

Academic Success Scale: Second-Order Confirmatory and Exploratory Factor Analysis

Şefika Şule ERÇETİN¹, Halime GÜNGÖR², Mehmet Ali HAMEDOĞLU³

ARTICLE INFO

Article History:

Received 11.12.2019

Received in revised form

26.04.2020

Accepted

Available online 01.07.2020

ABSTRACT

Background: One of the most important tasks of the education system is to follow the academic development of students by using measurement and evaluation methods and techniques, and to direct them to the areas where they will be successful and happy in line with their interests and abilities. **Objectives:** Aim of the study is to develop a measurement tool that determines factors affecting the academic success of students in the school environment in the process of preparation for higher education. **Methods:** The validity and reliability studies of the scale were conducted with the 348 participants in the first and with 168 participants in the second application. **Results:** As a result of exploratory and second order confirmatory factor analysis, the scale consisting of twenty six items and six factors was found to be theoretically and statistically appropriate. **Conclusion:** Since there are few tools that measure the factors affecting academic success in the literature review, it is thought that the scale will contribute to the field in literature and can meet this need.

© IJERE. All rights reserved

Keywords:

Academic success, validity, reliability, scale, second order CFA

INTRODUCTION

The school is place where formal education processes are carried out, which prepare the students for life and in which the demands and expectations of the individuals in accordance with the living conditions in adulthood are shaped to a great extent. As students prepare for the exam in the process of transition to secondary education and higher education in Turkey; academic success is one of the most important factors in determining which schools students will attend in higher education and it is very important for students, teachers, and administrators who are the main actors in schools. Indeed, the situation in terms of future career expectations as required by the education system in Turkey is largely determinant of academic success. The most important factors that affect academic success are school administrators, teachers, students, characteristics of school and parents. Therefore, leadership is the most critical process at all educational levels and in all types of educational institutions (Erçetin and Bisaso, 2018). On the other hand, teachers are, in a sense, one of the most important factors that build and shape the future (Erçetin and Çevik, 2019).

One of the most important tasks of the education system is to follow the academic development of students by using measurement and evaluation methods and techniques, and to direct them to the areas where they will be successful and happy in line with their interests and abilities. Success in formal education in Turkey determined the extent of the students' achievement tests scores taken in exams. Parents suggest that their children must be academically good and should get high marks from exams and may even put pressure on them. At this point, academic success or school success becomes more important. From the social point of view, it is accepted that individuals with high academic achievement are more successful in the transition to higher education exam and they are placed in the departments with higher scores and are included in the occupational groups with the potential of qualified labor force.

¹ Author: Orcid ID: <https://orcid.org/0000-0002-7686-4863>, Hacettepe University, Ankara, Turkey, sefikasule@gmail.com

² Author: Orcid ID: <https://orcid.org/0000-0002-3283-1250>, Hacettepe University, Ankara, Turkey, gungor.halime@gmail.com

³ Author: Orcid ID: <https://orcid.org/0000-0003-2833-2931>, Sakarya University, Sakarya, Turkey mhamed@sakarya.edu.tr

Table 1.

Academic Success Scale Structural Design

Categories	Student Form	Teacher Form	Administrators Form
Administrator	My parents' participation in the school activities	Organizing activities for parents at school	Organizing activities for parents at school
	School management organizes reinforcement courses to improve our course success	Organizing reinforcement courses to improve students' course success	Organizing reinforcement courses to improve students' course success
	Strict rules of conduct that we must obey at school	Application of discipline rules at school without compromise	Application of discipline rules at school without compromise
	Rewarding the successful students by the school administration	Giving awards to students who are successful by the school management in ceremonies and / or meetings	Awarding successful students in ceremonies and / or meetings
	School management to support our needs when necessary (food, service, materials etc.)	Providing support to the students in need (such as food, service, materials) by the school administration	Providing support to students in need (food, service, materials etc.)
Parent	My parents come to school often to meet with my teachers	Parents come to school often to meet with us	Parents come to school when called by the school administration
	My parents meet my school equipment needs	Parents meet the child's school equipment needs	Parents meet the child's school equipment needs
	My parents support me to attend reinforcement courses at school when I need them	Parents support the child's participation in reinforcement courses at school	Parents support the child's participation in reinforcement courses at school
	My parents motivate me to be successful with various awards	Parents take into account the warnings made by us to make the child successful	Parents take into account the warnings made by the school administration for the child to succeed
	Punishment by my parents of any misconduct at school	Parent's cooperation with us to correct the student's inappropriate behavior at school	Parent's cooperation with us to correct the student's inappropriate behavior at school
Teacher	My teacher takes care of me when I have a problem	Dealing with the problems of my students one by one	Teachers one by one involvement in students' problems
	When there is something I don't understand, my teacher explains again	Explain again when there is something my students don't understand	Teacher re-explain when there is a subject that the student does not understand
	My teacher's use of technological tools to explain the course	Taking advantage of technological tools to explain my lesson	Teachers use of technological tools to explain the course
	My teacher makes the lesson enjoyable for us	To make the lesson enjoyable for my students	Teachers make the lesson enjoyable for the student to explain
	My teacher appreciates me in front of my friends when I succeed	Appreciating my successful students in front of their friends	Teachers appreciate successful students in front of their friends
Educational Curriculum	In the daily curriculum, the succession of the courses that I had difficulty such as mathematics and physics	In the daily lesson schedule, the succession of the courses that my students have difficulty such as mathematics and physics	In the daily lesson schedule, the succession of the courses that my students have difficulty such as mathematics and physics
	Taking two exams on the same day	Taking two exams on the same day	Taking two exams on the same day

7. Student, teacher and administrator forms were consisted that items in parallel with the content. Scale forms were finalized by taking the opinions of experts from the field of statistics and education management.

Before the application phase, personal information form was prepared at the last stage of the Academic Success Scale according to expert opinions and prepared for application as 3 forms, each consisting of 35 items for students, teachers and administrators.

In the Student Form, in the context of personal information, variables such as self-step, right-dead, together-separation status about parents, education status of the parents, gender, repetition status, and absenteeism status were taken into consideration. In the Principal Form, the variables of gender, educational background, experience of management, duration of work in the school worked in the context of personal information were taken into consideration. In the Teacher Form, variables such as gender, age, educational background, branch, seniority and duration of work at the school were taken into consideration. In order to ensure internal consistency, open-ended questions were asked at the end of the scale, “*Can you write other factors that you believe affect the academic success of students at school? and What are your suggestions about what can be done at school to increase the academic success of the students?*”

As a result of the first application, the scale was revised and reapplied. The personal information form of the scale, which was reduced to a single form in line with expert opinions, was taken into account the variables of duty (student/teacher/administrator) and gender in the school.

METHOD

Sample

The population of study is 211 official high school education institutions in Bursa . Based on the e-okul management information system, the base points of the 2014-2015 academic year were taken from the junior high school students of the 12th grade in the 2018-2019 academic year and the scores were ranked from small to large. In order to ensure internal consistency in the scale, both the most successful and the most unsuccessful schools were selected as samples. Öztimurlar Vocational and Technical Anatolian High School and Bursa Erkek High School which are among the lowest and highest schools were taken as the sample . The application was made by the researchers after obtaining the necessary permissions. The sample consisted of voluntary participation.

Table 2.

Characteristics of School Sample of the First and Second Application

Application School	Student			Administrator			Teacher		
	<i>N</i>	<i>n₁</i>	<i>n₂</i>	<i>N</i>	<i>n₁</i>	<i>n₂</i>	<i>N</i>	<i>n₁</i>	<i>n₂</i>
Öztimurlar VTAHL	662	130	51	5	4	3	72	60	8
Erkek High School	769	98	67	5	4	3	64	52	36
Total	1431	228	118	10	8	6	136	112	44

