not affect the SA of PESTC. A person's experiences can have an impact on SA. From this perspective, the fact that male and female teacher candidates have similar educational experiences, sports backgrounds, and study at the same faculty may cause them to have similar levels of SA. Taking into account a narrow range of studies from the available literature, it was seen that the SA of PESTC did not differ according to gender (Bayraktar et al., 2022; Çodur, 2019; Harmandar-Demirel et al., 2017; Kartal, 2019; Vaizoğlu & Gacar, 2022). At this point, our findings are supported by the literature.

The fifth finding of the research is that the total SSEP and sub-dimensions of PESTC with a sports background are higher than those without a sports background. This finding shows that PESTC who have a sports background have an impact on their SSEP. In the context of our research, the sixth observation is that PESTC with a sports background experienced lower SA than those without a sports background. Similarly, it can be said that having a sports background may have a positive effect on SA. Since sports is a social environment, athletes in this social environment can improve their communication skills by gaining self-confidence and the individual can be more enterprising. For example, Cooper (1969) stated that those with a sports background are more enterprising, more prone to communication, better at social relations, and outgoing than those without a sports background. It has been noted in various studies that individuals involved in sports tend to possess superior communication skills in comparison to their non-sporting counterparts (Çiçek, 2018; Tepeköylü-Öztürk et al., 2011; Ulukan et al., 2017). It is thought that all of these may explain our findings.

The seventh finding of the research was that the total SSEP and sub-dimensions of PESTC who read books regularly were higher than those who did not read books regularly. This finding indicates that reading books regularly may positively affect SSEP. When the studies were examined, Tekşan & Cinpolat (2018) found that increasing the book reading attitudes of teacher candidates increased their SSEP in their study. In an investigation undertaken by Demir et al. (2023a); it is stated that university students' SSEP increase as the number of books they read increases. Similarly, Demir (2017) revealed that as the time secondary school students spend reading books increases, their SSEP also increase. Additionally, Oğuz (2009) stated that the lack of verbal expression skills of prospective teachers stems from not reading books. At this stage, it is fair to state that the conducted studies offer significant validation for our findings.

The eighth finding of the research is that PESTC who read books regularly experienced less SA in the total SA and psychological state sub-dimension than those who did not read books regularly. This finding shows that regular reading may be effective on SA in PESTC. The literature contains a restricted amount of research on this particular topic. For example, the study by Demir (2023a) found that increasing the number of books that teacher candidates read monthly and the quantity of books they own reduces SA, which is consistent with our findings. Nonetheless, owing to the scarcity of research in this area, it is advised to examine a wider range of samples.

The ninth observation derived from the study is that there isn't a significant difference in the total SSEP and sub-dimensions of PESTC according to grade level. It can be said that these teacher candidates, regardless of their grade level, have similar levels of SSEP. When reviewing the relevant body of literature, it becomes apparent that while some studies highlight that teacher candidates' SSEP differ according to grade level (Kuru, 2018; Tan et al., 2023), there are also studies indicating that there is no difference (Özden, 2018; Katrancı, 2014; Tunagür, 2021). At this point, there are different results in the literature. Our expectation from the research was that there would be a difference in the SSEP of PESTC according to grade and that this difference would be in favor of the upper grades. However, it is surprising that there is no significant increase in the SSEP of PESTC from the 1st grade to the 4th grade. Because there are many theoretical and practical courses in which teacher candidates can gain SSEP, self-confidence, and communication skills by expressing themselves during their education processes. It is thought that this may be due to the fact that they have already gained a SSEP by being in a social environment such as sports.

The tenth finding of the research is that the SA of PESTC does not differ according to grade level. This finding shows that PESTC studying in different classes have similar levels of SA and indicates that the class has no effect on SA. When relevant studies were examined, in the study conducted by Kartal (2019), which had similar results to our findings, it was found that the SA of PESTC did not differ according to class. Although a small body of research indicates the absence of differentiation in SA among teacher candidates in different branches depending on the grade (Çodur, 2019; Demir, 2023a), there are also studies indicating that there is a difference and this difference is in favor of the upper grades (Aktay, 2020; Bayraktar et al., 2022; Deringöl, 2018; Özkan & Kınay, 2015; Suroğlu-Sofu, 2012; Tolun & Güvey-Aktay, 2020). It is thought that the reason for this difference in the SA of PESTC and candidate teachers in other branches may be due to the sports background of PESTC.

The third aim of the study is to determine whether there is a significant relationship between PESTC' total SSEP and total SA. According to the eleventh finding of the research, it was observed that as the SSEP of PESTC increased, their SA decreased. Upon a comprehensive review of the pertinent literature, it becomes evident that the conducted studies are rather constrained in scope. For example, Demir (2023b) found that as teacher candidates' SSEP increased, their SA decreased. Arslan et al. (2019) found that as the general SEP levels of health services vocational high school students increased, their SA decreased. Nevertheless, other research on university-level foreign language learners claimed that increasing the SSEP for foreign languages lowers the SA for such

language (Gürsoy & Karaca, 2018; Jee, 2019; Mardianti et al., 2023; Okyar, 2023). At this stage, it can be concluded that our findings are in line with the current research.

The study's last and fourth goal is to establish whether PESTC' total SSEP significantly predict their total SA. According to the last finding of the research, it was observed that PESTC' total SSEP were a negative predictor of their total SA. This finding indicates that increasing the total SSEP of PESTC reduces their total SA, and also shows the importance of SSEP in reducing SA. An examination of the current literature shows that results are consistent with our research findings. For example, in the investigation led by Demir (2023b), it was found that teacher candidates' SSEP had a negative effect on their SA. Similarly, studies conducted by Okyar (2023) and Jee (2019) indicated that university students studying foreign languages experienced a negative impact of foreign language SSEP on their foreign language SA. At this point, it can be said that PESTC' SSEP may be important in reducing their SA. Nonetheless, it's worth noting that this study stands as the pioneering effort in examining this relationship within the context of PESTC. Therefore, it is believed that further research involving larger and more diverse samples would make a valuable addition to the existing literature.

## CONCLUSION

The research outcomes indicated that PESTC' SSEP levels were high, and their SA was low. It was determined that having a sports background and reading books regularly were significantly related to physical education and sport teacher candidates' SSEP and SA. Therefore, it can be thought that doing sports and reading books regularly may be important in increasing SSEP and reducing SA. Nevertheless, it was established that there existed an inverse correlation between the SSEP and SA of these teacher candidates, with an increase in SSEP resulting in a decrease in SA. Moreover, SSEP have been shown to predict SA. All these results show that PESTC' SSEP may be important in reducing their SA.

## STRENGTHS AND LIMITATIONS

This study has some strengths and limitations. The first of these strengths is that it is among the limited quantities of research on the SSEP and SA of PESTS. The second strength is that it is the first study to examine the relationship between PESTC' SSEP and SA. It is believed that it will make a valuable addition to the existing literature in this regard. Apart from these strengths, it also has some limitations. One of the main challenges is the difficulty in proving causation because of the research's relational screening model and the limited data collection within a specific period. The second limitation is that it limits the generalizability of the study because the participants in the study were determined through easily accessible case sampling.

## SUGGESTIONS

This study was conducted with the relational survey model, one of the quantitative research methods. In future studies, it may be useful to prefer qualitative research methods or mixed methods to obtain a deeper understanding of SSEP and SA. The data for this research were gathered within a specific timeframe. It is believed that conducting additional longitudinal studies would be highly valuable in the academic field. Such studies could investigate how PESTC' SSEP and anxiety evolve and develop over the course of their education, thus making substantial contributions to the existing literature.

Easily accessible case sampling was used in this research. For the sake of augmenting the research generalizability of the research results, it is recommended to use probability sampling methods.
This study investigated whether there are differences in the SSEP and SA of PESTC based on gender, grade level, regular book reading status, and sports background status. Future research can explore variations in these variables using different demographic information.

In our study's findings, we observed that PESTC's SSEP and SA were at similar levels at various grade levels. However, we expected that PESTC's grade level SSEP would increase, and their SA would decrease as a result of the theoretical and practical training they received in different classes. It is recommended to investigate the possible reasons for this situation.
In the study, it was concluded that PESTC's SSEP were negatively related and effective on their SA. Due to this, PESTC should be encouraged to use practices that improve their SSEP in order to reduce their SA.

The research outcomes indicated that the variables of having a sports background and reading books regularly were determinants of the SSEP and SA of PESTC. Therefore, it is recommended that PESTC do sports and read books regularly to increase their SSEP and reduce their SA.

**Conflict of Interest:** There are no personal or financial conflicts of interest among the authors regarding the scope of the study.

**Authors' Contribution:** Study Design–MÇ, HA; Data Collection– MÇ; Statistical analysis– MÇ, HA; Manuscript Preparation– MÇ, HA

**Ethical Approval**
**Ethics Committee:** This study has obtained ethics committee approval from the Social and Human Sciences Ethics Committee at Süleyman Demirel University
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