



Examination of pre-service teachers' academic perfectionism and research anxiety

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Abstract

Perfectionism is defined as the tendency to have high goals and standards for one's self (Flett et al., 1989). Setting high and even unrealistic goals in education can be negative for students as this can cause anxiety, procrastination, and low self-efficacy. The present study aims to determine the relationship between academic perfectionism and research anxiety levels for preservice teachers and to compare both of these with variables such as gender, year of study, department, primary department preference on the university exam, and career plan, to demonstrate the links between these variables. The participants are 469 undergraduate students who study at the Aydın Adnan Menderes University Faculty of Education. The Academic Perfectionism Scale (Odacı et al., 2017), Research Anxiety Scale (Büyüköztürk, 1997), and a Personal Information Form were used as data collecting tools. The results have shown that female participants have significantly higher idealization scores than male participants. Early childhood education and art education students have significantly higher comparison scores than music education students. Fourth-year students have significantly higher scores on research anxiety than first-year students. Participants whose primary department preferences on their university entrance exams were not their present departments have significantly higher research anxiety scores than the participants whose first choice was the department where they study. Participants who plan to become academics have significantly higher idealization scores than participants who want to do a job outside of their fields of study. Participants who want to be academics have significantly lower research anxiety scores than those who want to be teachers and those who want to do a job outside of their fields of study. In addition, there is a significant medium relationship between the participants' self-doubt subscale scores and their research anxieties. Moreover, there is a significant but weak relationship between participants' comparison subscale scores, academic perfectionism total scores, and their research anxieties. The results were discussed in the light of the literature.

Keywords: Academic Perfectionism, Perfectionism, Research Anxiety, Preservice Teachers.

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1. Introduction

Individuals act upon specific goals in their lives. These goals can be related to profession, education, health, relationships, etc., or they can be oriented to another specific domain. Kasser and Ryan (1993) discussed life goals in four general dimensions: self-acceptance assesses aspirations, affiliation aspirations, community feeling aspirations, and financial success. Self-acceptance is for one's psychological development, self-realization, and mental tranquility. Affiliation aspirations include topics like good family life, friendships, and family support. Community feeling aspirations relate to concerning to make the world better through actions while financial success is the objective of earning financial gain and having economic status. According to self-determination theory, through their life goals, individuals look at the future with hope, make plans, and take action in accordance with these plans (Ryan and Deci, 2000). But these goals can be easy to accomplish, hard, or even impossible. Setting impossible goals in life can be a sign of a perfectionist trait.

Although perfectionism is evaluated as single-dimensioned and is associated with negative states such as anxiety, stress, and depression in the literature, subsequent studies show that perfectionism is a multi-dimensioned structure (Ram, 2005; Stoeber & Otto, 2006). Several studies categorize perfectionism as positive and negative perfectionism, or adaptive and maladaptive perfectionism, or normal and neurotic perfectionism. These studies emphasize that perfectionism has also positive aspects. In addition to this, in the literature, multi-dimensioned perfectionism is discussed with its various factors (Frost et al., 1990; Hewitt & Flett, 1991; Hollander, 1965). Frost et al. (1990) developed a six-factor perfectionism scale to evaluate perfectionism called the Multidimensional Perfectionism Scale. The factors of having high personal standards, order and organization were described as positive dispositions, while concern over mistakes, the perception of high parental criticism, perception of high parental expectations, and self-doubt factors were characterized as negative dispositions which are related to negative evaluation. Hewitt & Flett (1991) discussed perfectionism on the basis of three factors: self-oriented, other-oriented, and prescribed perfectionism. Self-oriented perfectionism relates to the individual's inner need for perfectionism. Other-oriented perfectionists demand that others be perfect while socially prescribed perfectionists want to fulfill the perceived perfectionism expectations of others. According to Mills and Blankstein (2000), there are positive relationships between self-oriented perfectionism and learning self-efficacy, intrinsic goal orientation for a specific course, task value, and critical thinking. Nonetheless, socially prescribed perfectionism is associated with states like trait anxiety, examination anxiety, and avoiding seeking help.

Some studies approached perfectionism in the context of academic perfectionism, and so specific measures were developed in this context. Liu and Berzenski (2022) developed a scale called the College Academic Perfectionism Scale which has two factors: rigid

academic perfectionism and self-critical academic perfectionism. The second factor, self-critical academic perfectionism, has three subfactors. These are called academic self-criticism, doubts about actions, and socially prescribed academic perfectionism. Odacı et al. (2017) developed an academic perfectionism scale that has three factors: self-doubt, comparison, and idealization. The self-doubt factor is associated with the individual's state of being unsure of their ability to complete the task they are doing, the comparison factor relates to comparing oneself with others, while the idealization factor refers to the high achievement standards set by the individual themselves.

In the literature, there are several studies on issues like academic procrastination (Akday & Delibalta, 2020; Chang, 2014; Jadidi et al., 2011; Satıcı, 2020), test anxiety (Eum & Rice, 2011), academic motivation (Miquelon et al., 2005), academic achievement (Damian et al., 2016; Endleman et al., 2022; Sarıkaya, 2019; Stornelli et al., 2009; Uz-Baş, 2011), academic efficacy (Damian et al., 2016) and their relation with academic perfectionism, which aim to investigate their links to academic experiences. Thus, it is clear that many authors consider perfectionism to be a crucial issue in education.

One of the most discussed topics in education is academic achievement, and there are a number of studies that investigate the relationship between academic achievement and perfectionism. Yurtseven & Akpur (2018) have found that perfectionism, anxiety, and procrastination predict academic achievement in their studies, which investigated the predictive level of perfectionism, anxiety, and procrastination on academic achievement carried out on 522 college students. According to a study that investigates the relationship between math anxiety, perfectionism, and math achievement, it was found that as the students' math anxiety and negative perfectionism increase, their math achievement decreases, and as their positive perfectionism increases their math achievements also increase (İlhan & Öner-Sünkül, 2012). Gürkan and Gündoğdu (2019) found a significant difference between undergraduate students' academic perfectionism and their university admission exam scores. The findings of the study have shown that students who have low university admission exam scores have higher levels of academic perfectionism than students with high university admission exam scores. The meta-analysis study carried out by Madigan (2019) revealed that perfectionistic strivings have medium positive relations with academic achievement and perfectionistic concerns have low and negative relations to academic achievement. Saracaloğlu et al. (2016) have found that there is a positive relationship between academic achievement and perfectionism in a study that was carried out with preservice classroom and music teachers. In her study, Ram (2005) found that there is a positive relationship between academic achievement, achievement motivation, general well-being, and positive perfectionism.

Perfectionists tend to doubt themselves and their performances and waste too much time when concentrating on doing the best. For this reason, perfectionism is generally associated with academic procrastination. Bulut and Ocak (2017) have found in their

studies that academic perfectionism partly predicts academic procrastination. In a similar vein, Jadidi et al. (2011) have found that as individuals' academic perfectionism increases their academic procrastination is also increased. Saddler and Sacks (1993) have found a relationship between socially prescribed perfection and academic procrastination. There are also studies that reveal there is a negative relationship between self-oriented perfectionism and academic procrastination (Akkaya, 2007; Eraslan-Çapan, 2010). In their studies carried out with the students who are engaged in online education in COVID-19 pandemic Kathleen and Basaria (2021) have found a negative relationship between academic procrastination and self-oriented perfectionism, a positive relationship between academic procrastination and socially-oriented perfectionism, and found no relation between academic procrastination other-oriented perfectionism. Chen et al. (2022), in studies that investigated 743 students from various majors such as education, business, English, and medicine, found a positive relationship between academic procrastination and concern over mistakes, and found a negative relationship between academic procrastination personal standard and organization.

University education, which is primarily concerned with preparing an individual for professional life, is a process that determines the life quality in an individual's future. University life not only allows students to attain the necessary knowledge and ability to join a profession, but also affects job satisfaction, finding a job, gaining economic profit, and gaining social status. In this sense, individuals can set higher goals for a better future and professional career in their university lives. But the studies show that an individual's perfectionist traits can originate from their prior experiences. For example, a study shows that authoritarian family approaches affect setting high personal goals and focusing too much on mistakes (Chen et al., 2022). Familial criticism and high expectations, or situations like not feeling loved or not being approved, intensify the individual's need for being flawless and increase the trait of perfectionism (Dilmaç et al, 2009; Tuncer & Voltan-Acar, 2006). Therefore, perfectionists' unrealistic higher goals and their efforts in reaching those standards have negative effects on their well-being (Aygün & Topkaya, 2022; Sirois & Molnar, 2016).

The principal goal of a university is to help individuals to master their majors. Therefore, universities offer individuals scientific knowledge and guide them on how to obtain this knowledge. In this regard, it is expected that university graduates have advanced researcher skills. This raises the question of whether all undergraduates have the same approach toward research. Are there any circumstances that prevent university students from doing scientific research? In other words, do undergraduates have research anxiety? When Büyüköztürk's (1997) research anxiety scale development study is examined, research anxiety can be defined as avoiding research, feeling inadequate while doing research, and feeling uncomfortable while doing research. According to a study made on six different universities' undergraduate students, the anxiety sub-dimension of the attitudes toward research scale is higher than the interest, importance, motivation,

and usefulness sub-dimensions (İlhan et al., 2016). Results of the study by Oguan Jr et al. (2014) show that the students who have high levels of academic achievement have lower research anxieties and the students who have low levels of academic achievement have higher research anxieties. Several studies have also shown that there is a relationship between perfectionism and anxiety (Antony et al., 1998; Borynack, 2004; Pishghadam & Akhondpoor, 2011; Sevlever & Rice, 2010).

When the relationship between anxiety and perfectionism is considered, it is important to investigate the relationship between academic perfectionism and research anxiety. The present study aims to investigate the relationship between academic perfectionism and research anxiety and their relations with various independent variables. In this respect, answers to the following questions were investigated in the study.

1. Is there a significant difference between academic perfectionism and the genders of the participants?
2. Is there a significant difference between academic perfectionism and the departments of the participants?
3. Is there a significant difference between academic perfectionism and the class year of the participants?
4. Is there a significant difference between academic perfectionism and how they ranked their preference for their department of study on the university entrance exam?
5. Is there a significant difference between academic perfectionism and the career plans of the participants?
6. Is there a significant difference between research anxiety and the genders of the participants?
7. Is there a significant difference between research anxiety and the departments of the participants?
8. Is there a significant difference between research anxiety and the class years of the participants?
9. Is there a significant difference between research anxiety and the way that participants ranked their departments on their university entrance exam?
10. Is there a significant difference between research anxiety and the career plans of the participants?
11. Is there a relationship between academic perfectionism and research anxiety?

2. Method

A relational survey model was used in the research. Survey models provide a quantitative description of the universe through research on a sample selected from the determined population (Cresswell, 2012). In this study, the relational survey model, which has two types as correlation and comparison, and which examines the relationships between more than two variables, was used (Karasar, 2012).

2.1. Participant (subject) characteristics

469 students who gather education from four different departments at Aydın Adnan Menderes University participated in the study. The ages of the students range between 18 and 37 ($M= 20.96$, $sd=2.52$). Descriptive statistics of the participants are given below in Table 1.

Table 1. Descriptive statistics of the participants

Variable	Gender	N	%
Gender	Female	322	68.7
	Male	147	31.3
Year	First	106	22.5
	Second	162	34.3
	Third	93	19.7
	Fourth	85	23.5
Department	Music Education (ME)	97	20.6
	Psychology Counseling and Guidance (PCG)	187	39.6
	Early Childhood Education (ECE)	103	21.8
	Art Education (AE)	85	18.0
Primary preference on the university exam	Present Department	188	39.8
	Another Department	284	60.2
Career plan	Academic	149	31.5
	Teacher	217	46.0
	Other	106	22.5

As seen in Table 1, 322 of the participants are female (68.7%) and 147 of the participants are male (31.3%). 106 of the participants are first-year students (22.5%), 162 participants are second-year students (34.3%), 93 participants are third-year students (19.7%), and 85 participants are fourth-year students (23.5%). 97 of the participants are Music Education Department students (20.6%), 187 of the participants are Psychology Counseling and Guidance Department students (39.6%), 103 students are Early Childhood Department students (21.8%), and 85 students are Art Education Department students (18.0%). 188 of the participants' first choice on the university entrance exam

was the department where they actually ended up studying (39.8%) while 284 of the participant's primary preference was not their present departments (60.2%). 149 of the participants plan to be academics in the future (31.5%), 217 of the participants plan to be teachers in their fields of study (46.0%), and 106 of the participants plan to do jobs outside of their fields of academic expertise (22.5%).

2.2. Measures and covariates

2.2.1. Personal information form: To reveal several descriptive statistics about the participants, a personal information form which presents the genders, departments, ages, academic years, primary department preference on their university exam and career plans of participants was used.

2.2.2. Academic Perfectionism Scale: The scale was developed by Odacı et al. (2017) to investigate the levels of academic perfectionism of undergraduate students. There are three factors in the scale: self-doubt, comparison, and idealization. Self-doubt refers to one's own doubts of one's abilities and actions. Comparison refers to the individual's own assessment of himself by making comparisons to others. Idealization, on the other hand, is when the individual sets very high standards for themselves and believes that if these standards are met, the individual will achieve great success, and if they are not, the individual will fail. The total score of the scale ranges from 13 to 65 points for this 13-item scale. All 13 items of the scale are positive and higher points reveal high levels of academic perfectionism. Cronbach alpha coefficient was reported as .82 for the whole scale and .78 for the self-doubt sub-scale, .69 for the comparison sub-scale, and .57 for the idealization sub-scale. Cronbach alpha coefficient was found as .85 for the whole scale, .83 for the self-doubt sub-scale, .75 for the comparison sub-scale, and .69 for the idealization sub-scale for the present study.

2.2.3. Research Anxiety Scale: The Research Anxiety Scale is a 12-item scale that was developed by Büyüköztürk (1997). The scale was developed to determine the research anxiety levels of university students. The scores range between 12 and 60 in this single-factor scale. High scores show high levels of research anxiety and 5 items require reverse coding. Cronbach alpha coefficient for the scale was stated as .87 for the scale. Likewise, Cronbach alpha coefficient was found as .87 for this present study

2.2.4. Data Analysis

The purpose of the study was to examine the difference between participants' academic perfectionism, research anxiety, genders, and primary preference on the university exam. To determine whether these variables distributed normally or not, skewness and kurtosis values were analyzed. Skewness and kurtosis values for gender and academic

perfectionism are between +.782 and -.657, while skewness and kurtosis values for gender and research anxiety are between +.397 and -.512. Also, skewness and kurtosis values for primary department preference on the university exam and academic perfectionism are between +.776 and -.518, and skewness and kurtosis values for primary department preference on the university exam and research anxiety are between +.312 and -.121. Since the values are between +1 and -1, the groups were normally distributed (Pallant, 2007). Hence, independent samples t-tests were performed for gender and primary department preference on the university exam variables. Homogeneity of variance tests were applied to determine whether parametric or non-parametric tests would be performed for the department, year, and career plan variables. The results revealed that the groups were homogeneous in this sense, one-way analysis of variance test (ANOVA) tests were applied. To determine the cause of the difference Tukey tests were performed as post-hoc tests. Since year and department variables have four groups while the career plan variable has three groups, Bonferroni correction was applied. Thereby, a significance level of .0125 (.05/4) was determined for the year and department variables while, .0166 (.05/3) was determined for the career plan variable (Miller, 1981). Also, Pearson Moments Correlation was used to reveal the relationship between academic perfectionism and research anxiety levels of the participants.

3. Results

To determine the differences between participants' levels of academic perfectionism, research anxiety, and their genders, an independent samples t-test was applied. The results are given in Table 2.

Table 2. The difference between participants' academic perfectionism, research anxiety, and their genders

	Gender	N	\bar{X}	Sd	T	df	p
Self-Doubt	Female	322	17.37	5.18	1.027	467	.305
	Male	147	16.82	5.77			
Comparison	Female	322	8.87	3.32	.419	252.260	.675
	Male	147	8.71	3.79			
Idealization	Female	322	10.58	2.59	2.636	238.341	.009
	Male	147	9.80	3.17			
Academic Perfectionism	Female	322	36.82	8.67	1.497	239.458	.136
	Male	147	35.33	10.55			
Research Anxiety	Female	322	28.64	8.15	-1.328	261.060	.185
	Male	147	29.79	8.93			

As seen in Table 2, female (\bar{x} =10.58, sd =2.59) participants have significantly higher scores on idealization subscale than male (\bar{x} =9.80, sd =3.17) participants ($t_{238.341}$ =2.636, p =.009). On the other hand, there are no significant differences between participants' self-doubt subscale scores (t_{467} =1.027, p =.305), comparison subscale scores ($t_{252.260}$ =.419, p =.675), academic perfectionism total scores ($t_{239.458}$ =1.497, p =.136), research anxiety

scores ($t_{261.060}=-1.328$, $p=.185$) and their genders. The differences between the participants' levels of academic perfectionism, research anxiety, and their departments were examined by one-way analysis of variance test (ANOVA). The results are given in Table 3.

Table 3. The difference between participants' academic perfectionism, research anxiety, and their departments

	Source of variance	Sum of Squares	Df	Mean Square	F	p	Cause of significance
Self-Doubt	Between groups	154.623	3	51.541	1.794	.148	
	Within Groups	13449.031	468	28.737			
	Total	13603.654	471				
Comparison	Between groups	140.163	3	46.721	3.958	.008	ME<ECE
	Within Groups	5524.535	468	11.805			ME<AE
	Total	5664.699	471				
Idealization	Between groups	67.109	3	22.370	2.812	.039	
	Within Groups	3723.584	468	7.956			
	Total	3790.693	471				
Academic Perfectionism	Between groups	571.097	3	190.366	2.202	.087	
	Within Groups	40458.956	468	86.451			
	Total	41030.053	471				
Research Anxiety	Between groups	226.421	3	75.474	1.068	.362	
	Within Groups	33078.045	468	70.680			
	Total	33304.466	471				

As seen in Table 3, there is a significant difference between the participants' comparison subscale scores and their departments. To determine the cause of significance, a Tukey Test was performed as a post-Hoc test. According to the post-hoc test, both Early Childhood Education Department students and Art Education Department students have significantly higher comparison subscale scores than Music Education Department students ($F_{3-468}= 3.958$, $p= .008$). There are no significant differences between participants' self-doubt subscale scores ($F_{3-468}= 1.794$, $p= .148$), idealization subscale scores ($F_{3-468}= 2.812$, $p= .039$), academic perfectionism total scores ($F_{3-468}= 2.202$, $p= .087$), research anxiety scores ($F_{3-468}= 1.068$, $p= .362$), and their departments. The differences between the participants' levels of academic perfectionism, research anxiety, and their years were examined by one-way analysis of variance test (ANOVA). The results are given in Table 4.

Table 4. The difference between participants' academic perfectionism, research anxiety, and their years

Variables	Source of variance	Sum of Squares	Df	Mean Square	F	p	Cause of significance
Self-Doubt	Between groups	9.103	3	3.034	.104	.957	
	Within Groups	13594.551	468	29.048			
	Total	13603.654	471				
Comparison	Between groups	49.722	3	16.574	1.381	.248	
	Within Groups	5614.977	468	11.998			
	Total	5664.699	471				
Idealization	Between groups	37.473	3	12.491	1.558	.199	
	Within Groups	3753.219	468	8020			
	Total	3790.693	471				
Academic Perfectionism	Between groups	137.573	3	45.858	.525	.665	
	Within Groups	40892.479	468	87.377			
	Total	41030.053	471				
Research Anxiety	Between groups	744.776	3	248.259	3.358	.011	1<4
	Within Groups	32559.690	468	69.572			
	Total	33304.466	471				

As seen in Table 4 there is a significant difference between participants' research anxiety scores and their years. According to the post-hoc test fourth-year students have significantly higher research anxiety scores than first-year students ($F_{3-468} = 3.358$, $p = .011$). On the contrary there are no significant differences between the participants' self-doubt subscale scores ($F_{3-468} = .104$, $p = .957$), comparison subscale scores ($F_{3-468} = 1.381$, $p = .248$), idealization subscale scores ($F_{3-468} = 1.558$, $p = .199$), academic perfectionism total scores ($F_{3-468} = .525$, $p = .665$), and their years. The differences between the participants' levels of academic perfectionism, research anxiety, and primary department preference on their university exam were examined by independent samples t-test. The results are given in Table 5.

Table 5. The difference between the participants' levels of academic perfectionism, research anxiety and primary department preference on their university exam

	Preference	N	\bar{X}	Sd	t	df	p
Self-Doubt	First	188	17.20	5.73	.032	370.096	.975
	Others	284	17.18	5.14			
Comparison	First	188	8.64	3.66	-.836	470	.404
	Others	284	8.91	3.34			
Idealization	First	188	10.40	2.91	.525	470	.600
	Others	284	10.26	2.79			
Academic Perfectionism	First	188	36.24	9.76	-.132	470	.895
	Others	284	36.38	9.06			
Research Anxiety	First	188	28.07	8.75	-1.960	470	.050
	Others	284	29.62	8.13			

As seen in Table 5, participants who study in departments that were their first ($\bar{X}=28.07$, $sd=8.75$) choices have significantly less research anxiety scores than those who

study in departments that were their second ($\bar{x}=29.62$, $sd=8.13$) choices or more ($t_{470}=-1.960$, $p=.050$). According to the results, there is no difference between the participants' scores of self-doubt ($t_{370.096}=.032$, $p=.975$), and comparison ($t_{470}=-.836$, $p=.404$), idealization ($t_{470}=.525$, $p=.600$), academic perfectionism ($t_{470}=-.132$, $p=.895$), and primary department preference on their university exam. The differences between the participants' levels of academic perfectionism, research anxiety, and their career plans were examined by one-way analysis of variance test (ANOVA). The results are given in Table 6.

Table 6. The difference between participants' academic perfectionism, research anxiety, and their career plans

	Source of variance	Sum of Squares	Df	Mean Square	F	p	Cause of significance
Self-Doubt	Between groups	15.531	2	7.766	.268	.765	
	Within Groups	13588.123	469	28.973			
	Total	13603.654	471				
Comparison	Between groups	11.602	2	5.801	.481	.618	
	Within Groups	5653.096	469	12.054			
	Total	5664.699	471				
Idealization	Between groups	102.207	2	51.135	6.502	.002	Academic> Others
	Within Groups	3688.423	469	7.864			
	Total	3790.693	471				
Academic Perfectionism	Between groups	291.766	2	145.883	1.679	.188	
	Within Groups	40738.287	469	86.862			
	Total	41030.053	471				
Research Anxiety	Between groups	1476.505	2	738.252	10.878	.000	Academic< Teacher
	Within Groups	31827.961	469	67.863			Academic <Others
	Total	33304.466	471				

As seen in Table 6 there is a significant difference between the participants' idealization subscale scores and their career plans. According to the post-hoc test which is performed to determine the cause of significance, participants who want to be academics have significantly higher idealization scores than participants who want to do a job which does not require the knowledge that they gained from their department ($F_{2,469}= 6.502$, $p= .002$). Also, there is a significant difference between the participants' research anxiety scores and their career plans. Results of the post-hoc test have shown that both participants who are planning to be teachers in the future and participants who do not plan to work in their fields of study have significantly higher research anxiety scores than academics. ($F_{2,469}= 10.878$, $p= .000$). There are no significant differences between participants' self-doubt subscale scores ($F_{2,469}= .268$, $p= .765$), comparison subscale scores ($F_{2,469}= .481$, $p= .618$), academic perfectionism total scores ($F_{2,469}= 1.679$, $p= .188$), and their career plans. The relationship between the participants' academic perfectionism and their research anxieties was analyzed by Pearson Moments Correlation. The results are given in Table 7.

Table 7. The relationship between participants' academic perfectionism and their research anxieties

	Self-Doubt	Comparison	Idealization	Academic Perfectionism	Research Anxiety
Self-Doubt	1	.536**	.383**	.891**	.298**
Comparison		1	.331**	.780**	.282**
Idealization			1	.647**	-.060
Academic Perfectionism				1	.258**
Research Anxiety					1

As seen in Table 7, there is a significant medium relationship between the participants' self-doubt subscale scores ($r = .30$, $p < .01$) and their research anxieties. Also, there are significant but weak relationships between participants' comparison subscale scores ($r = .28$, $p < .01$), academic perfectionism total scores ($r = .26$, $p < .01$), and their research anxieties. There is no relationship found between participants' idealization subscale scores and their research anxieties ($r = -0.60$, $p > .05$).

4. Discussion

There are six major findings in the present study. Female participants have significantly higher idealization scores than male participants. Early childhood education and art education students have significantly higher comparison scores than music education students. Fourth-year students have significantly higher scores on research anxiety than first-year students. Participants whose primary department preferences on their university entrance exam were not their present departments have significantly higher research anxiety scores than the participants whose first choice was the department where they study. Participants who want to be academics have significantly higher idealization scores than the participants who want to work outside of their fields. Participants who want to be academics have significantly lower research anxiety scores than those who want to be teachers and those who want to work outside of their fields. There is a significant medium relationship between the participants' self-doubt subscale scores and their research anxieties. Also, there is a significant but weak relationship between participants' comparison subscale scores, academic perfectionism total scores, and their research anxieties.

According to the results, there is a significant difference between male and female participants' idealization scores. Since female participants have higher scores on idealization, it can be said that female participants set higher academic standards than male participants. This result may be caused by the female participants' caring much more about academic achievement than males. Although it seems like a positive feature, if the standards are not met this idealization has a negative effect on learning. Similar to this study, Er and Aydemir (2022) have found in their studies on academic perfectionism that females have significantly higher idealization scores than males. In the literature, different results were found in the studies investigating perfectionism and gender. Gökkaya (2016) has found in his study that females are more perfectionist than males.

On the contrary, several studies have revealed the result that males have significantly higher scores on perfectionism and its sub-dimensions than females (Benk, 2006; Kahraman et al., 2021; Saracaloğlu et al., 2016; Tuncer & Voltan-Acar, 2006; Yücel & Şen, 2019) while Gerçek (2020) has found no difference between perfectionism and gender.

The results of the study indicated that art education students and early childhood education students have significantly higher comparison scores than music education students. There could be many reasons for this result. The music curriculum aims to enhance the students' creativity, music culture, musical knowledge, and musical ability; in addition, it aims to develop feelings like love, sharing, and responsibility via music (MEB, 2018). In this vein, there are a large number of courses like orchestra/chamber music, chorus, or courses that have contents such as play, dance, and movement. Preservice music teachers are obligated to create many activities that require making music in harmony, dancing in groups. They are required to create group activities, and group performances. These skills are also expected from preservice music teachers in their professional careers. Their academic achievement depends not only on their individual performance, but also on their group performances. In this respect, preservice music teachers might be focused on studying in harmony rather than comparing themselves with their peers. On the other hand, preservice art teachers generally practice and study on their own and focus on making personal authentic works. Preservice early childhood teachers design creative activities for children and demonstrate these activities in their classrooms in front of their peers according to the demands of their curriculum. Their competitiveness can be a result of these activities because they demonstrate and present these to each other and also, they are evaluated according to these performances. The reasons for this result can be investigated in further studies.

According to the results, fourth-year students have significantly higher research anxiety scores than first-year students. Surprisingly, fourth years have higher research anxiety than first years when it is considered that fourth-year undergraduates are the most instructed participants in the study group. Besides, fourth years are the ones who took the course on research methods. The reason for fourth years' higher research anxieties can occur from many reasons but one of them can be that as students become more educated and equipped in scientific research, they realize that doing research is more complex than they thought. According to the study by Büyüköztürk (1999) as the students' research methods course scores increase, their research anxieties decrease. In this sense, fourth-year students who have low research methods scores can be the reason for this result. According to Betz (1978), the anxiety levels of the students for a particular course can occur from their trait anxieties. Fourth years can have high levels of trait anxiety when compared with other years for the reason of finding a job after graduation. In this sense, fourth years' trait anxieties must be investigated in further studies.

Another remarkable result of the study is the difference between the research anxiety levels of the participants whose primary department preferences were not their present departments and those whose first choice was their present department. In Turkey, there is a general university examination that all undergraduate candidates took. After this exam, they make a queue of choices according to their exam scores. Undergraduate candidates are placed in a university department which they primarily preferred if their exam scores are high enough. If not, they will be placed in a department that they also preferred but not as their first choice, in a department up to their twenty-fourth choice. This procedure has an exception for the preservice art and music teachers. Preservice art and music teachers submit to the university examination test and to another ability test performed by the faculty of education art and music departments. All the art and music departments perform their ability tests separately and these students prefer a department that they succeed in these exams. In this sense, participants' motivation for the department they are placed in will not be the same as their first preference if it is their secondary or subsequent preference. According to the results, the students whose primary department choice was some other department have significantly higher research anxiety levels than the students whose first choice was their present department. This result can be a consequence of the students' readiness levels in their present departments. Students whose current majors are their primary preference tend to know what they will learn when they become students compared to the others. Also, these students tend to be more motivated than others because they are studying in the departments they desire.

According to the results, the idealization scores of the participants who want to be academics in the future are significantly higher than those who want to perform in another profession other than their major. The preservice teachers who get higher scores on the idealization factor are the ones who form sentences such as "I want to be the best student in the classroom", "I feel bad if I cannot have the exam mark that I wanted", "I want everybody to adore the work that I've done". The study by Kaya et al. (2017) indicated that the students who want to be academics in the future have also the highest perceived academic potential relative to the other groups. In this sense, the result of higher idealization scores of future academics can be related to this group's thoughts about their high perceived academic potential. Also, being an academic can be seen by the participants as having a higher level of teachership. In this sense, this is an expected result since the idealization factor refers to the high achievement standards set by the individual themselves. The participants who want to see themselves as academics in the future ordinarily set the highest achievement goals when compared to the rest of the sample. Also, the results have shown that participants who are planning to be academics in the future have significantly lower research anxiety compared to the other two groups. A similar result was found in the study by Kaya et al., (2017) that reveals individuals who want to be teachers or want to perform another job have significantly higher

research anxiety than individuals who want to be academics in the future. This is not a surprising result when it is considered that the core feature of being an academic is performing research.

The results have also shown that there is a significant medium relationship between self-doubt and research anxiety. In other words, as the individuals are not confident about their learning tasks their research anxiety increases or vice versa. Also, there is a significant but weak relationship between the participants' comparison scores, academic perfectionism total scores, and their research anxieties. Although these relationships are weak, the results are as expected since the correlation between anxiety and perfectionism is has been demonstrated (Kawamura et al., 2001; Flett et al., 1989; Erozkhan, 2016). Further studies must be made with different samples and measures to indicate the links between these variables.

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