



# Language Teaching and Educational Research

e-ISSN 2636-8102  
Volume 7, Issue 1 | 2024

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**To cite this article:**

Ateş, B., & Sağar, M. E. (2024). Investigation of academic success, psychological flexibility and self-efficacy in teacher candidates. *Language Teaching and Educational Research (LATER)*, 7(1), 14-23. <https://doi.org/10.35207/later.1292374>

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## Investigation of academic success, psychological flexibility and self-efficacy in teacher candidates

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### Article Info

**Type:** Original research

**Received:** 04 May 2023

**Accepted:** 07 August 2023

**Keywords:**

Academic success  
Psychological flexibility  
Self-efficacy  
Teacher candidates

**DOI:**

10.35207/later.1292374

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### Abstract

In this study, it was aimed to examine the predictive role of psychological flexibility and self-efficacy variables on academic success in teacher candidates studying at education faculties of different universities in Türkiye. The research was based on the correlational study. The research group consisted of 398 teacher candidates (167 male, 42%; 231 female, 58%) studying at the education faculties of different universities in Türkiye in the 2022-2023 academic year. Psychological Flexibility Scale, General Self-Efficacy Scale, and Personal Information Form were used as data collection tools in the research. In this research, data were collected via Google Form online method. As a result of the examination of the data obtained in the research, it was determined that the data were suitable for multiple linear regression analysis (stepwise). As a result of the research, the psychological flexibility variable significantly predicted academic achievement in the first place. In the second place, it was determined that the self-efficacy variable predicted significantly.

**Suggested APA citation:** Ateş, B., & Sağar, M. E. (2024). Investigation of academic success, psychological flexibility and self-efficacy in teacher candidates. *Language Teaching and Educational Research (LATER)*, 7(1), 14-23. <https://doi.org/10.35207/later.1292374>

**Ethics statement:** I/We hereby declare that research/publication ethics and citing principles have been considered in all the stages of the study. I/We take full responsibility for the content of the paper in case of dispute.

**Statement of interest:** I/We have no conflict of interest to declare.

**Funding:** None

**Acknowledgements:** None

## INTRODUCTION

Examinations held at all levels of education from primary school to university education in Türkiye and academic success in educational and vocational orientations, assessments and placements based on these exams are of great importance. In this context, academic success, which has a place in the success of a good position in education and career planning, is also an important criterion in determining the level of gaining skills and knowledge. Academic success, which is a criterion that is considered important not only by students but also by many people such as educators, families, administrators, is considered as a determining factor on both personal and professional development (Ateş, 2016; Ateş & Sağar, 2021a, 2022a).

When the literature is examined, it is seen that academic success is related to variables such as resilience, cognitive flexibility, life satisfaction, communication skills, psychological well-being and social competence, emotion regulation, emotional intelligence, metacognition, and self-control (Ateş, 2016; Ateş & Sağar, 2021a, 2022a; Beauvais et al., 2014; Coutinho, 2007; Graziano et al., 2007; Oriol et al., 2017). As in every stage of education, it can be said that academic success is an important criterion in terms of acquiring necessary knowledge and skills for teacher candidates who are in the university education process. In this context, it is thought that it is important and valuable to be able to reveal the variables related to academic success in teacher candidates and, accordingly, to guide studies to increase academic success. Based on this idea, it is thought that the variables of psychological flexibility and self-efficacy are related to the academic success of teacher candidates and may be significant predictors of academic success.

In this study, psychological flexibility is one of the variables thought to be related to the variable of academic success in teacher candidates. Psychological flexibility, which takes its place among the basic concepts of acceptance and commitment therapy, is considered as a concept that includes different kinds of human abilities. It is to be aware of the person's feelings and thoughts without accepting or rejecting them, without judging them, to evaluate the situation and to be able to continue or change their behavior with the thought of fulfilling their central interests and goals. (Bond et al., 2006; Kashdan & Rottenberg, 2010). From another point of view, psychological flexibility is defined as the ability of a person to be in conscious contact with the present moment, as well as to be able to change or continue his behavior by directing his behavior in accordance with the purposes while doing this (Hayes et al., 2006). The opposite of the concept of psychological flexibility in the context of acceptance and commitment therapy is the concept of psychological rigidity, which Harris (2009) considers as the hexagon of psychological rigidity. Based on this, the psychological flexibility model was created based on this hexagon (Harris, 2009). Sub-factors expressed in relation to the psychological flexibility model; "acceptance", "segregation", "being in the moment", "contextual self", "values" and "actions towards values" (Luoma et al., 2010). These concepts are highlighted in order as follows. Acceptance is to evaluate life or events here and now, without judgment, and to consider experiences as they are without trying to change them. Segregation is the separation of dysfunctional ways within the context of the individual. The purpose of separation; to reduce the impact of nonfunctional cognitive processes that affect behavior and to establish a connection with the here and now and experiences. Being in the moment is the ability of a person to connect with the world directly, to be able to act more flexible and to show consistent actions for purpose, goals and values based on this. The contextual self is pure awareness, or in other words, awareness of awareness. Values, on the other hand, represent a structure that cannot be earned, has no end, or cannot be completed. At this point, it encourages the person to develop more effective behavioral patterns regarding their chosen values based on acceptance and commitment therapy (Bond et al., 2006; Harris, 2007; Hayes, 2004; Hayes et al., 2006). In the context of this information, psychological flexibility can be expressed as being aware of the moment one is in, and the ability to self-regulate by making efforts in line with their vital goals (Ateş & Sağar, 2022b; Sağar, 2022a, 2022b). Considering the subject in the context of the research, it can be said that the academic success levels of teacher candidates who have the ability to be aware of the moment they live in, to direct their life based on their goals and to organize

themselves may be high. Therefore, it is thought that academic success may be a variable related to psychological flexibility.

Another concept that is thought to be related to the variable of academic success in teacher candidates in this study is self-efficacy. This concept has been brought to the literature by Bandura and reveals the confidence in one's own competence in reaching a certain goal (Bandura, 1997). From another point of view, self-efficacy is considered as setting a goal for oneself, the effort made to achieve this goal, and being able to withstand the difficulties encountered in order to achieve the goal (Bandura, 1986). Self-efficacy is a person's belief in their ability to achieve a specific goal (Bandura, 1997). Bandura (1977) emphasizes that four important factors play a role in a person's self-efficacy perception and belief. These factors are in the form of "successful performances", "indirect experiences", "verbal persuasion" and "emotional arousal". Successes achieved through one's determined efforts are "successful performances". Observations of how well others are doing at a job or task are "indirect experiences". Encouraging and encouraging, encouraging and persuasive efforts by others are "verbal persuasion". It is "emotional arousal" when a person's performance is negatively affected due to a high level of stress and anxiety related to something to do or a task (Bandura, 1977). In this context, self-efficacy can be expressed as the judgment and belief of individual about themselves at the point of fulfilling a certain thing as a product of direct and indirect experiences (Ateş & Sağar, 2021b, 2022a, 2022b; Sağar, 2022b). Considering the subject in the context of the research, it can be said that the academic success levels of the teacher candidates who have the competence to have a judgment and belief about themselves in terms of fulfilling a certain thing in their direct or indirect lives may also be high. Therefore, it is thought that academic success may be a variable related to self-efficacy.

University education includes a wide range of content considering both the theoretical and practical curricula. It depends on the fact that teacher candidates can be competent in their fields and have gained the knowledge and skills related to their fields of education in the best way. In other words, it is important for teacher candidates to show academic success above a certain level in order to gain the necessary knowledge and skills in order to be competent teachers in their fields. In the literature review conducted on the subject of academic success, it was determined that there were studies in which academic success was examined together with different groups and variables. In this study, as an alternative to other studies, the academic success variable of teacher candidates, and the variables of psychological flexibility and self-efficacy were discussed. Therefore, this study is considered valuable and important in terms of the field. In this context, it was aimed to examine how psychological flexibility and self-efficacy variables predicted the academic success levels of teacher candidates. Accordingly, the research question investigated in the current study was: Are psychological flexibility and self-efficacy significant predictors of academic success levels of teacher candidates?

## METHODOLOGY

### Research design

The research was based on the correlational study. Correlational study is a model for determining the existence or degree of co-variance among variables (Karasar, 2016).

### Participants

The research group consisted of 398 teacher candidates (167 male, 42%; 231 female, 58%) studying at the education faculties of different universities in Türkiye in the 2021-2022 academic year. The distribution of the research group in terms of gender is presented in the table below. The average age of the teacher candidates in the study was determined as 21.60.

Table 1. The participants

| Variables |        | F   | Valid Percent |
|-----------|--------|-----|---------------|
| Gender    | Female | 231 | 58.0          |
|           | Male   | 167 | 42.0          |
| Total     |        | 398 | 100           |

### Data collection instruments

#### *Psychological flexibility scale*

The Turkish adaptation of the scale developed by Francis, Dawson and Golijani-Moghaddam (2016) was made by Karakuş and Akbay (2020). The scale consists of 28 items and is scored between 1-7. The Cronbach Alpha internal consistency coefficient of the scale was calculated as .79. The scores that can be obtained from the scale are 28-196. Within the scope of the study, the Cronbach Alpha reliability coefficient of the scale was .83.

#### *General self-efficacy scale*

Aypay (2010) made the Turkish adaptation of the scale developed by Schwarzer and Jerusalem (1995). The scale is ten-item and 4-point likert type. The Cronbach Alpha coefficient of the scale is .83, and the test-retest reliability coefficient is .80. High scores on the scale indicate high general self-efficacy. Within the scope of the study, the Cronbach Alpha reliability coefficient of the scale is .87.

#### *Personal information form*

It was created on the basis of the principle of confidentiality in order to obtain information about teacher candidates within the scope of the study. General weighted grade point averages (GPA) in the quatrains system were taken as the basis in determining the academic success of teacher candidates.

### Data collection and analysis

Ethics committee approval was obtained before starting the study (Afyon Kocatepe University Social and Human Sciences Scientific Research and Publication Ethics Committee, Decision Date: 25.11.2022, Meeting: 11, Number of Papers: 143358). Afterwards, the research data were collected online via Google Form. In this direction, the data collection tools prepared via Google Form were sent to the teacher candidates via e-mail and the prospective teachers were invited to the research. The research was conducted in accordance with the principle of confidentiality, the participants were informed about the research and informed consent was obtained. Answering the questionnaires took an average of 40 minutes. The online data collection process was completed in approximately ten days. It was determined that the data obtained depending on the examinations were suitable for multiple linear regression analysis. The data obtained in the study were analyzed with the multiple linear regression analysis (stepwise) method. The significance level of .05 was used in the study.

## FINDINGS

In this part of the research, first the arithmetic mean and standard deviation values of the academic success, psychological flexibility and self-efficacy scores of the teacher candidates, then the simple correlation analysis coefficients and multiple linear regression analysis (stepwise) results are presented. The arithmetic mean and standard deviation values of the research group are presented in the table below.

**Table 2.** Arithmetic mean and standard deviation values

| Variable                         | N   | $\bar{X}$ | SS    |
|----------------------------------|-----|-----------|-------|
| Academic Success (A.S.)          | 398 | 3.15      | .60   |
| Psychological Flexibility (P.F.) | 398 | 125.85    | 19.28 |
| Self-Efficacy (S.E.)             | 398 | 29.74     | 6.71  |

When the results of Table 2 were examined, it was found that the mean of the research group in terms of variables was as follows: Academic success ( $\bar{X}$ =3.15; SS=.60), psychological flexibility ( $\bar{X}$ =125.85; SS=19.28) and self-efficacy ( $\bar{X}$ =29.74; SS=6.71). The simple correlation analysis results of the variables are presented in Table 3.

**Table 3.** Simple correlation analysis coefficients in terms of variables

| Variable                         | A.S.   | P.F.   | S.E. |
|----------------------------------|--------|--------|------|
| Academic Success (A.S.)          | 1      |        |      |
| Psychological Flexibility (P.F.) | .391** | 1      |      |
| Self-Efficacy (S.E.)             | .333** | .621** | 1    |

\*\* $p < .01$

According to Table 3, there is a significant positive correlation between academic success and psychological flexibility ( $r = .391$ ,  $p < .01$ ) and self-efficacy ( $r = .333$ ,  $p < .01$ ). According to the ANOVA table examined in the next stage; the variance or regression model described is significant ( $F_{1/396} = 71.33$ ;  $F_{2/395} = 39.31$ ,  $p < .01$ ).

**Table 4.** Multiple linear regression analysis (stepwise) results regarding prediction of academic success

| Model   | U.C.     |            | S.C.        |  | <i>t</i>          | Zero Order | Partial | <i>R</i>          | <i>R</i> <sup>2</sup> | <i>F</i> | <i>df</i> |
|---------|----------|------------|-------------|--|-------------------|------------|---------|-------------------|-----------------------|----------|-----------|
|         | <i>B</i> | Std. Error | <i>Beta</i> |  |                   |            |         |                   |                       |          |           |
| 1. (C.) | 1.62     | .184       |             |  | 8.83**            |            |         |                   |                       |          |           |
| P.F.    | .012     | .001       | .391        |  | 8.44**            | .391       | .391    | .391 <sup>a</sup> | .153                  | 71.33**  | 1/396     |
| 2. (C.) | 1.58     | .183       |             |  | 8.68**            |            |         |                   |                       |          |           |
| P.F.    | .009     | .002       | .299        |  | 5.09**            | .391       | .248    | .407 <sup>b</sup> | .166                  | 39.31**  | 2/395     |
| S.E.    | .013     | .005       | .148        |  | 2.51 <sup>†</sup> | .333       | .126    |                   |                       |          |           |

(U.C.) Unstandardized Coefficients; (S.C.) Standardized Coefficients; (C.) Constant; \*\* $p < .01$ , \* $p < .05$

According to Table 4, since the variables of psychological flexibility and self-efficacy significantly predicted academic success, they were included in the multiple linear regression analysis (stepwise) process. Considering the beta and correlation values, there is a positive and significant relationship between the academic success variable and the psychological flexibility and self-efficacy variables. These two variables explain approximately 17% of the total variance in academic success in teacher candidates ( $R = .407$ ;  $R^2 = .166$ ,  $p < .01$ ).

In the first step of the "stepwise regression analysis", the beta coefficient of the psychological flexibility variable in predicting academic success was found to be .391, and the "t-test" result was also found to be at a significant level ( $t = 8.44$ ,  $p < .01$ ). It has been determined that the psychological flexibility variable explains approximately 15% of academic success ( $R = .391$ ;  $R^2 = .153$ ).

In the next step in the analysis process, the self-efficacy variable was also included in the model. Psychological flexibility and self-efficacy variables explain approximately 17% of academic

success ( $R=.407$ ;  $R^2=.166$ ). The beta coefficient of the psychological flexibility variable was determined as .299, the beta coefficient of the self-efficacy variable was determined as .148, and the results of the t-test were also found to be at a significant level ( $t_{PF}=5.09$ ,  $p<.01$  /  $t_{SE}=2.51$ ,  $p<.05$ ).

Based on the multiple linear regression analysis (stepwise) results, it can be said that psychological flexibility and self-efficacy variables significantly predict academic success in teacher candidates. When the beta values of the variables in the model are examined, it is seen that the academic success of the teacher candidates is predicted by "psychological flexibility" in the first place and "self-efficacy" in the second place.

## DISCUSSION AND CONCLUSION

In this study, it was investigated whether the variables of psychological flexibility and self-efficacy are important predictors of the academic success level of teacher candidates. As a result of the analysis of the data obtained from the research, it was seen that the variables of psychological flexibility and self-efficacy were significant predictors of academic success in teacher candidates. Psychological flexibility and self-efficacy were found to positively and significantly predict academic success in teacher candidates.

University period is a period in which teacher candidates acquire the necessary knowledge and skills to become a competent teacher. Therefore, academic success can be considered as an important criterion in determining the level of gaining knowledge and skills necessary for the profession of teacher candidates. In this context, it can be said that determining the variables related to the academic success of teacher candidates has an important function. In addition to presenting a perspective on academic success, studies on academic success can also be an important guide for studies to be carried out on this subject.

As a result of the research, firstly, it was seen that the academic success of teacher candidates was significantly predicted by the psychological flexibility variable and there was a significant positive relationship between them. According to this result, it can be said that as the psychological flexibility of teacher candidates increases, their academic success levels also increase. When the literature is examined, there are no studies that directly address the relationship between academic success and psychological flexibility. However, in the literature, it is seen that academic success is related to factors such as psychological resilience, psychological well-being, cognitive flexibility, social competence, self-concept, motivation, social adaptation, problem-solving skills, communication skills, life satisfaction, and happiness, and they indirectly support the result obtained from this study (Ateş, 2016; Ateş & Sağar, 2021a, 2022a; Chen et al., 1997; Yarin et al., 2022; Khan et al., 2012; Sharma & Sharma, 2018; Tabbodi et al., 2015). On the other hand, psychological flexibility is the ability to engage with the moment and change or maintain behavior according to goals (Hayes, Luoma, Bond, Masuda & Lillis, 2006). As a matter of fact, individuals are expected to be able to change and maintain their behaviors in line with a purpose in the education and training environment (Ateş, 2016; Ateş & Sağar, 2021a, 2022a). Although there are no studies in the literature that show that psychological flexibility is associated with academic success, there are studies that show that a high level of psychological flexibility positively affects the lives of individuals (Ateş & Sağar, 2022b; Lucas & Moore, 2020; Marshall & Brockman, 2016; Mendes et al., 2022). When the current results in the literature and the result of this research are evaluated as a whole, it can be said that increasing the level of psychological flexibility has an important function in increasing the academic success level of the individual. In this context, it is thought that studies to increase the psychological flexibility levels of teacher candidates may contribute positively to increasing their academic success. In other words, it can be said that one of the ways to increase the academic success of teacher candidates is to increase their psychological flexibility levels.

As another result of the study, it was observed that the academic success of the teacher candidates was significantly predicted by the self-efficacy variable, which was second after the

psychological flexibility variable among the variables examined, and that there was a significant positive correlation between them. According to this result, it can be said that as the self-efficacy levels of teacher candidates increase, their academic success levels also increase. In the studies conducted by Ateş and Sağar (2022a), Basith et al. (2020), Bouih et al. (2021), Goulão (2014), Macakova and Wood (2022), Motlagh Amrai et al. (2011) in the literature, it was determined that there is a positive and significant relationship between academic success and self-efficacy. Self-efficacy reveals confidence, belief, perception and judgment about efficacy in reaching a specific goal (Bandura, 1984, 1977, 1997). Although self-efficacy is a construct that originally emerged from the field of psychology, it can also be associated with various educational phenomena. In addition to these findings in the literature, 59 studies on academic self-efficacy and academic performance of university students between 2003 and 2015 were examined. As a result of this study, it was found that there is a positive and significant relationship between the two variables. The result obtained from this research is consistent with the result of the study spanning a wide period of 12 years (Honicke & Broadbent, 2016). When the result of this study and other available results are evaluated as a whole, it can be said that the higher the self-efficacy levels of the individuals, the higher their academic success. On the other hand, having a high level of self-efficacy can have a positive effect on academic success. Therefore, it can be said that high level of self-efficacy has an important function in increasing the academic success of teacher candidates.

This research has made important contributions to this field by explaining the variables that affect teacher candidates educational life and future career planning and explaining the variables that are effective in increasing and maintaining their academic success, which is of great importance. For this reason, it is seen as an important requirement for teacher candidates to discover and develop their existing potential resources in order to become active professionals. In this respect, psychological flexibility and self-efficacy studies can have a functional value in the academic success of teacher candidates.

### LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This research has some limitations as well as revealing a very important result about the psychological flexibility and self-efficacy variables being related to and predicting academic success. These limitations can be listed as the research group being composed of only teacher candidates, examining only the variables of academic success, psychological flexibility and self-efficacy, and conducting the research only with quantitative data. In this context, a similar research can be conducted on different research groups (university students, primary and secondary school students, adolescents, etc.) apart from teacher candidates. In addition, since academic success is an important issue in a person's career planning, it is possible to work with different variables such as work / professional success and adult groups, taking into account the professional success of the person. In this study, only psychological flexibility and self-efficacy variables were examined with academic success, and other psychological factors that might be related were not discussed. In future studies, the predictor of other psychological variables on academic success can be examined. This study was conducted as a cross-sectional study. Therefore, this research does not reveal the cause-effect relationships between academic success, psychological flexibility and self-efficacy. In future studies, the cause-effect relationships between academic success, psychological flexibility and self-efficacy can be examined by using experimental methods. With this study, it has been tried to both confirm the previous findings related to academic success studies and provide up-to-date data on the predictor of academic success at school by psychological flexibility and self-efficacy. In this context, interventions aimed at increasing the psychological flexibility and self-efficacy levels of teacher candidates in their efforts to increase academic success can also be carried out on academic success. Counseling activities can be carried out to help prospective teachers acquire variables that can contribute to their academic success by increasing their quality of life, such as psychological flexibility and self-efficacy. In this regard, studies can be carried out to improve the academic success of teacher candidates with training programs and seminars.



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