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Research

An Investigation of Preservice Teachers' Academic Self-Efficacy and Academic Motivation

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Abstract:

The purpose of this study is to determine the academic self-efficacy and motivation levels of preservice teachers and to investigate these cognitive aspects in terms of various variables. The participants of the current study consist of 621 preservice teachers studying at Necmettin Erbakan University Ahmet Keleşoğlu Faculty of Education in the 2020-2021 academic year. The study adopted a single survey model. Research data were collected using Academic Self-Efficacy Scale and Academic Motivation Scale. Independent sample T-test and one-way ANOVA were used to analyze the data. The findings of the study revealed that the academic self-efficacy and academic motivation levels of the preservice teachers were high; academic self-efficacy did not reveal any significant difference according to gender and year of study variables. It was found out that the academic motivations of the participants revealed significant differences according to gender, year of study, academic achievement, and career expectation variables.

Keywords: Preservice teachers, academic self-efficacy, academic motivation

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INTRODUCTION

With the COVID-19 pandemic, the teaching practices of preservice teachers are interrupted. This situation may affect the professional competency and self-efficacy perception of preservice teachers. Having little or no face-to-face interaction with students caused preservice teachers not to get the necessary data to self-evaluate their teaching competencies. In this case, it is wondered that how their self-efficacy shaped. Moreover, preservice teachers start a new learning environment with the pandemic and they have to face this new situation and problems. While this situation positively affects the learning motivation of some, others may be affected negatively

The sudden change in schools from traditional learning environments to online education models because of the COVID-19 pandemic, novel technologic situations and problems caused tasks of teachers and students to become increasingly harder and thus to increase their negative affective experiences. During this process, many tasks that required time and patience for students emerged in addition to their many demands about their professional applications and proficiencies. In this process, the competencies, skills, and motivations of in-service and preservice teachers have become an important factor in overcoming these novel problems.

Preservice teachers in Turkey are entitled to enter the university after a challenging competition. The most important goals of the students entering the university are to successfully graduate by acquiring the necessary competencies and to stay motivated in the department they enter, and to fulfill their academic and professional expectations. It is expected that a teacher candidate who wishes a better status than his / her current status to have higher academic competence and motivation. In this respect, it can be said that the students at a faculty of education, who are at the center of education and training activities, achieve a better status in their professional field, that is, there is a relationship between their career and their academic self-efficacy and motivation.

THEORETICAL FRAMEWORK

Academic self-efficacy is one of the important factors affecting academic performance. It describes the beliefs and attitudes of students towards their ability to achieve academic success, as well as their ability to perform academic tasks and their ability to successfully learn (Bandura, 1997; Hayat et al., 2020; Koyuncuoğlu, 2021; Schunk & Ertmer, 2000). Bandura's social cognitive theory argues that individuals have the ability to control their actions through self-regulation (Bandura, 2000). According to this theory, individuals can overcome the difficulties of the tasks they face with their self-efficacy and determination. Self-efficacy can increase self-regulated behavior through motivation. At this point, past mastery performance contributes to an increase in learning and positive behavior by strengthening the expectation of future success.

Self-efficacy beliefs underlie academic self-efficacy perception. Self-efficacy beliefs contribute to the excellent performance of individuals by increasing commitment, effort, and perseverance (Pintrich, 2003). While students with high self-efficacy attribute their failures mostly to lower initiatives than low abilities, those with low self-efficacy attribute their failure to low abilities (Kurbanoglu & Akim, 2010). Therefore, self-efficacy can affect task selection and motivation, which is an important source of power in their fulfillment. In other words, students with low self-efficacy are more likely to show hesitation in completing their tasks, delaying them, avoiding their duties, and giving up easily (Bandura, 1997, Schunk & Ertmer, 2000). While those with a high level of self-efficacy, in addition to being self-confident to find a solution when faced with complex problems, are patient, spend more effort, and strive to overcome the problem for a longer time (Hayat et al., 2020; Bandura, 1997). Chemers and Garcia (2001) state that students' self-efficacy in the first year of university is a strong indicator of their future performance (Chemers, Hu & Garcia, 2001). Also, the researcher argues that self-efficacy beliefs are manifested in human behavior through four processes which are listed as cognitive, motivational, affective and selection processes which are in harmony with each other (Balcı, Şanal, & Durak Üğüten, 2019, p.2). For this reason, self-efficacy is seen as one of the most important factors in the academic achievements of students.

There exist many qualitative, quantitative, and mixed-method studies in countries as Australia (Hemmings, 2015), Mexico (Reyes-Cruz & Perales-Escudero, 2016), and the USA (Morris & Usher, 2011) to investigate the relationships with academic self-efficacy beliefs. While some studies indicate that there are no gender differences in self-efficacy (Bailey, 1999; Schoen & Wincour, 1988), there exist studies revealing that male faculty members have higher levels of self-efficacy for research and service than females (Zhao, McCormick & Hoekman, 2008). In some of the studies, academic self-efficacy beliefs specific to a particular discipline (Morris & Usher, 2011; Wyatt & Dikilitaş, 2016) have been examined and findings revealed that academic self-efficacy levels are relatively problematic in certain disciplines (Bailey, 1999; Hemmings et al., 2012; Zhao, McCormick & Hoekman, 2008).

Another important concept in the transformation of self-efficacy into a product is motivation. Motivation is an important factor in students' learning and teachers' teaching processes (Ait Maalem Lahcen & Mohapatra, 2020; Asigigan & Samur, 2021; Landicho, 2020). Motivation is the direct reason to cause, inspired system some sort of human behavior and people can be divided into three categories achievement, social and impression (Omar, Drewsh & Ahmed, 2018, p.36). It was found out that between motivational variables and self-efficacy perceptions and productivity, performance (Hammond, 1994); and perceived competence (Hardré et al, 2011) were consistently associated in post-secondary education faculties. However, apart from recent cross-sectional studies investigating the relationships between self-efficacy and emotional well-being variables (emotions related to teaching (Hall, Lee & Rahimi, 2019; Zhang et al, 2019), and perceived stress level (Sharma, 2013); it is seen that the studies examining the relationship of self-efficacy with psychological health in

post-secondary faculties at the level of secondary education are insufficient. It is claimed that academic motivation and student participation are factors that affect the learning outcomes of university students (Chen & Lu, 2015; Roksa & Whitley, 2017). The variables that enable them to start learning willingly are explained by learning motivation and academic motivation (Eccles & Roeser, 2009; Koyuncuoğlu, 2021). Academic motivation is defined as the desire or interest of students to be interested in learning and school experiences (Hulleman, Barron, Kosovich, & Lazowski, 2016). Studies reveal that academically motivated students tend to perceive school and learning as valuable, love learning, and enjoy activities related to learning (Zimmerman & Dale, 2012).

Motivation plays an important role in the academic performance of students due to the intensive structure of education faculties. For instance, following a specifically defined path to become a teacher requires practicing in addition to university courses (Kusurkar et al, 2011; Kara, 2020). Although the types of motivation vary, they are generally divided into two categories. The first category is intrinsic motivation (e.g. being interested in becoming a teacher or pursuing the intellectual challenges of educational science). The second is extrinsic motivation and is result-oriented. For example, being motivated to find a job or pursue a career as a teacher is related to extrinsic motivation (Cook & Artino, 2016; Linnenbrink & Pintrich, 2001; Wu, Li, Zheng & Guo, 2020). In addition to the two motivation categories, self-efficacy also attracts great attention from researchers in the field of education. Self-efficacy is the subjective assessment of an individual's ability to complete a specific task (Doğru, 2020). In success-oriented educational environments, self-efficacy is related to a student's perceived confidence in achieving certain goals. Self-efficacy helps students determine what choices they make, how much mental effort they put in, and how much they persist in a task (Kaleli, 2020). Ryan and Deci (2000) stated that when students experience the satisfaction of competence, autonomy, and psychological needs in a learning task, they tend to be more intrinsically motivated. According to Ryan and Deci (2000), competence refers to a person's need and motivation to be effective in environmental interactions. Therefore, there is a significant relationship between students' need for competence and their motivation (Skinner & Belmont, 1993; Zaccoletti et al, 2020). However, few studies have examined how different motivational components affect the performance and academic career of education faculty students together, using a large sample size (Koyuncuoğlu, 2020). Motivation is a mutual product of an individual's personality and external environment (Schunk & Pajares, 2005). This reveals that the motivation of education faculty students should be examined in a way that takes into account their characteristics, the academic tasks they face, and the expectations or situations. It is frequently emphasized in the relevant literature that pre-service teachers' affective characteristics, as well as their cognitive characteristics, play an effective role in maintaining their individual development and adapting to new situations.

In this context, the ability of preservice teachers to achieve successful results in reaching the objectives of the teaching-learning processes is related to their competence

perceptions, academic, and general motivations, as well as their other characteristics. Within the framework of this general purpose, in this study, the answers for the following research questions will be sought:

What are the academic motivations and academic self-efficacy levels of the preservice teachers?

Do the academic motivation levels of preservice teachers differ based on the variables such as a) gender, b) year of study, c) academic achievement level, d) academic career expectancy?

Do the academic self-efficacy levels of preservice teachers differ based on the variables such as a) gender, b) year of study, c) academic achievement level, d) academic career expectancy?

METHOD

Participants

The population of the current study is composed of preservice teachers studying at faculties of education in Turkey. Reaching all of the students in the target population requires serious time and teamwork. For this reason, the convenience sampling method was preferred in the study. In this respect, 621 preservice teachers studying at Necmettin Erbakan University Ahmet Keleşoğlu Faculty of Education participated in the study. The data were collected was based on voluntary participation. Demographic variables and the distribution of preservice teachers according to these variables are shown in Table 1.

Table 1

Distribution of Preservice Teachers by Demographic Characteristics

		f	%
Gender	Female	448	72. 1
	Male	173	27.9
Year of Study	1.0	163	26.2
	2.0	157	25.4
	3.0	147	23.7
	4.0	154	24.8
Academic Achievement	Lower	24	3.9
	Moderate	410	66.0
	Higher	187	30.1
	Total	621	100,0

When the table is considered, it is obvious that the ratio of male preservice teachers is 27.9% and the ratio of female preservice teachers is 72.1%. As for the year of the study 26.2% of the preservice teachers were freshmen, 25.4% of them were sophomores, 23.7% of them were juniors, and 24.8% were seniors. In terms of academic achievement, 3.9% of the participants had a lower level of success, 66% of them were moderately successful, and 30.1% of them were highly successful preservice teachers.

Research Design and Data Collection Tools

In the current study, a single survey model was adopted. The single survey model was used to describe the academic self-efficacy and academic motivation levels of preservice teachers. The study is planned to be carried out in four stages. In the first stage, data collection tools were prepared for implementation. After preparing the academic self-efficacy and academic motivation scales, whose sample forms are attached, were prepared for application, validity and reliability tests were conducted by the researcher. In the second phase of the study, to implement the data collection tools to the preservice teachers, the necessary permissions were obtained from the relevant dean's office and the data collection tools were implemented on the dates shown in the calendar. In the third stage of the study, the data obtained were transferred into a computer after being subjected to technical analysis. The data were subjected to statistical analysis with relevant analysis techniques. At the last stage of the study, the analyzed data were interpreted comparatively based on the relevant literature. In the light of the results, suggestions were made for preservice and in-service training for preservice teachers.

Academic Self-efficacy Scale

The 5-point Likert-type "Academic Self-efficacy Scale" developed by Kandemir (2010) aims to determine the academic self-efficacy levels of students. Principal Component Analysis (PCA) was conducted to determine the factor structure of the scale. As a result of the PCA, it was found out that the scale had a three-factor structure. The first factor included 11 items (m6, m7, m8, m9, m10, m14, m15, m16, m17, m18, m19). The factor loading values of the items in this factor ranged between .54 and .78. This factor was named "self-efficacy to cope with academic problems". The second factor included 4 items (m1, m3, m4, m5). The factor loading values of the items in this factor ranged between .59 and .78. This factor was named "self-efficacy towards academic effort". The third factor also included 4 items (m2, m11, m12, m13). The factor loading values of the items in this factor range between .66 and .78. This factor was named "self-efficacy for academic planning". Cronbach alpha internal consistency coefficients were examined for the reliability of the scale. In this sample, the coefficients were .87 for the first factor, .77 for the second factor, .75 for the third factor, and .99 for the whole scale.

Academic Motivation Scale

The 7-point Likert-type "Academic Motivation Scale" developed by Vallerand et al. (1992) and adapted by Karagüven (2012) was used to collect the data of the study. According to the EFA and CFA analyzes performed, the scale consisted of 28 items with seven factors, four items each. These factors were intrinsic motivation-to know (IMK), intrinsic motivation - toward accomplishment (IMTA), intrinsic motivation-to experience stimulation (IMES), extrinsic motivation – identified (EMI), extrinsic motivation-introjected (EMI), extrinsic motivation-external regulation (EMER), and amotivation (A). The 7-point Likert scale was arranged as "does not correspond at all, corresponds a little, corresponds moderately, corresponds a lot, corresponds exactly". The Cronbach Alpha reliability coefficient for the scale ranged from .71 to .88 for the sub-dimensions. In the analysis performed on the sample of this study, the reliability coefficient for the whole scale was determined as 0.85.

Data Analysis

Before analyzing the academic self-efficacy and academic motivation scores of the preservice teachers in the study, the normal distribution of the data was tested. In determining the distribution, skewness and Shapiro Wilk test results were taken as a basis. According to Tabachnick and Fidell (2007), the fact that these values are in the range of ± 1 indicates that the data do not reveal excessive deviations from the normal distribution. The values obtained from the scale scores in this study indicated that the attitude and self-efficacy scores were distributed quite close to the normal distribution. It was observed that the data of the two scales belonging to the study sample were in the range of ± 1 and the Shapiro Wilk test results indicated a normal distribution (Yurt & Sünbül, 2012). Considering this situation, parametric tests were used in the analysis of academic self-efficacy and academic motivation scores of preservice teachers.

In the present study, independent samples t-test and one-way ANOVA were used. A t-test is used to find out the source of difference in the parametric distributions in which the independent variables can have two values. ANOVA is used to find out the source of difference in parametric distributions in which independent variables can have more than two values.

Research Ethical Consent

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. None of the actions stated under the title "Actions Against Scientific Research and Publication Ethics", which is the second part of the directive, have not been carried out. The research was approved by the decision of Necmettin Erbakan University Ethics Committee with the number of 2021/204

RESULTS

In this section, first the descriptive findings then the correlational statistics are given in tables.

Table 2

Descriptive Values of Scores Obtained in Academic Self-Efficacy and Academic Motivation Scales

Variables	n	Mean	Std. Deviation
Coping with Academic Problems	621	3,68	0,70
Academic Efforts	621	3,89	0,74
Academic Planning	621	3,63	0,77
Academic Self-efficacy Total Score	621	3,71	0,67
Intrinsic Motivation – to Know	621	5,38	1,42
Intrinsic Motivation – toward Achievement	621	5,03	1,40
Intrinsic Motivation – to experience stimulation	621	4,86	1,47
Extrinsic motivation-introjected	621	3,93	1,47
Extrinsic motivation-external regulation	621	4,16	1,21
Extrinsic motivation – identified	621	5,56	1,28
Amotivation	621	1,97	1,28
Academic Motivation Total Score	621	4,41	0,89

When Table 2 was examined, it was understood that preservice teachers' academic motivation scale total mean score is calculated as 4.41 ± 0.89. The academic self-efficacy mean score was found as 3.71 ± 0.67. According to the mean scores obtained, it was observed that the academic self-efficacy and academic motivation of the preservice teachers, in general, were high.

Table 3

Comparison of Scores Obtained from Academic Self-Efficacy and Academic Motivation Scales by Gender

	Gender	n	Mean	Std.	t	P	Cohen's d
Coping with Academic Problems	Female	448	3,66	0,71	-1,14	0,25	
	Male	173	3,73	0,66			
Academic Efforts	Female	448	3,87	0,74	-1,11	0,27	
	Male	173	3,94	0,74			
Academic Planning	Female	448	3,63	0,78	-0,28	0,78	
	Male	173	3,65	0,75			
Academic Self-efficacy Total Score	Female	448	3,70	0,68	-1,02	0,31	
	Male	173	3,76	0,63			
Intrinsic Motivation – to Know	Female	448	5,49	1,34	3,35	0,00	0.2888
	Male	173	5,07	1,56			

Intrinsic Motivation – toward Achievement	Female	448	5,16	1,35	3,76	0,00	0,3330
	Male	173	4,69	1,47			
Intrinsic Motivation – to experience stimulation	Female	448	4,96	1,44	2,50	0,01	0,2228
	Male	173	4,63	1,52			
Extrinsic Motivation-Introjected	Female	448	4,03	1,45	2,76	0,01	0,2449
	Male	173	3,67	1,49			
Extrinsic Motivation-External Regulation	Female	448	4,17	1,22	0,21	0,84	
	Male	173	4,15	1,16			
Extrinsic Motivation – Identified	Female	448	5,69	1,23	4,08	0,00	0.3533
	Male	173	5,23	1,37			
Amotivation	Female	448	1,87	1,18	-3,00	0,00	0.2604
	Male	173	2,22	1,49			
Academic Motivation Total Score	Female	448	4,48	0,86	3,10	0,00	0.2664
	Male	173	4,24	0,94			

When Table 3 was examined, no significant difference was found in the academic self-efficacy mean scores of the preservice teachers according to their genders (p> 0.05). However, significant differences were found in each of the academic motivation dimensions' mean scores except for the Extrinsic Motivation-External Regulation dimension scores. Considering the mean scores of the groups, it was seen that female preservice teachers had significantly higher academic motivation compared to male preservice teachers. Amotivation levels of male preservice teachers were found to be high.

Table 4

Comparison of the Scores Obtained from Academic Self-Efficacy and Academic Motivation Scales by Achievement Level

	Achieveme	n	Mean	Std. D.	f	Sig.
Coping with Academic Problems	Lower	24	3,06	0,87		
	Moderate	410	3,55	0,66	46,330	,000
	Higher	187	4,04	0,61		
Academic Efforts	Lower	24	3,23	1,12		
	Moderate	410	3,78	0,70	34,672	,000
	Higher	187	4,21	0,62		
Academic Planning	Lower	24	3,01	0,82		
	Moderate	410	3,50	0,76	41,949	,000
	Higher	187	4,01	0,63		
Academic Self-efficacy Total Score	Lower	24	3,09	0,87		
	Moderate	410	3,59	0,63	50,831	,000
	Higher	187	4,07	0,56		
Intrinsic Motivation – to Know	Lower	24	4,05	1,87		
	Moderate	410	5,28	1,44	19,298	,000
	Higher	187	5,76	1,16		
Intrinsic Motivation – toward Achievement	Lower	24	3,86	1,61		
	Moderate	410	4,93	1,39	16,040	,000
	Higher	187	5,38	1,28		
Intrinsic Motivation – to Experience Stimulation	Lower	24	3,60	1,56		
	Moderate	410	4,78	1,48	15,650	,000

	Higher	187	5,22	1,30		
Extrinsic Motivation - Introjected	Lower	24	3,60	1,37		
	Moderate	410	3,86	1,48	2,844	,059
	Higher	187	4,13	1,44		
Extrinsic Motivation- External Regulation	Lower	24	4,17	1,44		
	Moderate	410	4,12	1,21	,704	,495
	Higher	187	4,25	1,17		
Extrinsic Motivation – Identified	Lower	24	4,84	1,24		
	Moderate	410	5,48	1,31	9,335	,000
	Higher	187	5,84	1,16		
Amotivation	Lower	24	2,97	1,68		
	Moderate	410	2,00	1,24	10,019	,000
	Higher	187	1,77	1,24		
Academic Motivation Total Score	Lower	24	3,87	0,90		
	Moderate	410	4,35	0,91	10,909	,000
	Higher	187	4,62	0,80		

When Table 4 was examined, significant differences were found in the five dimensions of the academic self-efficacy and academic motivation scales and the total mean scores of participants based on their achievement levels ($p < 0.05$). However, no significant difference was found in the extrinsic motivation-introjected and extrinsic motivation-external regulation dimensions. According to the Tukey test analysis, it was found out that students with higher and moderate achievement levels had significantly higher academic self-efficacy and academic motivation compared to the participants with lower academic achievement. It was observed that students with lower academic achievement exhibit higher amotivation.

Table 5

Comparison of Scores Obtained from Academic Self-Efficacy and Academic Motivation Scales by the Year of Study

	Year of Study	n	Mean	Std. Deviation	f	Sig.
Coping with Academic Problems	Freshmen	163	3,67	0,75		
	Sophomores	157	3,61	0,67	1,218	,302
	Juniors	147	3,69	0,62		
	Seniors	154	3,76	0,75		
Academic Efforts	Freshmen	163	3,83	0,74		
	Sophomores	157	3,87	0,69	1,059	,366
	Juniors	147	3,89	0,66		
	Seniors	154	3,97	0,84		
Academic Planning	Freshmen	163	3,62	0,75		
	Sophomores	157	3,51	0,82	2,331	,073
	Juniors	147	3,66	0,73		
	Seniors	154	3,74	0,77		
Academic Self-efficacy Total Score	Freshmen	163	3,69	0,70		
	Sophomores	157	3,64	0,65	1,507	,212

	Juniors	147	3,72	0,60		
	Seniors	154	3,80	0,72		
Intrinsic Motivation – to Know	Freshmen	163	5,66	1,34	3,729	,011
	Sophomores	157	5,36	1,37		
	Juniors	147	5,33	1,44		
	Seniors	154	5,14	1,49		
Intrinsic Motivation – toward Achievement	Freshmen	163	5,24	1,42		
	Sophomores	157	4,93	1,38	2,407	,066
	Juniors	147	5,08	1,41		
	Seniors	154	4,85	1,37		
Intrinsic Motivation – to Experience Stimulation	Freshmen	163	5,13	1,49		
	Sophomores	157	4,87	1,43	3,155	,024
	Juniors	147	4,82	1,49		
	Seniors	154	4,63	1,43		
Extrinsic Motivation - Introjected	Freshmen	163	4,07	1,50		
	Sophomores	157	3,94	1,57	2,782	,040
	Juniors	147	4,07	1,50		
	Seniors	154	3,65	1,25		
Extrinsic Motivation- External Regulation	Freshmen	163	4,34	1,23		
	Sophomores	157	4,10	1,19	1,594	,190
	Juniors	147	4,07	1,22		
	Seniors	154	4,14	1,17		
Extrinsic Motivation – Identified	Freshmen	163	5,91	1,18		
	Sophomores	157	5,63	1,22	7,515	,000
	Juniors	147	5,35	1,42		
	Seniors	154	5,33	1,23		
Amotivation	Freshmen	163	1,69	1,11		
	Sophomores	157	2,03	1,18	3,831	,010
	Juniors	147	2,04	1,32		
	Seniors	154	2,14	1,46		
Academic Motivation Total Score	Freshmen	163	4,58	0,89		
	Sophomores	157	4,41	0,90	3,255	,021
	Juniors	147	4,39	0,90		
	Seniors	154	4,27	0,85		

When Table 5 is examined, a significant difference was not found in the academic self-efficacy scores of preservice teachers according to the year of study variable. However, it was observed that there were significant differences in the academic motivation levels of the participants in terms of the year of study variable. According to further analysis, the total scores of 'Intrinsic Motivation-to Know', 'Intrinsic Motivation-to Experience Stimulation', 'Extrinsic Motivation-Introjected', 'Extrinsic Motivation-Identified', and academic motivation total scores of freshmen students were found to be significantly higher than the senior students. On the other hand, amotivation of sophomores, juniors, and seniors was higher than the freshmen.

Table 6

Comparison of Scores Obtained from Academic Self-Efficacy and Academic Motivation Scales by Academic Career Expectations

	Academic Career Expectations	n	Mean	Std. Deviation	f	Sig.
Coping with Academic Problems	No	96	3,47	0,80	24,73	0,00
	Perhaps	281	3,55	0,64		
	Yes	242	3,92	0,66		
Academic Efforts	No	96	3,78	0,78	20,48	0,00
	Perhaps	281	3,73	0,74		
	Yes	242	4,12	0,65		
Academic Planning	No	96	3,42	0,87	20,16	0,00
	Perhaps	281	3,51	0,73		
	Yes	242	3,87	0,70		
Academic Self-efficacy Total Score	No	96	3,53	0,75	26,62	0,00
	Perhaps	281	3,58	0,63		
	Yes	242	3,95	0,61		
Intrinsic Motivation – to Know	No	96	4,26	1,74	42,77	0,00
	Perhaps	281	5,51	1,19		
	Yes	242	5,69	1,27		
Intrinsic Motivation – toward Achievement	No	96	4,09	1,66	28,35	0,00
	Perhaps	281	5,16	1,22		
	Yes	242	5,26	1,32		
Intrinsic Motivation – to Experience Stimulation	No	96	3,88	1,70	33,27	0,00
	Perhaps	281	4,91	1,30		
	Yes	242	5,24	1,34		
Extrinsic Motivation - Introjected	No	96	3,42	1,64	7,26	0,00
	Perhaps	281	4,06	1,35		
	Yes	242	4,00	1,50		
Extrinsic Motivation- External Regulation	No	96	3,86	1,10	5,41	0,00
	Perhaps	281	4,31	1,19		
	Yes	242	4,13	1,23		
Extrinsic Motivation – Identified	No	96	4,93	1,43	14,88	0,00
	Perhaps	281	5,69	1,18		
	Yes	242	5,69	1,26		
Amotivation	No	96	2,36	1,41	5,60	0,00
	Perhaps	281	1,93	1,26		
	Yes	242	1,86	1,23		
Academic Motivation Total Score	No	96	3,83	1,05	27,75	0,00
	Perhaps	281	4,51	0,80		
	Yes	242	4,55	0,82		

When Table 6 was examined, a significant difference was found in the academic self-efficacy and academic motivation mean scores according to the prospective teachers' expectations of starting postgraduate education. It was observed that preservice teachers who expected to attend graduate education had significantly higher 'Intrinsic Motivation-

to Know' academic motivation and career determination compared to those who did not. University students with lower academic career prospects have a higher level of amotivation.

DISCUSSION AND CONCLUSION

According to the findings obtained from the study, there is no significant difference in the academic self-efficacy of the preservice teachers according to their gender. The findings of this study on gender support the results of many other studies in the literature. The current study revealed similar findings to Epstein et al.'s (2017), Klibert et al.'s (2011), Klibert et al.'s (2016), and Ozer et al.'s (2009) studies on teachers at all school levels, preservice teachers, and university students. Duckworth and Seligman (2005, 2006) found out in their studies that females revealed higher academic performance than their male peers, but they do not differ in terms of self-efficacy perceptions due to their strong academic self-discipline and control.

According to another finding obtained from the study, the academic self-efficacy of preservice teachers differs according to their academic achievements and career expectations. It was observed that preservice teachers with a higher achievement at the university had higher academic self-efficacy. This finding revealed similarities with the research results in the relevant literature (Gasco J., Villarroel, 2014; Guo et al., 2015; Kim & Park, 2001; Koyuncuoğlu, 2021; Lee & Jeon, 2015; Nagengast et al., 2011; Yu, Chae & Chang, 2016). According to Domenech (2013), academic self-efficacy affects students' performance in multiple ways. It is also seen as an individual variable that significantly affects academic achievement. In this respect, academic self-efficacy is explained as a general judgment that includes the ability to manipulate and perform a series of academically related tasks (Chemers, Hu & Garcia, 2001; Yu, Chae & Chang, 2016). Individuals with higher academic self-efficacy can choose a challenging task and complete the task successfully, they spend more effort, they continue to fulfill the tasks despite the obstacles and be successful when faced with difficult obstacles. In addition, it was observed in this study that the academic self-efficacy of preservice teachers with higher career expectations was strong and positive. These findings are similar to various research results in the literature (Doménech, 2013; Doménech-Betoret, Gómez-Artiga and Lloret-Segura, 2014; Chemers et al., 2001; Lent et al., 2008). Students' expectation-value beliefs may have been formed from their previous experiences before the courses start, and this situation is closely related to their academic self-efficacy (Doménech, 2013). Research has also revealed the significant and direct effects of students' self-efficacy on academic expectations (Chemers et al., 2001; Lent et al., 2008). According to the mentioned researchers, students with higher self-efficacy have higher academic expectations and higher career expectations compared to students with lower self-efficacy.

According to the findings obtained from the research, preservice teachers generally have high academic motivation and low amotivation. According to Koçak (2002), prospective teachers and teachers attach more importance to internal motivation processes. This is an important factor in having strong professional and academic motivation.

According to another finding obtained from the current study, a significant difference was found in the academic motivation of the preservice teachers according to their genders. In general, it was found that female preservice teachers had significantly higher academic motivation than male prospective teachers. The findings of this study on gender support the results of many other studies in the literature (Arlı, 2007; Çelik, 2015; Ergen, 2009; Kurt, 2013; Warren, Fox, & Pascall, 2009). In the study conducted by Handayani (2016) in Indonesia, it was concluded that male teachers have significantly higher external motivation compared to female teachers. This is understandable, according to Warren, Fox, and Pascall (2009) because in many cultures males tend to be more active than females. As with the division of gender roles, females focus more on feminine roles such as looking after, educating, and nurturing. In this respect, the higher academic motivation of females can be explained by cultural, environmental, and local factors.

According to the findings obtained from the present study, the academic motivations of the preservice teachers differ according to their years of study. According to the findings of the research, freshmen preservice teachers have a higher academic motivation level, while senior preservice teachers have amotivation. These findings were found to be similar to the findings of other studies (Ergen, 2009; Gömleksiz & Serhatlıoğlu, 2013; Gürşimşek, 2002) which revealed that younger teachers' motivation levels were higher than older teachers. In another study measuring pre-service teachers' self-efficacy perception and learning motivation, it was determined that freshmen students had higher motivation levels (Gürşimşek, 2002). Nagy and Davis (1985) and Esther and Marjon (2008) declared similar results in their studies with prospective teachers and teachers. In these studies, it was figured out that academic motivation decreased with the problems occurring in years and revealed a significant decrease over the years. Esther and Marjon (2008) found in their study that negativity in perceptions of self-efficacy and the learning-teaching process decreased individuals' motivation over time.

According to the findings obtained from the current study, the academic motivation of preservice teachers varied according to their academic achievement levels and career expectations. Academic motivation and participation are claimed to be factors affecting the learning outcomes of university students (Allen, Robbins, Casillas & Oh, 2008; Bong, 2005; Chen & Lu, 2015; Kriegbaum, Becker & Spinath, 2018; Koyuncuoğlu, 2021; Luo, Chau & Lam, 2019; Roksa and Whitley, 2017; Ryan and Deci, 2020; Trolian, Jach, Hanson, & Pascarella, 2016). In all these studies, it was found that there is a significantly high relationship between academic motivation, academic achievement, and career expectations in different fields and education levels. In studies conducted with university students, it was

observed that especially intrinsic academic motivation was associated with higher success, on the other hand, it was observed that amotivation had negative effects on academic performance. Bassi et al. (2007) found that students with strong self-efficacy and motivation exhibited higher academic expectations, attitudes, and career determination. It was observed that the academic performance of students with strong career expectancy and academic motivation was at a high level (Koyuncuoğlu, 2021).

RECOMMENDATIONS

In this study, the academic motivation and academic self-efficacy of preservice teachers were investigated and as a result, it was found out that their academic motivation and self-efficacy were at a high level. In the comparative analysis, it was found that the academic self-efficacy of preservice teachers did not differ significantly according to gender and year of study variables. It was observed that academic motivation varied according to gender, year of study, academic achievement, and career expectations variables.

Recommendations in the light of the findings of the current study are listed below:

- Within the scope of the study, it was observed that the rate of participant female preservice teachers was higher than their male peers. From this point of view, academic self-efficacy and motivation of preservice teachers can be examined with more homogeneous distributions in terms of gender.

- Considering the findings of this study, the factors that promote the increase of self-efficacy and motivation in the training of preservice teachers can be discussed.

- Qualitative studies can be conducted to explore the reasons why the academic motivation levels of the preservice teachers decrease as their years of study increase, and to obtain in-depth information on the factors affecting their academic achievement levels.

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