

## **Academic Self- Efficacy Scale: Validity Reliability Study**

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### **Abstract**

The goal of this study is to develop an assessment instrument in order to evaluate the beliefs of students about their academic sufficiency. Confirmatory factor analysis was conducted in order to evaluate the validity of four factor structure that was formed as a result of exploratory factor analysis. At the end of confirmatory factor analysis that was firstly conducted, academic self sufficiency scale's compliance values were analyzed. Compliance indexes that were obtained by confirmatory factor analysis are:  $X^2 = 513.04$  (sd=148,  $p<.001$ ), ( $/sd$ ) =3.47, GFI=.90, RMSEA=.073, RMR=.04. In addition to the confirmatory factor analysis, in order to evaluate the reliability levels of scores that were obtained through academic self-sufficiency scale, Cronbach alpha internal consistency coefficients that were calculated on the basis of item analysis were examined. Coefficients were found for complete scale 91.

**Keywords:** Academic Self- Efficacy, Validity, Reliability

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\* XVIII Eğitim bilimleri Kurultayı'nda sunulmuştur

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### **Extended Summary**

#### **Purpose**

The goal of this research is to create a survey in order to determine students' academic self-sufficiency beliefs depending on self-sufficiency and academic self-sufficiency literature.

#### **Method**

The study of "Academic Self-sufficiency Scale" is conducted on students in Gazi University, Kırıkkale University, Karadeniz Technical University, and Erzinçan University. "Academic Self-sufficiency Scale" is formed after making a research on totally 498 students that have different demographic features and in different grades; 265 of these students were female while 235 were male.

#### **Result**

Exploratory factor analysis was made in order to determine factor structure of the scale with data that was gathered through the application. At the end of the factor analysis, it was determined that the scale has a structure of four factors. At the factor analysis on structural validity of the scale, it was seen that factor load that can measure the size of four factors varied between .46 and .80. It was found that obtained dimensions explained %60, 8 of the variance of academic self sufficiency. Confirmatory Factor Analysis was made by using Lisrel 8.71 program in order to evaluate the validity of Academic Self Sufficiency Scale's structure with four factors that was obtained at the end of Exploratory Factor Analysis. Coherence indexes obtained from Confirmatory Factor Analysis are:  $\chi^2 = 513.04$  ( $sd=148$ ,  $p<.001$ ), ( $\chi^2 /sd$ ) =3.47, GFI=.90, RMSEA=.073, RMR=.04, standardized RMR=.056, CFI=.97 and AGFI= .87. All these values show that the scale has a good coherence. In addition to Confirmatory Factor Analysis, Cronbach alpha internal consistency coefficients that were calculated according to item analysis were taken into consideration in order to evaluate the reliability of scores taken from Academic Self Sufficiency Scale. These coefficients were found to be: .90 for the first factor, .78 for the second factor, .77 for the third factor, .69 for the fourth factor and .91 for the entire scale.

#### **Discussion**

When statistical activities for developing Academic Self Sufficiency Scale and their results are taken into consideration, it is possible to say that the scale is able to make valid and reliable evaluations. There was found to be no study in the literature that directly support this structure obtained in the study. But there was found to be some dimensions in the literature that were similar to the dimensions obtained at the end of the study. There is a three dimensional structure in the "General Self Sufficiency Scale" that was created by Sherer et al. (1982) and adapted to Turkish by Yıldırım and İlhan (2012). These structures are; "starting", "not-to-give up" and "the effort-insist to continue". When the dimension is analyzed, it can be said that it has some features similar to the dimensions of "keeping up with problems", "giving academic effort", "academic planning" and "academic method". On the other hand, it was seen that there is a similarity between the effort and ability

dimensions of the three dimensional Academic Self Sufficiency Scale created by Jinks and Morgan (2003) and the dimension in the scale. In addition to that, it was seen that Academic Self Sufficiency Scale created by Jerusalem and Schwarzer (1992) in order to determine self sufficiency beliefs of university students is related with “keeping up with academic problems”. According to Bandura (1977), “the belief in self sufficiency” involves beliefs of an individual about organization and planning. Students need to believe in their organizing and planning abilities in order to reach success in their activities and cope with the academic problems they face. In this context, it can be said that belief in the dimension of “academic planning” in the research can be evaluated within the scope of self-sufficiency.

### **Suggestions**

When the data obtained in the study is evaluated as a whole, it is seen that findings about Academic Self Sufficiency Scale are very meaningful. But as there can be some changes as a result of personal-social, academic etc. developments, basic validity and reliability studies should be remade in order to ensure that gathered information are scientific. It is thought that in future studies, conducting Academic Self Sufficiency Scale of students on different student groups will contribute to the validity and reliability of the scale.

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