Research Anxiety Levels of Education Faculty Students

Aslihan Kocaman Karoglu

Gazi University, Türkiye

Abstract: Scientific research is the process of collecting, analyzing, interpreting, evaluating, and reporting data in a planned and systematic way in order to find reliable and valid solutions to problems. Anxiety about scientific research directs the research behavior of the individual and causes feelings such as reluctance to do research, insecurity, discomfort, and restlessness. Universities are important institutions where research culture should be introduced to students. In this study it is aimed to determine the research anxiety levels of education faculty students. The participants were 615 students (289 females and 326 males) who are the students at different departments of education faculties from ten universities in Turkey. The data were gathered by using "Research Anxiety Scale". The findings showed that the research anxiety levels of education faculty students are not very high almost moderate level. Also, research anxiety levels of the students explored in some variables. It is found that education faculty students' research anxiety levels did not change according to gender, whether they took a research course, their studying department or grade levels.

Keywords: Research Anxiety, Pre-Service Teachers, Anxiety

Anxiety is the emotional state that accompanied by unpleasant physiological symptoms such as fear or worry. It is defined as "… a complex network of different elements - cognition, emotion, biology, behavior and environment - which are linked and trigger one another off" (Sanders, 2003, p. 4). Research anxiety, on the other hand, arises with behaviors such as not doing research unless it is necessary, feeling bored when it is needed to make research, the thought of doing research disturbs the individual, the individual generally feels uneasy while doing research, and the individual does not trust himself/herself in researching (Cokluk-Bokeoglu & Yılmaz, 2005). Making academic research may be stressful, anxiety-producing, and sometimes depressing for students (Tindall, Fu, Tremayne, & Curtis, 2021). Lei (2008) stated that a high level of research anxiety reduces the sense of self-efficacy and causes people to develop a negative attitude towards research. Also it reduces academic performance (Onwuegbuzie & Wilson, 2003).

One of the two main functions of universities is education and the other is to do research. In order to sustain research activities, it is important and necessary that individuals and institutions that will conduct research, as well as the appropriate research environment, have research competencies and positive attitudes that make it possible to do this work. Rapid and continuous developments in the world require teacher candidates to be aware of the importance and necessity of doing research in order to respond to the expectations in their field.

IICRES

**International Conference on
Research in Education and Science**

www.icres.net   March 24-27, 2022   Antalya, TURKEY   www.istes.org

istes
Organization

Undergraduate education is an important stage in which the basic perspective and skills about doing scientific research are gained. Assuming that high anxiety will negatively affect research success, it is important to determine whether students have research anxiety in order to take necessary precautions. This study is important in that the academicians and field experts who give lectures to students working in the faculty of education realize the deficiencies of the students about making research, if any, and take actions to eliminate their deficiencies and these concerns.

There are studies investigating the research anxiety of students in different levels and departments Kartal & Hızlıol, 2021; Aslan & Karagul; Tekin, 2007; Cokluk-Bokeoglu & Yılmaz, 2005; Saracaloglu, Varol & Ercan, 2005; Onwuegbuze & Wilson, 2003; Büyüköztürk, 1997). According to the study designed to determine the research anxiety levels of the faculty of science and literature graduates conducted by Yılmaz and Cokluk (2010), it was found that the research anxiety of the graduates is not very high. Tekin (2007), in his study, determined that the research anxiety of postgraduate students is high, and as the anxiety levels of the students' increase, their research proficiency levels decrease. Aslan and Karagul (2016) examined the anxiety levels of graduate students in Turkish language education program about carrying out scientific research and found anxiety levels of students were moderate. According to the study to determine the anxiety levels of graduate students towards scientific research conducted by Bayar et al. (2013) it was concluded that students' research anxiety was low.

In this study, it is planned to explore the research anxiety levels of education faculty students and to examine this anxiety levels in terms of various variables. In line with this general purpose, the research questions are as the following:

- What is the research anxiety levels of the students studying in the education faculties?
- Do the students' research anxiety levels differ according to gender, taking a scientific research course, departments and grade levels?

Methodology

This study, which aims to examine the anxiety levels of students studying at the faculty of education towards doing scientific research in the context of various variables, is a descriptive study and the study is in the comparative relational survey model (Karasar, 2005).

Participants

The study participants consisted of education faculty students from ten different universities in Turkey. From the total of 615 students 47% (n=289) were female and 53% (n=326) were male. Participants were from different grade levels and departments of education faculties from ten different regions. The distribution by universities is detailed in Table 1. 231 of the students are in 1st grade, 162 of them are in 2nd grade, 122 of them

are in 3rd grade and 100 of them are in 4th grade. Considering whether the students took a course for scientific research or not, it was revealed that 54.1 % (n=333) students took such a course, and 45.9 % (n=282) students did not take a research-oriented course. In the study the undergraduate programs of the participants were grouped as numerical and verbal. Numerical group consisted of mathematics and science education departments, and computer education and instructional technology departments; whereas verbal group consisted of pre-school education, and language education departments and social sciences education departments.

Table 1. Demographics of the Participants in the Study

Gender	N	%
Female	289	47
Male	326	53
Grade Levels	**N**	**%**
1st	231	37.6
2nd	162	26.3
3rd	122	19.8
4th	100	16.3
Taking a scientific course	**N**	**%**
Yes	333	54.1
No	282	45.9
Departments	**N**	**%**
Verbal group	208	33.8
Numerical group	407	66.2
Universities	**N**	**%**
Adnan Menderes University	73	11.9
Akdeniz University	27	4.4
Amasya University	65	10.6
Ankara University	27	4.4
Atatürk University	41	6.7
Gazi University	87	14.1
Kocaeli University	82	13.3
Mersin University	18	2.9
Ondokuz Mayıs University	104	16.9
Pamukkale University	91	14.8
Total	615	100

Instruments

Data were gathered by "Demographic Information Form" and "Research Anxiety Scale". In the demographic

information form, there are questions to gather the demographic information of the participants including gender, university, study department, grade levels and whether they took a course related to scientific research. In the second section, the participants' research anxiety was gathered by Research Anxiety Scale developed for undergraduate students by Büyüköztürk (1997). The instrument had 12 Likert type items. 5 items (2,3,4,8,11) were positive items (not expressing anxiety) and other 7 items (1,5,6,7,9,10,12) were negative (expressing anxiety) and thus reversed during coding. The reliability coefficient of the instruments was calculated α=.87 (Büyüköztürk, 1997). These items are included in the analysis by reverse coding. A minimum of 12 and a maximum of 60 points can be obtained from the scale. Thus, a high score from the scale indicates that the research anxiety is low, while a low score indicates that the person has anxiety about doing research.

Data Analysis

Data used in the study have been obtained via online form. In the study, SPSS 18 version of a statistics package program was used. Descriptive statistics and relational analyzes were used to analyze the collected data.

Results

Findings regarding the research anxiety levels of education faculty students

Participants' general scores of research anxiety were calculated using descriptive statistical methods. As seen in Table 2, the arithmetic mean of the 12-item scale of the group consisting of a total of 615 students is 42.83 and the standard deviation is 8.64. The findings show that the research anxiety of the undergraduate students participating in the research are not very high or low and it is close to average ($\overline{X}$=42.83, SS=8.64).

Table 2. Faculty of Education Students' Research Anxiety Levels

	N	*Minimum*	*Maximum*	$\overline{\mathbf{X}}$	*SS*
Research Anxiety	615	12.00	60.00	42.83	8.64

Descriptive statistics regarding the scientific research anxiety scale items and the scores obtained from the scale are shown in Table 3. As can be seen in the table the item with the highest participation of the participants is "Even the word research is enough to make me uneasy" ($\overline{X}$=4.01, SS=1.05). The item with second highest participation is "Even the thought of doing research makes me nervous" ($\overline{X}$=3.96, SS=1.07) and third highest participation is "I do not have the confidence to do research" ($\overline{X}$=3.86, SS=1.11).

The item with the lowest participation of the students is "Problems that may arise while doing research do not cause significant anxiety on me" ($\overline{X}$=2.98, SS=1.12). The item with the second lowest participation is "I quickly get tired of doing research" ($\overline{X}$=3.36, SS=1.10) and the third lowest participation is "Making research is a fun hobby for me" ($\overline{X}$=3.42, SS=1.07).

Table 3. Faculty of Education Students' Frequency and Percentage Distribution Regarding Statements in the Research Anxiety Scale

		N	$\bar{X}$	SS
1	I don't want to do research unless I have to.	615	3.43	1.12
2	I usually feel comfortable doing research.	615	3.54	1.10
3	I take great pleasure in doing research.	615	3.46	1.07
4	Doing research does not cause me any discomfort.	615	3.55	1.14
5	I feel bored when I have to do research.	615	3.43	1.16
6	Even the word research is enough to make me uneasy.	615	4.01	1.05
7	Even the thought of doing research makes me nervous.	615	3.96	1.07
8	Making research is a fun hobby for me.	615	3.42	1.07
9	I often feel restless while doing research.	615	3.83	1.04
10	I quickly get tired of doing research.	615	3.36	1.10
11	Problems that may arise while doing research do not cause significant anxiety on me.	615	2.98	1.12
12	I do not have the confidence to do research.	615	3.86	1.11
Total		615	3.57	

Findings regarding the education faculty students' research anxiety differs according to gender

In order to understand whether the scores of women and men from the anxiety scale differ statistically, firstly, the distribution of the data obtained from the scale was examined. Since the data did not show normal distribution Mann-Whitney U test was applied in the analysis. Results revealed there is no statistically significant difference was found between the research anxiety levels of women and men (U=45886.00, z=-.556, p>.05) (Table 4).

Table 4. Research Anxiety Levels of Students According to Gender

Variable	Gender	N	Mean Rank	Sum of Ranks	U	p
Research Anxiety	Women	289	303.78	87791.00	45886.00	.578
	Men	326	311.75	101629.00		

Findings regarding the education faculty students' research anxiety differs according to taking a research course

In order to understand whether the research anxiety scores of the participants' change depending on taking a research related course before or not are given in the table 5. Mann-Whitney U test was conducted in the analysis and results revealed there is no statistical difference (U=45052.50, z=-866, p>.05) between the research anxiety of the students whether they have taken a research course or not before (Table 5).

IIICRES

**International Conference on
Research in Education and Science**

istes
Organization

www.icres.net   March 24-27, 2022   Antalya, TURKEY   www.istes.org

Table 5. Research Anxiety Levels of Students According to Taking a Research Course or Not

Variable	Taking Research Course	N	Mean Rank	Sum of Ranks	U	p
Research Anxiety	Yes	333	313.71	104464.50	45052.50	.386
	No	282	301.26	84955.50		

Findings regarding the education faculty students' research anxiety differs according to departments

In order to understand whether the research anxiety scores of the education faculty students' change depending on the departments they study. In the study the undergraduate programs were grouped as numerical and verbal. Mann-Whitney U test was conducted in the analysis and results revealed there is no statistical difference (U=40362.00, z=-944, p>.05) between the research anxiety of the students whether they are studying in verbal or numerical departments (Table 6).

Table 6. Research Anxiety Levels of Students According to Departments

Variable	Departments	N	Mean Rank	Sum of Ranks	U	p
Research Anxiety	Verbal	208	317.45	66030.00	40362.00	.345
	Numerical	407	303.17	123390.00		

Findings regarding the education faculty students' research anxiety differs according to the grade levels

The research anxiety scores of the education faculty students' change depending on the grade levels are investigated, in the study. The results of the Kruskal Wallis Test show that the research anxiety levels of the students do not differ according to the grade levels ($x^2(3) =.407$, p>.05).

Discussion and Conclusion

In this study, it was aimed to determine the anxiety levels of undergraduate students studying at the faculty of education towards making scientific research and to reveal whether their anxiety levels differ according to various variables. According to the results of the study, it was seen that the education faculty students' anxiety about doing scientific research was at a moderate level. In the literature there are studies in line with the results revealing that university students from different faculties have low levels of research anxiety (Yılmaz & Cokluk, 2010), moderate level of research anxiety (Kartal & Hızlıol, 2021; Aslan & Karagul, 2016) and also studies the found high level of research anxiety (Tekin, 2007; Saracaloglu, Varol, & Ercan, 2005; Büyüköztürk, 1997). When looked at the responses of students the highest participation of the items revealed that students feel uncomfortable even they heard the word research. Also it is interesting that only the idea of doing research make

them nervous. These answers show how the undergraduate students are negative towards doing research. When looked at the lowest participation of the students to the items, results revealed students do not get anxiety about the problems while making research studies and they do not quickly get tired of doing research.

In the study, it was aimed to examine the research anxiety levels of the students according to their gender, whether they took a scientific research course, the departments and grade levels. According to the findings of this study, it was revealed that education faculty students' research anxiety levels did not change according to gender, whether they took a research course, their studying department or grade levels.

Results revealed that research anxiety of the undergraduates in the education faculties did not change according gender. This result is supported by previous studies that revealed research anxiety is not changed by gender (Bulduk & Hulusi, 2021; Aslan & Karagul; Yılmaz & Cokluk, 2010; Cokluk-Bokeoglu & Yılmaz, 2005; Büyüköztürk, 1999). Results revealed that the fact that students have taken or not taken a course on scientific research methods does not significantly affect their anxiety levels about doing research. In the literature there are studies consistent with this result that anxiety scores do not differ significantly although research methods course (Arslan & Karagul, 2016; Saracaloglu, 2008). Also studies that revealed taking a course on research methods is effective on the level of research anxiety (Bulduk & Hulusi, 2021; Yılmaz and Cokluk, 2010). Thinking about these results, it might be important to focus on the content and quality of existing research-oriented courses. As far as the results revealed taking research-oriented courses did not lead to a difference in undergraduates 'research anxiety, it might be useful to examine the lessons by studying separately and in detail. Also the results revealed that education faculty students research anxiety levels do not differ according to the grade levels and the departments they study. Similar to the results, Yılmaz and Cokluk (2010) also found that there is no significant difference between students' research anxiety scores, whether the undergraduate department they studied is numerical or verbal. In various studies conducted at the graduate levels, it was found that the research anxiety levels of students towards scientific research did not differ significantly according to their graduate education levels (Bayar et al. 2013; Aslan & Karagul 2016). Not from the undergraduate levels but in a study investigated anxiety levels of graduate students found that the anxiety levels of graduate students higher than that of PhD students (Saracaloglu, Varol, & Ercan, 2005).

References

Aslan, C., & Karagul, S. (2016). Anxiety levels of graduate students in Turkish Language Education Programme about carrying out scientific research. *Mehmet Akif Ersoy University Journal of EducationFaculty*, *1*(38), 201-217.

Bayar, V., Bayar, A., Eğmir, E., Ödemiş, İ. S., Kayır, G. (2013). Lisansüstü Eğitim Alan Öğrencilerin Bilimsel Araştırma Yapmaya Yönelik Kaygı Düzeyleri. *VI. Ulusal Lisansüstü Eğitim Sempozyumu Bildiriler Kitabı. Sakarya Üniversitesi Eğitim Bilimleri Enstitüsü Yayını.*

Bulduk, O., & Hulusi, A. (2021). Investigation of the faculty of sports sciences students' anxiety levels towards doing research. *Uluslararası Güncel Eğitim Araştırmaları Dergisi*, *7*(1), 270-282.

Büyüköztürk, Ş. (1997). Araştırmaya yönelik kaygı ölçeğinin geliştirilmesi. *Eğitim Yönetimi, 3* (Güz), 453-464.

Cokluk-Bokeoglu, Ö., & Yılmaz, K. (2005). Üniversite öğrencilerinin eleştirel düşünmeye yönelik tutumları ile araştırma kaygıları arasındaki ilişki. *Kuram ve Uygulamada Eğitim Yönetimi, 11* (41), 47–67.

Karasar, N. (2005). Bilimsel Araştırma Yöntemi. (15. Baskı). Ankara: Nobel Yayın Dağıtım

Kartal, Y. A., & Hızlıol, B. (2021). Determination of anxiety and attitude towards scientific research of midwifery students. *Sağlık Akademisyenleri Dergisi*, *8*(2), 126-132.

Lei, S. A. (2008). Factors changing attitudes of graduate school students toward an ıntroductory research methodology course. Education, 128(4), 667-685.

Onwuegbuzie, A. J. & Wilson, V. A. (2003). Statistics Anxiety: nature, etiology, antecedents, effects, and treatments-a comprehensive review of the literature. *Teaching in Higher Education,* 8 (2), 195-209.

Saracaloglu, A. S. İ. (2008). The relationship between post graduate students' academic motivation level, research anxiety and atiıtudes with their research competence. *Journal of Van Yüzüncü Yıl University Faculty of Education*, *5*(2), 179-208.

Saracaloglu, A. S., Varol, S. R., & Ercan, İ. E. (2005). Lisansüstü Eğitim Öğrencilerinin Araştırma Kaygıları, Araştırma ve İstatistiğe Yönelik Tutumları ile Araştırma Yeterlikleri Arasındaki İlişki. *Buca Faculty of Education Journal.* 17, 187-199.

Sıcak, A., & Arslan, A. (2016). The relation between preservice teachers' goal orientations and academic e-dishonesty. *Universal Journal of Educational Research, 4*(7), 1660-1666.

Tekin, M. (2007). Lisansüstü öğrencilerinin araştırmaya yönelik kaygı ve yeterlilik düzeylerinin çeşitli değişkenlere göre incelenmesi. III. Lisansüstü Eğitim Sempozyumu. Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü. 17–20 Ekim 2007. Eskişehir. ss. 485–493.

Yılmaz, K., & Cokluk, Ö. (2010). Research anxiety levels of faculty of arts and science graduates. *Abant İzzet Baysal University Education Faculty Journal*, *10*(1), 1-9.