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A study on correlation between self-efficacy and academic motivation of prospective teachers

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Abstract

With the highlight of Bandura's social cognitive theory, the purpose of the study was to determine the relationship between self-efficacy and academic motivation of the teacher candidates. The method of the study was designed as relational survey method and the participants were seniors at the Faculty of Education in Adnan Menderes and Pamukkale Universities, Turkey. There were 251 prospective teachers from two universities in total. In the study, the Teacher Sense of Efficacy Scale developed by Tschannen-Moran and Hoy (2001) and adapted into Turkish by Çapa, Çakıroğlu and Sarıkaya (2005) and Academic Motivational Scale developed by Bozanoğlu (2004) were used to collect the data. Prospective teachers' self-efficacy and academic motivation levels were observed according to university, gender, course times and grade point average. Results of the study indicated that prospective teachers' levels of sense of efficacy and academic motivation are moderately correlated and there was low but positive relation observed between total academic motivation scores and GPA.

Keywords: Self-efficacy; academic motivation; prospective teacher.

1. Introduction

Self-efficacy is "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986). And it is described as a key to improving motivation struggling learners (Margolis, MacCabe, 2003).

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As self-efficacy beliefs can be changed through experience and time and vary depending upon the context and specificity of tasks, the development of teacher efficacy beliefs among prospective teachers has generated a great deal of interest. Because elementary school teachers and also teacher candidates play a vital role in the intellectual and social development of children during their formative years. What children learn and experience during their early years can shape their views of themselves and the world and can affect their later success or failure in school, work, and their personal lives. Not only they act as trainers while introducing children to mathematics, language, science, and social studies to their academic progress, but also they act as facilitators for their overall problems.

Self-efficacy theory posits that students who believe themselves to be capable are more likely to be motivated; those who believe themselves incapable will not be motivated (Seitfert, 2004). There is evidence for transfer of self efficacy and motivation in academic domains but the transfer typically has been confined to generalization. Much research shows that self-efficacy influences academic motivation and learning achievement (Pajares, 1996; Shunk, 1995). In this study, firstly we investigated the prospective teachers' self- efficacy and academic motivation scores related to some variables then researched whether a correlation existed between prospective teachers' self-efficacy and academic motivation.

1.1. The aims of the current study are as follows

As self-efficacy is determined to play a crucial role to influence the prospective teachers' academic motivation as a choice of activities, level of effort and persistence, we want to investigate the correlation between prospective teachers' levels of self-efficacy and academic motivation. With this aim, the responses of the questions below were examined:

1. Is there a significant difference between/among teachers' self-efficacy scores of prospective teachers and their university, gender, course times and GPA?
2. Is there a significant difference between/among academic motivation scores of preservice teachers and their university, gender, course times and GPA?
3. Is there any correlation between the scores of self-efficacy, academic motivation and GPA of the teacher candidates?

2. Method

2.1 Sample

The participants were seniors at the Faculty of Education in Adnan Menderes (ADU) and Pamukkale Universities (PAU), Turkey. From the total of 251 fourth grade teacher candidates 108 (43%) of whom are at Adnan Menderes University and 143 (57%) are at Pamukkale University. The sample included 117 male (46, 6 %) and 134 (53, 4%) female students whose ages ranged from 20-22 years (mean age= 21 years) in the department of the Primary School Teaching Programme. Of the seniors 126 (50, 2%) enrolled day time and 125 (49, 8. %) evening time.

2.2 Measures

All the participants completed the Teacher Sense of Efficacy Scale and Academic Motivational Scale. Teacher Sense of Efficacy Scale developed by Tschannen-Moran and Hoy (2001) and adapted into Turkish by Çapa, Çakiroğlu and Sarıkaya (2005). TSES (the full 24-item scale) was administered to the participants. The scale supported the three factor model with high subscale reliabilities ranging from 0,87 to 0,91. In the study, reliability and validity of efficacy scores for the whole scale was found as .92 .The reliabilities for the teacher efficacy subscales were .88 for SE, .87 for IS and .85 for CM. Coefficient alphas for the subscales and the total scores were quite high and these data are very similar to those reported by Tschannen-Moran and Hoy (2001).The form of TSES consists of 24 items measuring 3 components: efficacy for instructional strategies, efficacy for classroom instruction and efficacy for instructional strategies. And it uses a 9 point response scale with the descriptors 1-nothing, 3-very little, 5-some influence, 7-quite a bit and 9-a great deal. The other instrument is a psychometric device was developed by Bozanoğlu (2004) in order to define the individual differences in academic motivation levels. In the

study, the scale was used for one factor model. The reliability and validity of the AMS was tested on high school students and it was indicated that the whole scale and the factors had a good variability with respect to the internal consistency and test-retest reliability (Bozanoğlu, 2004). In this study, reliability of the Academic Motivation Scale was found as .88. In addition to the scales with 4 questions personal information form including questions about prospective teachers' university, gender, course times and grade point average that teacher candidates self-reported was used to collect data about teacher candidates in the study.

2.3 Data Analysis

The findings of the study were coded to SPSS 12,0 statistical program (the importance level was .05). The responses of the both two scales used in the study were formed from positive to negative so that it means that the higher points implies higher levels of self-efficacy and academic motivation. In the study the statistical measures; means, standard deviations, t-test, ANOVA, (Scheffe and Dunnett's C tests and also Pearson's correlation coefficients were calculated.

3. Findings

3.1. Findings and discussion for the first sub-problem

In Table 1, Means, standard deviations and ANOVA results of prospective teachers' efficacy scores were given.

Table 1. Preservice teachers' sense of efficacy scores

Variables		SE			IS			CM			Total		
	N	\bar{X}	s	t/F	\bar{X}	s	t/F	\bar{X}	s	t/F	\bar{X}	s	t/F
Gender	Female	134	6,24	,859	,326	6,38	,835	,773	6,20	,869	,413	6,27	,806
	Male	117	6,20	,894		6,29	,871		6,30	,817		6,26	,782
Universit	Adnan	108	6,37	,810	2,37*	6,44	,788	-1,64	6,36	,784	-1,74	6,39	,734
	Menderes Pamukkale University	143	6,11	,907		6,26	,891		6,17	,883		6,18	,827
Course Times	Day-time	126	6,18	,853	-,713	6,28	,878	-1,13	6,22	,876	-,599	6,22	,811
	Evening time	125	6,26	,896		6,40	,822		6,28	,815		6,31	,777
Grade Point Average	Satisfactory	132	55,4 2	8,31	,954	56,4 1	8,15	1,47 5	56,0 9	8,04	,624	167,9	22,6
	Good	105	56,8 2	7,52		58,0 4	7,22		56,7 5	7,24		171,6	20,6
	Excellent	14	55,5 7	5,73		56	5,39		54,5 0	6,07		166,0	15,3

* p<0.02; ** p<0,05

As seen in Table 1, preservice teachers' sense of efficacy scores didn't change according to gender (t=,326; p=,745), course times (t=,713; p=,476) and grade point average (t=,954 ;p=,386). With regard to these variables, there are some different results found from other studies. Considering gender, our study's finding that there was no significant relation with females and males efficacy scores is supported by the studies conducted by Oğuz & Topkaya (2008), Saracaloğlu & Kumral (2007), Saracaloğlu, Aslantürk and Çengel (2006); Akbulut (2006), Savran and Çakıroğlu (2003) and Tschannen-Moran and Hoy (2002) but opposed to Akdağ and Walter (2005), Evans and Tribble, (1986); Romi and Leyser (2006).

On the other hand, it's seen that there was a significant difference between preservice teachers' sense of efficacy scores and universities both in Student Engagement (p=,019) and Total scores in favour of ADU (t= 2,08; p=,039).

This finding supports with the study Saracaloğlu & Kumral (2007). The difference can be result from the number of the teacher candidates of Pamukkale University outweigh those of Adnan Menderes University. It can be said that teacher candidates feel themselves capable of getting their students believe that they can do well at school as it was indicated in student engagement subscale.

Variable	Group	N	X	ss	F/t	P	
University	ADU.	108	70,46	10,65	-,006	,995	3.2. Find ings and disc ussi on for
	PAU.	143	70,45	10,92			
Gender	Female	134	72,14	9,75	2,66	,008*	
	Male	117	68,72	11,59			
Course times	Day time	126	70,83	11,06	,553	,581	
	Evening time	125	70,08	10,51			
Grade Point Average	60–74(Average)	132	69,21	11,47	1,85	,158	
	75–84(Good)	105	71,78	10,18			
	85 +(Very good)	14	72,21	6,79			

the second sub-problem

Table 2. Preservice teachers' academic motivation scores

Prospective teachers' academic motivation levels were investigated according to university, gender, course times and GPA and results presented in Table 2.

As seen in Table 2, it has been observed that there was not a considerable difference between academic motivation levels of teacher candidates according to universities, course times and grade point average (GPA).

However, there was a significant difference found between teacher candidates' academic motivation levels and gender ($t=2,66$; $p=,008$). As it was shown in the mean scores, this case was in favour of female teacher candidates. In other words, female teacher candidates' academic motivation scores were higher than those of the males'. This result yielded that female teacher candidates seem to have been more motivated compared to males in academic settings. It can be said that the findings that academic motivation scores of prospective teachers' were not related to university and course times support with Saracaloğlu & Kumral (2007), Saracaloğlu, Yenice & Karasakaloğlu (2007) and Saracaloğlu, Kumral and Kanmaz (2008).

At the same time there was not a significant difference between the academic motivation and seniors' grade point average, in other words as the GAP gets higher, it is clear that academic motivation scores also relatively rise as with Saracaloğlu, Yenice ve Karasakaloğlu (2007). Although it didn't constitute a significant relation, it might be possible that academic motivation and GPA has a relation as it's seen Saracaloğlu, Kumral and Kanmaz (2008) and Saracaloğlu & Kumral (2007).

3.3. Findings and Discussion For the third sub-problem

As to the correlation between self-efficacy and academic motivation with subscales, correlation was calculated and presented in Table 3.

Table 3.correlation between self efficacy and academic motivation

	SE	IS	CM	TSE	TAM	GPA
Student						
Engagement						
Instructional Strategies	r = ,813(**) p = ,000					
Classroom Management.	r = ,760(**) p = ,000	r = ,787(**) p = ,000				
Total	r = ,928(**) p = ,000	r = ,935(**) p = ,000	r = ,916(**) p = ,000			
Self Efficacy						
TotalAcadem	r = ,411(**) p = ,000	r = ,418(**) p = ,000	r = ,325(**) p = ,000	r = ,416(**) p = ,000		
icMotivation						
GradePoint	r = ,048 p = ,451	r = ,063 p = ,323	r = -,021 p = ,736	r = ,032 p = ,610	r = ,179(**) p = ,004	
Average						

**Correlation is significant at the * $p < 0,05$; ** $p < 0,01$ 2-tailed)

Table 3 shows that there was a significant and positive correlation among prospective teachers' academic motivation scores and SE (Factor 1) 41% ($p = 0,001$); IS 42% ($p = 0,001$) and also CM 33% ($p = 0,001$). In addition to that, there is low but positive relation between TAMS and GPA (18%, $p = 0,004$). This may result from students' self-reporting of their high school graduate points. As the findings demonstrate, teacher candidates' self-efficacy beliefs about themselves and their academic motivation had moderate relationship in common. In other words, pre-service teachers' levels of sense of efficacy and academic motivation are moderately correlated; they can affect each other effectively. This relationship suggests that if motivation is low, self efficacy will be low, and if motivation is high, self-efficacy will be correspondingly high as consistent with the study (Bailey, 1999). But also with in the results, the other factors such as affection and cognitive should be taken into consideration.

4. Conclusion and Suggestions

- * The result of the study shows that prospective teachers' both self efficacy and academic motivation scores were not affected by course times and grade point average. On the other hand, it has been observed a significant relation between academic motivation scores of the prospective teachers & gender and also between university and prospective teachers' self- efficacy scores.
- * One of the significant findings of the study was that academic motivation, teachers' self-efficacy and GPA of the prospective teachers had a significant relation with each other. As much research shows that self-efficacy influences academic motivation, learning, and achievement for this research it can be said that self-efficacy and academic motivation scores of prospective teachers' interact with each other.
- * Different correlations should be addressed in future studies; investigation of the self efficacy, academic motivation and their effect on academic achievement. The research should be conducted with different samples, with a large number of teacher candidates and different subject-areas.
- * As strong self-efficacy has an impressive outcome, self-efficacy beliefs of teacher candidates can be raised by a specific training programs as Shunk and his friends (1991) showed in a series of experimental studies.

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