PROPOSITION OF A DISTANCE EDUCATION SERVICES SATISFACTION SCALE FOR UNIVERSITY STUDENTS

(Extended abstract of the original research Click to see the original paper)

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ABSTRACT

This research aims to develop a valid and reliable scale to determine the satisfaction level of university students for distance education applications, which has become an inevitable education method during the COVID-19 epidemic.

The research population consists of university students studying in higher education in Turkey as of the 2021-2022 academic year. According to YÖK Statistics, this population is 8,240,997 students. A 35-item data collection form was created with the literature review and expert opinions. Five point Likert Scale has been applied for data collection. Explanatory and confirmatory factor analyzes were performed to determine the scale structure. Six hundred twenty-six university students filled the form. Regarding the scale's reliability, Cronbach's Alpha (Crα) internal consistency coefficient was calculated.

As a result of the rotated principal components analysis, the scale reached a 2-dimensional structure consisting of 28 items. The first dimension consists of 22 items, and the second one consists of 6 items. These two dimensions explain 73,166% of the total variance for satisfaction with distance education. Item test correlations of the scale were found between 0.307 and 0.881. As a result of the internal consistency reliability test, the Crα value was 0.980 for the entire 28-item scale. As a result of confirmatory factor analysis; The CFI value of the scale was 0.935, the GFI value was 0.833, and the RMSEA value was 0.076.

The result of factor analysis indicates that the scale has a satisfactory level of construct validity with a 2-dimensional structure. The item test correlation findings show that the scale items measure the same structure validly. A Crα value higher than 0.70 explains that the scale has a satisfactory level of reliability. In addition, CFI, GFI, and RMSEA values show that the scale is within acceptable limits. Findings regarding the validity and reliability of the scale show that it can be applied to evaluate the satisfaction of university students towards distance education applications.

It is evaluated that the scale obtained as a result of the research can be used alone to measure the satisfaction of university students towards distance education applications, or it can be used together with different scales to produce information on a broader level on the subject.

Keywords: Distance Education, Higher Education, Student, Satisfaction

Introduction

Factors that play an essential role in the sustainable development plans of countries:

* Increasing enrollment in higher education

* Quantity and quality of graduates to meet industry and education demand

* Potential service quality that directly affects this

* Student satisfaction and loyalty as a corporate image (Hassan & Shamsudin, 2019).

Purpose of the Study

* For distance education applications, which have become an inevitable education-teaching method during the Covid-19 epidemic,

* Developing a scale to determine the satisfaction level of university students,

* To make the validity and reliability of the developed scale.

Distance Education

Finch and Jacobs (2012: 546) defined distance education as any kind of teaching and learning in which the student and the instructor can be in different places spatially and temporally.

Online learning experiences can be designed asynchronously or synchronically.

Asynchronous learning describes a learning style in which students can determine the most suitable time for participation in learning through various online tools.

In this model, students can communicate at their own time, complete their lesson assignments, and learn at their own pace.

On the other hand, synchronous learning activities take place in such a way that the student and the instructor have instant feedback even though they are in different places (Hrastinski 2008).

Satisfaction

The subject of satisfaction is a concept that many researchers have discussed.

In general, it is a result of the satisfaction that an individual experiences with consuming a good or service. Therefore, it is considered a psychological concept, and it is stated that it has a multidimensional structure (Pizan & Ellis, 1999).

In other words, it can be defined as a positive or negative output of the level of meeting expectations as a result of consuming a good or service (Millan & Esteban, 2004).

With the spread of distance education, the online learning environment has also expanded. As a result, universities and lecturers have begun to be more interested in the factors affecting students' learning and satisfaction in online learning environments (Ghaderizefreh & Hoover, 2018).

Because one of the most critical factors that shows the quality of the system for online learning is the satisfaction level of the students and instructors (Parahoo et al., 2016).

As the satisfaction level of people using online learning systems increases, their interest in the lessons and, accordingly, their learning levels will increase.

The feedback mechanism used to evaluate student satisfaction is critical in corporate governance. The content of the teaching and improvement studies can only be created by using the information received through this feedback mechanism (Nair et al., 2011).

For this reason, the changing aspects of student satisfaction are tried to be increased by measuring the changing aspects of student satisfaction with different questions and student answers (Salimi & Kornelus, 2018).

From this point of view, this study aims to create an appropriate and acceptable measurement tool that can be used to measure the students' satisfaction levels for the distance education system, which they have been exposed to more than ever due to the pandemic.

Methodology

The research universe consists of university students studying in higher education in Turkey as of the 2021-2022 academic year. (8.240.997/YÖK)

A 35-item data collection form was created with the literature review and expert opinions.

Explanatory and confirmatory factor analyzes were performed to determine the scale structure.

Six hundred twenty-six students filled the relevant form.

Regarding the scale's reliability, the Cronbach Alpha (Crα) internal consistency coefficient was calculated.

Analysis and Findings

As a result of the rotated principal components analysis, the scale reached a 2-dimensional structure consisting of 28 items.

The first dimension consists of 22 items and the second dimension consists of 6 items. These two dimensions explain 73,166% of the total variance in satisfaction with distance education. Item test correlations of the scale were calculated, and values between 0.307 and 0.881 were found.

As a result of the internal consistency reliability test, the Crα value was found to be 0.980 for the entire 28-item scale.

Table-1 Factor Analysis

#	Items	F1	F2
1	Considering overall the courses, exams, software used for their execution as well as the technical support provided Etc., I can say that I am overall satisfied with the online courses I am taking.	,690	
2	I am satisfied with the level of information provided to me by the relevant units of our university regarding the online learning system.	,777	
3	I am generally satisfied with the level of information provided by the lecturers in charge of the courses I take online.	,839	
5	I am satisfied with the quality of the written, visual, and video materials shared by the responsible lecturers for the online courses.	,826	
6	I am satisfied with the amount of written, visual, and video materials shared by responsible lecturers for online courses.	,828	
7	I am satisfied that online lessons can be watched after the lesson.	,805	
8	I am glad that I am not dependent on a place to attend online classes.	,702	
9	I am satisfied with the means of communication (Messaging, notice board, Etc.) in the Online Learning System	,832	
10	I am satisfied with my communication level with the instructors in the online learning process.	,831	
13	I am satisfied with my interaction level with the responsible instructors during the online courses.	,826	
14	I am satisfied with my level of interaction with my classmates in the Online Learning System.	,705	
15	I am satisfied with the flexibility that the Online Learning System has offered me.	,715	
17	I am satisfied with the live lecturing performance of the lecturers.	,811	
18	I am satisfied with the online out-of-class activities (conference, workshop, etc.) during the distance education period.	,744	
21	I am satisfied with the sound and image quality of the Distance Learning System.	,712	
22	I am satisfied with the content of the technical documents, user guides, and videos shared by the Distance Education Application and Research Center Directorate of our university.	,788	
24	I am satisfied with the instructors' guidance, support, and help level outside of the classroom.	,801	
25	I am satisfied with the methods of measuring and evaluating academic achievement in the Distance Learning System of the instructors.	,744	
26	I am pleased that the Online Learning System used by our university has a user-friendly interface.	,774	
27	I am satisfied with the level of cheating security of online exams.	,688	
29	I am very eager to use the digital materials shared by the instructors in online courses.	,669	
31	The online exam system used by our university has a user-friendly interface.	,641	
	Dimension-1 Eigenvalue 13,910;Variance Explained 48,302%		
11	Online learning has increased my motivation for lessons.		,764
16	Compared to the period I took face-to-face lessons, I can say that I am more satisfied with the period I took online lessons.		,814
28	Compared to the period when I take face-to-face lessons, I can say that my level of participation in the lessons is higher for the period I take online lessons.		,790
32	I'm looking forward to my next online lesson.		,710
34	I think the Distance Learning System is an effective and efficient learning model.		,862
35	I think virtual classroom lessons conducted through our University's Distance Learning System are equivalent to face-to-face education.		,872
	Dimension-II Eigenvalue 6,525; Variance Explained 24,865%		

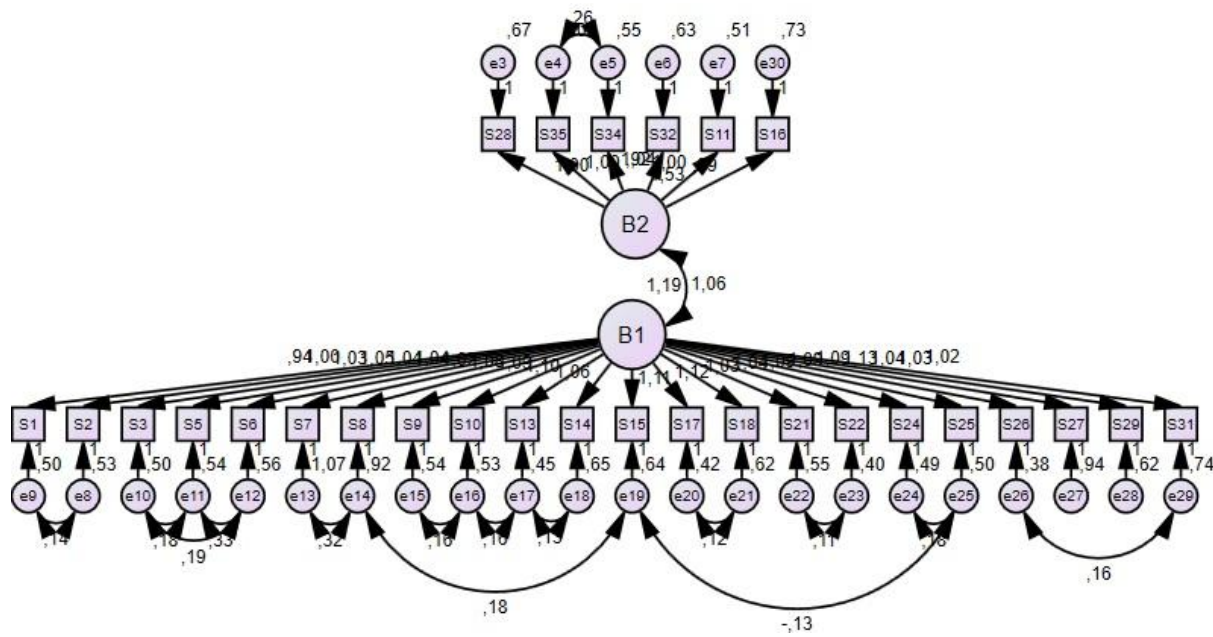|	
Total Variance Explained	**73,167**
Kaiser-Meyer Olkin (KMO)	**0,976**
Bartlett's Test of Sphericity Sig.	**0,000**
Est. Chi Square	**20117,004**
Crα	**0,980**

Figure-1 Structural Equation Model

As a result of confirmatory factor analysis; The CFI value of the scale was 0.935, the GFI value was 0.833, and the RMSEA value was 0.076.

Table-2 Model Fit

Model Fit Indices	Result	Acceptable Limits	Referenc
CMIN/DF	4,914	2≤CMIN/DF≤5	(Marsh & Hocevar, 1985; Awang, 2012)
CFI	0,935	0,90≤CFI	(Noudoostbeni, Kaur & Jenatabadi, 2008)
GFI	0,833	0,80≤GFI	(Chan & Sun, 2019)
RMSEA	0,076	0,05≤RMSEA≤0,08	(Noudoostbeni et al.., 2008)

Conclusion

The issue of quality is becoming more and more important for higher education institutions day by day.

One of the most critical measurement methods of quality is the satisfaction level of service users.

The obtained question set can be used by institutions as a feedback mechanism in quality processes and produce the information needed for distance education systems to be more effective, efficient, and sustainable.

This scale can be evaluated together to reveal cause-effect relationships with different measurement tools.