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INVESTIGATION OF ATTITUDES OF STUDENTS STUDYING IN FIRST AND EMERGENCY AID PROGRAMS TOWARDS DISTANCE EDUCATION

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ABSTRACT

Objectives: While higher education institutions were looking for a solution to the problems with distance education, students' perceptions of distance education became a matter of curiosity. This study was conducted to evaluate the students' attitudes studying in the First and Emergency Aid Program towards distance education.

Materials and Methods: The research was conducted with the students studying in the First and Emergency Aid Program in the spring semester of the 2019-2020 academic year. The "Attitude Scale towards Distance Education" was used in this multicenter study.

Results: Nine hundred forty-eight students who voluntarily participated in the study answered the questions comprehensively. It was determined that the attitude level of male students (26.4%) participating (m=92.00) was moderate, and the level of attitude of female students (73.6%) (m=81.00) was low ($p<0.001$). While a negative and weak significant relationship was found between the number of individuals in the students' homes and their scale scores ($r=0.073$, $p=0.025$), a positive and weak significant relationship was found between the average income of their families and the scale score ($r=0.013$, $p<0.001$).

Conclusion: Students developed low-level attitudes towards the remote delivery of health education. This is one of the factors that reduce the effectiveness of distance education.

Keywords: Attitude Scale, Digital Education, Distance Learning, First and Emergency Aid, Paramedic

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İLK VE ACİL YARDIM PROGRAMINDA OKUYAN ÖĞRENCİLERİN UZAKTAN EĞİTİME YÖNELİK TUTUMLARININ İNCELENMESİ

ÖZ

Amaç: Yükseköğretim kurumları uzaktan eğitimle ilgili sorunlara çözüm ararken, öğrencilerin uzaktan eğitime ilişkin algıları merak konusu olmuştur. Bu araştırma, İlk ve Acil Yardım Programında öğrenim gören öğrencilerin uzaktan eğitime yönelik tutumlarını değerlendirmek amacıyla yapılmıştır.

Gereç ve Yöntem: Araştırma, 2019-2020 eğitim öğretim yılı bahar döneminde İlk ve Acil Yardım Programında öğrenim gören öğrencilerle yapılmıştır. Bu çok merkezli çalışmada "Uzaktan Eğitime Yönelik Tutum Ölçeği" kullanılmıştır.

Bulgular: Araştırmaya gönüllü olarak katılan dokuz yüz kırk sekiz öğrenci soruları kapsamlı bir şekilde yanıtlamıştır. Araştırmaya katılan erkek öğrencilerin (%26.4) tutum düzeyinin (m=92.00) orta, kız öğrencilerin (%73.6) (m=81.00) tutum düzeyinin düşük ($p<0.001$) olduğu belirlenmiştir. Öğrencilerin evlerindeki birey sayısı ile ölçek puanları arasında negatif yönlü zayıf ve anlamlı bir ilişki ($r=0.073$, $p=0.025$) bulunurken, ailelerinin ortalama gelirleri ile ölçek puanları arasında pozitif yönlü zayıf ve anlamlı bir ilişki bulunmuştur ($r=0,013$, $p<0,001$).

Sonuç: Öğrenciler, sağlık eğitiminin uzaktan verilmesine yönelik düşük düzeyli tutumlar geliştirdiler. Bu da uzaktan eğitimin etkililiğini azaltan faktörlerden biridir.

Anahtar Kelimeler: Tutum Ölçeği, Dijital Eğitim, Uzaktan Eğitim, İlk ve Acil Yardım, Paramedik

INTRODUCTION

The coronavirus pandemic, which is a global public health problem, has caused changes in normal living standards in addition to changes in known methods of health professions education (HPE) (Çalışkan et al., 2020:764-72). Conventional HPE methods are carried out face-to-face to a large extent and they include key features such as attending visits and being a part of the clinical team. They can also be considered as the use of apprenticeship training models (Çelikli, 2020:39-54; Sahi et al., 2020:652-57). Pandemic period measures have made it compulsory to use distance education methods. "Online education" activities that have become compulsory during the pandemic period have also affected health professional educators. The general opinion among educators is that it would be challenging to provide this education online (Both et al., 2016:54-57; Nikendei et al., 2016:715-23; Seymour-Wals et al.,2020:6000).

Whether online or offline, distance education is technology-supported and is based on the use of computer technology (Arkorful and Abaidoo, 2015:29-42; Vaona et al., 2018). With the advantage of technology, distance education methods change constantly. Educators following the developing technology and transferring this technology to educational methods

and techniques will contribute positively to the efficiency of education. The things that need to be done to integrate HPE methods with technological innovations have been discussed in the literature (Dwyer and Reid-Searle, 2009:16-28; Sinacori, 2020:16-9; Voutilainen, 2017:16-9). In the distance education method, one of the most important variables that affect learning is attitude (Sabah, 2013:1-6). Attitude is the state of reacting to an event. Students' success in a course is related to their positive and negative attitudes towards education. For this reason, students' attitudes towards this education method are an important factor in determining the efficacy of distance education (Krishnakumar, 2011:48-54).

Online education includes a series of negativities such as technical problems, the inadequacy of educational materials, lack of communication between teacher and students, and students' difficulties in communicating in negative situations during the lesson (Arkorful, 2015:29-42). For these reasons, it can be said that the efficacy of the HPE system has decreased with distance education. The most important negativity can be considered as the inability to carry out in-hospital training practices, where the foundations of communication with patients are laid. The differences in health professions education have made it a necessity to show the views and attitudes of students in this field about distance education.

In our country, there are not enough studies reflecting student attitudes toward paramedic education, which is applied remotely due to the pandemic. For these reasons, the aim of this study is to examine students' attitudes toward distance education in terms of some variables. In line with this aim of the study, answers to the following research questions were sought:

- Are there differences between the age, gender, and year of study of distance education students and their attitudes towards distance education?
- Do students' sociodemographic characteristics change their attitudes toward distance education?

1. MATERIALS AND METHODS

All of the rules specified to be followed within the scope of "The Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed in the present study. None of the actions specified under the heading "Actions Contrary to Scientific Research and Publication Ethics", which is the second part of the directive, were not carried out. Permission was taken from the scale author to use the scale. The study was approved by the local ethics committee (Date: 12.05.2020 Number: 2020/76).

1.1. Population and Sample of the Study

A total of 948 students studying in First and Emergency Aid Programs of universities in different regions of Turkey participated in this descriptive and multi-center study. Sample size calculation was determined according to 5% acceptable error by using the calculation formula for a sample with a known universe. The number of samples needed was then calculated based on the total number of students. According to this formula, a sample of at least 375 individuals was determined to obtain a 95% confidence interval (CI).

1.2. Data Collection Instruments

The data in the study were collected through Google Forms, which were sent to students via social networks between May 15 and June 15, 2020. The objective and goals were explained to the participants at the beginning of the survey. It was explained that participation was on a voluntary basis and consents of the participants were taken. Students' levels of access to distance education and their attitudes towards this type of education were measured. The survey consisted of three main parts in which participants' sociodemographic characteristics, their levels of accessing distance education and their attitudes towards distance education were evaluated. The questions prepared for the determination of the participants' sociodemographic characteristics and their level of access to distance education consist of the questions by the researchers, which they think will affect their attitude levels. (Do you have a personal computer? Do you have a personal smartphone or tablet? Do you have continuous access to the internet? Do you worry that your internet package will expire? Do you follow the courses via smartphone or via computer? Do you follow courses online or from video recordings? Do you take notes while listening to lectures? Do lecturers share the lectures? Can you find a quiet and uninterrupted environment while following the distance education courses? Did you participate in a distance education program before?).

1.3. Attitude Scale towards Distance Learning

"University Students' Attitude Scale towards Distance Learning" developed by Kışla was used in this study (Kışla, 2016:258-71). The attitude scale was examined by experts in related fields in the study and it was decided that the scale had content validity. Cronbach's Alpha coefficient of the scale is 0.8976. The options of the 35 expressions in the scale were scored as "(1) Totally agree (2) Agree (3) Neutral (4) Disagree (5) Totally disagree". Items 1, 2, 4, 5, 9, 11, 14, 15, 16, 18, 19, 22, 23, 25, 26, 28, 29, 33, and 34 are scored as 5 points for the most positive expression and 1 for the most negative expression. Items 3, 6, 7, 8, 10, 12, 13, 17, 20, 21, 24, 27, 30, 31, 32, and 35 are reversely coded are scored as 5 points for the most negative expression and 1 for the most positive expression. The maximum possible score on the scale is 174, while the minimum possible score is 35. The overall score of the scale is within a

large range of 175-35=140. This large questionnaire was divided into 5 and the levels that determined the cut-off points of the scale were determined. In the evaluation of scale items, the score range between 35.00 and 63.00 was evaluated as ***very low***, the score range between 63.01and 91.00 was evaluated as ***low***, the score range between 91.01- 119.00 was evaluated as a ***medium,*** the score range between 119.01 and 147.00 was evaluated as ***high*** and score range between 147.01 and 175.00 was evaluated as very high attitude and interpreted according to these criteria.

1.4. Statistical Analysis

IBM SPSS V23 software was used for the statistical analysis of data. The normality distribution of quantitative data was examined with the Kolmogorov-Smirnov test. For the comparison of data that were not normally distributed, the Mann-Whitney U test was used for the comparison of paired groups, while the Kruskal-Wallis test was used for the comparison of more than two groups. The data which were not normally distributed were shown as median (IQR). The correlation between the variables was examined with Spearman correlation analysis. The statistical significance level was considered as $p<0.05$ for all tests.

2. RESULTS

A total of 948 students participated in the study. It was found that the attitude levels of male students in the study towards distance education were moderate, while attitude levels of female students were low ($p<0.001$). While 52.3% of the participants were in their first year, 47.7% were in their second year and it was found that "The attitudes scale towards distance learning" (ASTDL) mean scores of second-year students were higher than those of first-year students ($p=0.001$). The distribution of students' ASTDL scores in terms of their gender and year of study is shown in Table 1.

Table 1. Distribution of Students' ASTDL Scores in Terms of Gender and Year of Study

Variable	Group	n (%)	ASTDL score Median (IQR)	Test Statistic	p
Gender	Female	698 (73.6)	81 (63-97)	U=103941	**<0.001**
	Male	250 (26.4)	92 (71-114)		
Year of Study	1st year	496 (52.3)	81 (63-97)	U=126293	**0.001**
	2nd year	452 (47.7)	86 (66-108)		

U: *Mann Whitney U test statistic,* ***ASTDL:*** *Attitudes scale towards distance learning*

While 475 (50.1%) of the students stated that they had a personal computer, 473 (49.9%) did not have a computer. 602 (63.5%) students stated that they had continuous access to the internet, while 346 (36.5%) students stated that they did not. It was found that students who had a personal computer and who had continuous access to the internet had a higher

ASTDL score. While 930 (98.1%) of the students stated that they had smartphones or tablets, 18 (1.9%) stated that they did not. ASTDL scores of the students who were not worried that their internet package would expire were significantly higher than those of the students who were worried (p<0.001). ASTDL scores of the students who watched the courses live were higher than those of the students who watched the video recordings (p<0.001). ASTDL scores of the students who stated that course notes were shared by instructors were higher than the scores of the students who stated that course notes were not shared. ASTDL scores of the students who could find a quiet and uninterrupted environment while listening to distance education lessons were higher than those of the students who could not, and ASTDL scores of the students who lived in cities were higher than those of the students who lived rural areas (p<0.001). ASTDL scores of the students who stated that they had participated in a distance education program before were statistically significantly higher than those of the students who stated that they had not (p=0.001). While 782 (82.5%) of the students stated that they received applications for courses with distance education, 78.6% of these students stated that they did not think it was useful to receive applied courses via distance education. Comparisons according to ASTDL scores are shown in Table 2.

Table 2. Comparisons According to ASTDL Score

Variables	n (%)	ASTDL score Median (IQR)	Test Statistic	p
Do you have a personal computer?				
Yes	475 (50.1)	87 (69-107)	U=92859	**<0.001**
No	473 (49.9)	79 (61-98)		
Do you have a personal smart phone or tablet?				
Yes	930 (98.1)	83 (65-102)	U=6671	**0.140**
No	18 (1.9)	68 (46-110)		
Do you have continuous access to internet?				
Yes	602 (63.5)	85 (67-106)	U=84988	**<0.001**
No	346 (36.5)	76 (60-96)		
Do you worry that your internet package will expire?				
Yes	564 (59.5)	80 (60-99)	U=127862	**<0.001**
No	384 (40.5)	86 (70-107)		
Do you follow the courses via smart phone or via computer?				
Computer	150 (15.8)	87 (69-113)[b]	X^2=18.273	**<0.001**
Tablet/Telephone	537 (56.6)	80 (63-98)[a]		
Both	261 (27.5)	86 (64-107)[b]		
Do you follow courses online or from video recordings?				
Online	375 (39.6)	87 (69-105)[b]	X^2=18.196	**<0.001**
Video recording	506 (53.4)	79 (68-100)[a]		
Both	67 (7.1)	82 (64-103)[ab]		
Do you take notes while listening to lectures?				
Yes	595 (62.8)	86 (69-105)	U=82568	**<0.001**
No	353 (37.2)	77 (58-95)		
Do lecturers share the lectures?				
Yes	861 (90.8)	84 (66-103)	U=27657	**<0.001**
No	87 (9.2)	71 (55-92)		
Can you find a quiet and uninterrupted environment while following the distance education courses?				
Yes	581 (61.3)	89 (72-109)	U=67938	**<0.001**

No	367 (38.7)	72 (56-88)		
Where do you live?				
Big city	415 (43.8)	82 (64-101)[ab]	X^2=10.837	**0.004**
City	296 (31.2)	86 (66-107)[b]		
Rural area	237 (25.0)	79 (63-96)[a]		
Did you participate in a distance education program before?				
Yes	179 (18.9)	89 (71-114)	U=57892	**0.001**
No	769 (81.1)	82 (63-100)		
Do you think it is efficient to teach applied courses via distance education?				
I don't take applied courses via distance education	66 (17.5)	84 (66-101)[a]	X^2=245.9	**<0.001**
I take applied courses via distance education, and I think they are useful	167 (17.6)	119 (102-136)[b]		
I take applied courses via distance education, and I don't think they are useful	615 (64.9)	76 (59-91)[c]		

[a-b-c]: *There are no differences between groups with the same letter,* ***U:*** *Mann Whitney U test statistic,* **X^2:** *Kruskal Wallis test statistic,* ***ASTDL:*** *Attitudes scale towards distance learning score*

A positive, weak, and significant correlation was found between the mean family income of students and the ASTDL score. A negative, weak, and significant correlation was found between the number of individuals in students' homes and ASTDL scores. Table 3 shows the correlation between students' mean family income, the number of individuals in the family, and ASTDL scores.

Table 3. Correlation Between The Mean Income of Families, The Number of Individuals in The House, and ASTDL Scores

	r	p
Mean income of the family	0.073	0.025
Number of individuals in the family	-0.013	<0.001

r: *Spearman correlation coefficient,* ***ASTDL:*** *Attitudes scale towards distance learning score*

3. DISCUSSION

This research is a study that examines the attitudes of First and Emergency Aid Program students, about the distance education process during the period when education is continued remotely with the pandemic. In the study in which 948 students participated (M/F; 1/3), female students' attitude levels were found to be lower.

In our study, it was found that ASTDL mean scores of second-year students were found to be higher than those of first-year students. In a study conducted on nursing students, levels of attitude towards distance education were examined and no significant difference was found in terms of year of study (Kurtgöz, 2020:558-66). One of the reasons for the different attitudes of second-year students may be the fact that they received face-to-face education in the previous term.

In our study, it was found that a significant part of the students had computers, 98% had smart phone or tablets and 63% had continuous access to the internet. In the studies conducted by Kürtüncü and Kurt (2020), in which they investigated the problems of nursing students related to distance education during the pandemic period, it is stated that the limited internet and computer opportunities for students negatively affect distance education (Kürtüncü and Kurt, 2020: 66-77). In another study conducted in Turkey, it was stated that approximately one-third of students had problems accessing distance education (Karadag and Yucel, 2020:181-92). It was found that students who had a personal computer and continuous access to the internet had higher ASTDL scores. The result that students with high rates of mobile communication tools have low levels of attitude towards distance education may be an indicator that the use of these tools is not preferred in distance education.

In studies conducted, it was found that technical problems experienced during distance education practices were reflected negatively in students' attitudes towards distance education. Students showed disconnection problems in audio and video sharing as examples, and they stated that these problems caused them to lose interest in courses (Chidzonga, 2022:1-12). In our study, ASTDL scores of students who were not worried that their internet package would not expire were significantly higher than those of students who were worried ($p < 0{,}001$). In a study conducted by Kurtgöz (2020) on nursing students, it was stated that students experienced problems in following courses and participating in courses. It has been emphasized that the basis of the problems experienced was the lack of infrastructure and the fact that everyone tried to access the system at the same time (Kurtgöz, 2020:66-77). In a study conducted by Özyürek et al. (2016) in Karabük, it was reported that one of the obstacles preventing students from following lessons was the problems in internet connection. It was emphasized in the same study that the home environment affected participation in lessons (Özyürek et al., 2016:592-605). In an online survey conducted in Jordan, in which 1210 medical school students participated, it was stated that the most important problem in attending classes was the internet connection problem (Muflih, 2021:e08031). In terms of technological infrastructure, similar results were found in previously conducted studies (Abdul Mutalib et al., 2022:524).

During the process of face-to-face education in the classroom environment, the communication and physical interaction between the educator and student take place momentarily. It is not possible to say that this interaction takes place at desired levels in distance education practices. In our study, while 53.4% of the students stated that they followed courses from video recordings, 39.6% stated that they followed the live courses. It was found that students who followed the live courses had higher ASTDL scores than the students who followed from video recordings ($p<0{,}001$). In a study conducted, it was reported that time and

space limits disappeared with distance education, recorded videos could be listened repeatedly, and course resources could be accessed more easily (Kurtgöz, 2020:558-66). Although face-to-face education does not have specific interactions, live courses have a positive effect on students' attitudes toward distance education.

Exam anxiety continues in the distance education system as in the face-to-face education system. It was found that ASTDL scores of students who stated that course notes were shared by instructors and the students who took notes during courses had higher attitude scores than the students who stated that materials about the course were not shared. In a study conducted by Özyürek et al. (2016), it was reported that students had difficulties in accessing course resources, the courses were uploaded late in the system and resources were not available (Özyürek et al., 2016:592-605). It is thought that instructors' sharing course materials timely and providing stimuli to students during courses is important.

One of the long terms advantages of the distance education system is professional development and education in regional, rural and distant regions being more accessible and sustainable for healthcare professionals (Seymour-Wals, et al., 2020). In our study, ASTDL scores of students living in cities were higher when compared with students living in rural areas ($p<0.001$). We think that the reason why the attitude scores of students who lived in rural areas were low may be technical infrastructure and internet connection problems.

Compulsory changes in the education system have made it necessary to hold classes at home. The students who could find quiet and uninterrupted environments while listening to courses stated that they had more positive attitudes towards distance education. A negative and weak significant correlation was found between the number of individuals in students' homes and ASTDL scores. The attitude scores of students living in crowded homes were found to be lower. In a study conducted, it was found that individuals who had a separate study room had higher attitudes when compared with individuals who did not (Farooqi et al., 2021:1-15). It was found that the study environment was effective on attitude scores. We believe that one of the indirect factors that determined students' attitudes towards distance education was the economic status of families. A positive and weak significant correlation were found between students' mean family income and ASTDL scores. The distance education system, which requires technological infrastructure and a sustainable internet connection is associated with families' economic status. It is thought that creating a healthy study environment will increase the efficiency of education.

In our study, it was found that students who participated in distance education programs before developed more positive attitudes. Having participated in a distance education program may be a factor in changing students' attitudes towards distance education. Orientation

programs should be organized before training so that students who will receive distance education can develop positive attitudes and thoughts about the system. Practices should be carried out to make sure that students have an idea about the system (Wang et al., 2020:e041886).

In our study, among the students who stated that they took applied courses through distance education (n=782, 82.5%), the rate of the students who stated that they did not think this method was useful was found as 78.6%. In a study conducted on nursing students, a great majority of the students stated that nursing education should not take place completely as distance education. They stated that they had difficulty comprehending applied courses with distance education (Kürtüncü and Kurt, 2020:66-77). In a study conducted by Pujlak et al. (2020), most of the students stated that applied courses cannot be compensated with distance education (Puljak et al. 2020:416-27). It was found in many studies that students preferred distance education blended with face-to-face learning to complete distance education (Wang et al., 2020:e041886; Singh et al., 2021:104796). In schools providing health education, preventing "student-patient" contact during the pandemic can potentially disrupt the continuity of education.

Since our study was conducted using a social network, the applicability of the results to the study population is limited. Another limitation of our study is the fact that there may be a trust issue in the data collected through Google Forms. For example, some students may not have concentrated on the survey since they got bored after responding to some of the questions or since they were stuck with some questions. Therefore, this situation may have increased the risk of missing the facts that the participants wanted to convey.

CONCLUSION

This study provided important data on the attitudes of paramedic students towards distance education. The results obtained from the study showed that the participants had a low level of attitudes towards distance education in general. As a result, it is not possible for students to make the most of distance education interventions unless their needs are met. Universities should carry out studies according to the attitudes and views of students while creating their distance education infrastructure. Considering the conditions of the day and the drastic effects of technology, it is thought that reviewing education methods and making improvements when necessary is important in terms of efficiency.

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Author Contributions

Concept MA, GU, GE; Design MA, GA; Materials MA, GU, GE, UK; Data Collection&/or Processing MA, UK, AOK; Analysis/Interpretation MA, GU, UK; Literature Search MA, AOK; Writing MA, GU.

Conflict of Interest

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