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THE APPLICABILITY OF DISTANCE EDUCATION IN HEALTHCARE TECHNICIAN EDUCATION: A CROSS-SECTIONAL STUDY

Uzaktan Eğitimin Sağlık Teknikerliği Eğitiminde Uygulanabilirliği: Kesitsel Bir Çalışma

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ABSTRACT

In this study, the applicability of distance education in associate degree programs in health services discipline has been discussed. For this purpose, various views and readiness levels of health technician candidates towards distance education have been examined. The sample of the research is consisted of 420 health technician candidates studying in 7 different programs at Gazi University Health Services Vocational School. In the collection of data, 3 questions including demographic characteristics and 5 questions including views on distance education have been asked, and the E-Learning Readiness Scale has been used. Frequency, arithmetic mean, standard deviation, t-test, variance analysis and chi-square tests have been used in the analysis of the data. According to the findings, 70.2% of the students have stated that they did not want to study in any higher education program that provides education through distance education. 21.1% of the students thought that their programs could be done entirely with distance education method and 69.5% of the students have stated that they would still prefer face-to-face education even if there was a distance education alternative. Working students had higher e-learning readiness levels. Finally, no statistically significant difference has been obtained between the programs and the readiness level.

Keywords: Applicability, Distance education, Health education, Health technician, Readiness.

ÖZ

Bu çalışmada, sağlık hizmetleri disiplini ön lisans programlarında uzaktan eğitimin uygulanabilirliği konusu ele alınmıştır. Bu amaçla sağlık teknikeri adaylarının uzaktan eğitime yönelik çeşitli görüşleri ve hazır bulunuşluk düzeyleri incelenmiştir. Araştırmanın örneklemini Gazi Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu'nda 7 farklı programda öğrenim gören 420 sağlık teknikeri adayı oluşturmaktadır. Verilerin toplanmasında demografik özellikleri içeren 3 ve uzaktan eğitime yönelik görüşleri içeren 5 soru sorulmuş ve E-Öğrenmeye Hazır Bulunuşluk Ölçeği kullanılmıştır. Verilerin analizinde frekans, aritmetik ortalama, standart sapma, t testi, varyans analizi ve ki-kare testleri kullanılmıştır. Elde edilen bulgulara göre, öğrencilerin %70.2'si uzaktan eğitim yoluyla eğitim veren herhangi bir yükseköğretim programında öğrenim görmek istemediğini ifade etmiştir. Öğrencilerin %21.1'i programlarının tümüyle uzaktan eğitim yöntemiyle yapılabileceğini düşünmekteydi ve öğrencilerin %69.5'i uzaktan eğitim alternatifi olsa bile yine de yüz yüze eğitimi tercih edeceklerini belirtmiştir. Çalışan öğrencilerin e-öğrenmeye hazır bulunuşluk düzeyleri daha yüksekti. Sonuç olarak öğrenim görülen programlar ile hazır bulunuşluk düzeyleri arasında istatistiksel olarak anlamlı bir farklılık tespit edilmemiştir.

Anahtar kelimeler: Hazır bulunuşluk, Sağlık eğitimi, Sağlık teknikerliği, Uygulanabilirlik, Uzaktan eğitim.

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INTRODUCTION

Health systems are at the forefront of strategic areas for a country due to their services. In the sustainability of constantly changing and renewed health services, being able to benefit from human resources effectively and efficiently is directly related to the up-to-date knowledge and skills of the staff serving in this field.

Health education was done with face-to-face education methods in the past, however it has moved to the internet environment with the developments in information technologies. Thanks to the internet, both healthcare professionals and patients can communicate with each other, access information more easily, and receive training in this way (Nguyen, Carrieri-Kohlman, Rankin, Slaughter & Stulbarg 2004). However, noteworthy studies about the success of health education applications in the web environment indicate that people and institutions that provide health education can not ignore web-based education (Demir & Gözüm, 2011). In addition, it is stated that distance education will make an important contribution to the health sector in gaining qualified intermediate staff (Algül & Balcı, 2011). Govias (2008) emphasizes that distance education is an effective method in the education of health personnel who can not attend face-to-face education due to the time and space limitations. Xing et al. (2018) state that healthcare professionals need continuing education to maintain their qualifications and competencies, and the accessibility and flexibility of continuing education has increased through distance education. With these features, distance education or online learning environments, which are widely used in today's life, can be considered as an important option in the education of individuals who work or will work in the field of health.

Distance education has also become a promising alternative for employees or individuals who can not continue face-to-face education for different reasons (Doherty, 2006). Gündüz, Aydemir and Karaman (2018) found that the readiness level of the employees was higher in this respect. Aşkar and Akkoyunlu (1993) emphasized that individuals had different learning styles according to their professions. Supporting this view, in another study, it has been determined that the perceptions of teacher candidates differed according to their programs (Başar, Arslan, Günsel & Akpınar, 2019). These studies show that it will be necessary to consider the views of health technician students about distance education in terms of working status and programs.

Along with the opportunities provided by distance education, the duties and responsibilities of the students who receive education through these environments increase

when compared to face-to-face education. In distance education, students have to be more active. Students take the roles and responsibilities of; accessing information, revealing new information from this information, sharing, choosing the content, learning at their own pace, interacting with both the content and the teacher, choosing the course material and learning strategy (Anderson, 2003; Garrison, 2003). At this point, students are the most important factors for the successful implementation of distance education and for obtaining useful outputs as a result of these trainings. Although it may be designed perfectly, it is clear that a teaching which is not accepted by the learners will not provide the expected success.

When distance education studies for healthcare professionals are examined in the relevant literature, it is possible to find many studies in disciplines, such as medicine (Brettle 2013; Hauer 2013; Smits 2012; Stolz 2012), nursing (Chen & Chuang 2012; Aleman, de Gea & Mondéjar, 2011; Lu & Li, 2009), physical therapy (Arroyo–Morales et al., 2012; Cantarero et al., 2012), pharmacy (Flowers, Vanderbush, Hastings & West, 2010; Toumas, Basheti & Bosnic-Anticevich, 2009), and dental health (Komolpis & Johnson, 2002; DeBate et al., 2013). Although there are very satisfactory distance education studies for healthcare professionals, the absence of a study which direct evaluates the perspectives of healthcare technician candidates towards distance education is a deficiency in this field. In this context, the aim of the research is to determine the views of health technician candidates on distance education. The research is important in terms of; evaluating the applicability of distance education in health technician education by those who receive this education and shedding light on both the planning and implementation processes of distance education in health technician education.

For this purpose, the research focused on the views of health technician candidates on distance education. Answers were sought for the 5 sub-problems listed below:

1. Students' desire to study in any higher education program that provides education through distance education;
    a. Does it show a significant difference according to the programs?
    b. Does it show a significant difference according to their working status?
2. Students' preferences for training in their programs;
    a. Does it show a significant difference according to the programs?
    b. Does it show a significant difference according to their working status?
3. Students' opinions about the applicability of their programs for distance education method;
    a. Does it show a significant difference according to the programs?
    b. Does it show a significant difference according to their working status?

4. Students' preference for the distance education alternative of their own programs;
    a. Does it show a significant difference according to the programs?
    b. Does it show a significant difference according to their working status?
5. Readiness levels of students for distance education;
    a. Does it show a significant difference according to the programs?
    b. Does it show a significant difference according to their working status?

MATERIAL AND METHOD

This research is a descriptive study and has been conducted in the scanning model (Karasar, 2012), which has been based on presenting the existing situation with an objective approach. For this purpose, it has been investigated whether the views and attitudes of students attending health associate degree programs differ significantly according to their working status and the programs.

Design and Sample

The study population of the research consisted of health technician candidates who continued their education at Vocational Schools of Health Services in Turkey. In 2021; there were 150 Vocational Schools of Health Services and a total of 196.052 students studying in these schools in Turkey (Council of Higher Education, 2021). The sample consisted of 420 volunteered health technician candidates, who attended 7 different programs at Gazi University Health Services Vocational School, and the sample was reached by convenience sampling method. Only the last year students were included in the sample group since it was considered that they would know their programs better than the first-year students, and therefore could make a healthier decision about their program. The students from Anatolian High Schools and Vocational and Technical Anatolian High Schools, where common curriculum programs are applied throughout our country, are enrolled to related programs in Vocational Schools of Health Services after the central examination conducted by OSYM. Therefore, the sample in the study had similar pre-knowledge levels on the basis of programs and had sufficient characteristics to represent the universe.

The research was inferential and was carried out in Ankara between April and May 2021. The data collection tool prepared in the online environment was sent as a link to 695 students via e-mail and they were asked to fill in. A reminder message was sent three days later, and after a total waiting period of one week 485 participants' fulfilled data was received. Incomplete samples were excluded from the whole, and as a result, a sample size of 420 was

reached. This sample size was in accordance with the rule of taking at least ten times the number of scale items (DeVellis, 2003).

Data Collection Tools

In the study, 3 questions measuring demographic characteristics and 5 questions measuring views on distance education were asked, and the "E-Learning Readiness Scale" developed by Yurdugül & Demir (2017) was used to measure the readiness level of health technician candidates for distance education. The scale consists of 33 items with 7-point Likert-type, and has 6 factors; computer self-efficacy, internet self-efficacy, online communication self-efficacy, self-directed learning, learner control, and motivation towards e-learning. The sub-factor Cronbach Alpha reliability coefficient values of the scale were expressed as 0.84, 0.85, 0.84, 0.88, 0.91, 0.95 respectively and the reliability value for the overall scale was 0.93 (Yurdugül & Demir, 2017). In this study, the Cronbach Alpha reliability value of; the computer self-efficacy sub-factor was 0.93, the internet self-efficacy sub-factor was 0.93, the online communication self-efficacy sub-factor was 0.92, the self-directed learning sub-factor was 0.95, the learner control sub-factor was 0.95, the motivation towards the e-learning sub-factor was 0.95, and the reliability value for the overall scale was 0.97.

Data Analysis

The normality test was performed on the readiness scale and it was determined that the Kolmogorov-Smirnov test result was ($p<0.05$). In addition, skewness and kurtosis values were examined to decide the normal distribution, and as a result of the analysis, these values (Skewness=-0.556 and Kurtosis=-0.157) were found to be between -1 and +1 (Hair, Hult, Ringle & Sarstedt, 2016). As a result of these tests, it was decided to apply parametric tests since it was assumed that the data were normally distributed. In the process of analyzing the data after this stage, frequency, arithmetic means, standard deviation, t-test for unrelated samples, one-way analysis of variance (one-way ANOVA), and chi-square (X^2) tests for unrelated samples were used. All statistical analyzes were based on a significance level of 0.05.

Ethics Committee Approval

The study was conducted with the approval of the Gazi University Ethics Board (Ethics committee approval date-number: 16.02.2021 – E.34639).

RESULTS

The distribution of the students participating in the study by gender, program, and working status is given in Table 1.

Table 1. Distribution of Students' Demographic Characteristics

Demographic characteristics	N	%
Gender		
Male	82	19.5
Female	338	80.5
Programs		
Oral and Dental Health	65	15.5
Paramedic	76	18.1
Pathology Laboratory Techniques	78	18.6
Medical Doc. and Secretary	72	17.1
Medical Imaging Techniques	41	9.8
Medical Laboratory Techniques	48	11.4
Elderly Care	40	9.5
Working Status		
Working	40	9.5
Not working	380	90.5
Total	**420**	**100.0**

According to Table 1, 338 participants (80.5%) were female and 82 (19.5%) were male. When program distributions of the students were looked; 65 (15.5%) of the students were from Oral and Dental Health, 76 (18.1%) were from Paramedic, 78 (18.6%) were from Pathology Laboratory Techniques, 72 (17.1%) were from Medical Doc. and Secretary, 41 (9.8%) were from Medical Imaging Techniques, 48 (11.4%) were from Medical Laboratory Techniques, and 40 (9.5%) were from Elderly Care. Lastly, according to working status, 40 (9.5%) were working, and 380 (90.5%) were not working. Findings were given regarding the readiness levels of students for distance education, their desire to study in any higher education program that provides education via distance education, and their preferences for the conduct of the courses in their own programs.

1.Findings Regarding Students' Desire to Study in Any Higher Education Program That Provides Education Through Distance Education

For the first sub-problem of the study, students were asked about their desire to study in any higher education program that provides education via distance education, and the findings related to this are given in Table 2.

Table 2. Students' Desire to Study in any Higher Education Program That Provides Education Through Distance Education

	N	%
Yes	82	19.6
No	295	70.2
No idea	43	10.2
Total	420	100.0

19.6% of the students stated that they wanted to study in the distance education program, while 70.2% did not. On the other hand, 10.2% of the student group declared that they did not have an opinion on this issue.

82 students who wanted to study in a higher education program providing education through distance education were asked the reasons for their preference for distance education and it was stated that they could choose more than one option. Findings related to the question are given in Table 3.

Table 3. Students' Reasons for Choosing Distance Education

	n	%
Distance education provides comfort in following lessons	73	57.48
Not having time to attend classes formal education	59	46.46
Distance education is more economical	54	42.52
Not having a formal education institution where I will study	20	15.75

When the answers given by 82 students who wanted to study in a higher education program which provided education through distance education were examined, the students reasons for preferring distance education were; providing comfort in following and working (57.48%), not having time to attend classes' formal education (46.46%), more economical (42.52%), and not having a formal education institution (15.75%).

In order to evaluate the students' desire to study in any higher education program that provides education through distance education, the chi-square test was conducted. The results of these analyzes are given in Table 4.

Table 4. X^2 Test Results of Students' Desire to Study in any Higher Education Program That Provides Education Through Distance Education, According to the Programs

Programs		**Yes**	**No**	**No idea**	**Total**	X^2	**p**
Oral and Dental Health (ODH)	**N**	13	44	8	65	15.50	.215
	%	20.0%	67.7%	12.3%	100.0%		
Paramedic	**N**	20	54	2	76		
	%	26.3%	71.1%	2.6%	100.0%		
Pathology Laboratory Techniques (PAT)	**N**	14	58	6	78		
	%	17.9%	74.4%	7.7%	100.0%		
Medical Documentation and Secretary (MDS)	**N**	8	55	9	72		
	%	11.1%	76.4%	12.5%	100.0%		

Medical Imaging Techniques (MIT)	**N**	7	30	4	41
	%	17.1%	73.2%	9.8%	100.0%
Medical Laboratory Techniques (MLT)	**N**	10	31	7	48
	%	20.8%	64.6%	14.6%	100.0%
Elderly Care (EC)	**N**	10	23	7	40
	%	25.0%	57.5%	17.5%	100.0%
Total	**N**	82	295	43	420
	%	19.5%	70.2%	10.2%	100.0%

According to the results of the chi-square test, no significant difference was found between their desire to study in a higher education program providing education through distance education and the programs (X^2=15.50, p>0.05). It is noteworthy that the rate of those who did not want to study in a higher education program that provides distance education was high in all programs. The rate of those who said yes within their own programs ranged from 11.1% to 26.3%, the rate of those who said no ranged from 57.5% to 76.4%. The transition of the sample group to compulsory distance education during the Covid-19 pandemic period and the experiences they had in this process may have been effective at this high rate. In order to evaluate the students' desire to study in a distance education program in terms of their working status in a paid job, the chi-square test was conducted. The results of this analysis are given in Table 5.

Table 5. X^2 Test Results of Students' Desire to Study in any Higher Education Program Providing Education via Distance Education According to Their Working Status in a Paid Job

Working Status		**Yes**	**No**	**No idea**	**Total**	X^2	**p**
Working	**N**	24	14	2	40	46.10	.00
	%	60.0%	35.0%	5.0%	100.0%		
Not working	**N**	58	281	41	380		
	%	15.3%	73.9%	10.8%	100.0%		
Total	**N**	82	295	43	420		
	%	19.5%	70.2%	10.2%	100.0%		

According to the results of the chi-square test, there was a significant difference between the desire to study in a higher education program that provides education through distance education and the status of working in a paid job (X^2=46.10, p<0.05). Accordingly, 60.0% of the working students stated that they wanted to study in a higher education program that provides education through distance education, 35.0% stated that they did not want and 5.0% had no idea about this issue. Among the non-working students, 15.3% wanted to study via distance education, 73.9% did not, and 10.8% did not express their opinion.

2.**Findings on Students' Preferences For Conducting the Courses in Their Programs**

The students were asked about their preferences for the conduction of the courses in their programs. These preferences are given in Table 6.

Table 6. Percentage Distribution of Students' Preferences for Conducting the Courses

	n	**%**
I would like to be able to take some courses via distance education	124	29.5
I would like to be able to take all courses with face-to-face education	231	55.0
I would like to be able to take all courses via distance education	57	13.6
No idea	8	1.9
Total	420	100.0

In Table 6, 29.5% of the students wanted to take some courses and 13.6% of them wanted to take all the courses by distance education. However, 55% of the students wanted to take all their courses with face-to-face education, while 1.9% of them did not express an opinion. It showed that nearly half of the students had a positive view of taking courses through distance education, while more than half had a negative view.

The chi-square test was conducted to evaluate the preferences of the students for the courses in their own programs according to the programs. The results of these analyzes are given in Table 7.

Table 7. X^2 Test Results of Students' Preferences for Conducting the Courses in Their Own Programs According to The Programs

Programs		**I would like to be able to take all courses with face-to-face education**	**I would like to be able to take all courses via distance education**	**I would like to be able to take some courses via distance education**	**No idea**	**Total**	X^2	**p**
ODH	**N**	28	6	31	0	65	51.083	.000
	%	43.1%	9.2%	47.7%	0.0%	100.0%		
Paramedic	**N**	41	13	22	0	76		
	%	53.9%	17.1%	28.9%	0.0%	100.0%		
PAT	**N**	50	7	21	0	78		
	%	64.1%	9.0%	26.9%	0.0%	100.0%		
MDS	**N**	50	9	12	1	72		
	%	69.4%	12.5%	16.7%	1.4%	100.0%		
MIT	**N**	24	4	13	0	41		
	%	58.5%	9.8%	31.7%	0.0%	100.0%		
MLT	**N**	23	7	14	4	48		
	%	47.9%	14.6%	29.2%	8.3%	100.0%		
EC	**N**	15	11	11	3	40		
	%	37.5%	27.5%	27.5%	7.5%	100.0%		
Total	**N**	231	57	124	8	420		
	%	55.0%	13.6%	29.5%	1.9%	100.0%		

According to the results of the chi-square test, there was a significant difference in terms of the programs (X^2=51.083, p<0.05). According to this, the students who wanted to come to the school and take all the courses face to face were mostly from Medical Documentation and Secretary (69.4%) and Pathology (64.1%) programs, it has been determined that those who wanted to take all courses via distance education were the Elderly Care (27.5%) and Paramedic (17.1%) students at most. In addition, it has been revealed that

the students who wanted to take some courses via distance education were from Oral and Dental Health (47.7%) program at most and from Medical Documentation and Secretary (16.7%) program at least, and this rate remained around 30% in other programs.

The chi-square test was conducted in order to evaluate the students' preferences for conducting the courses in their own programs in terms of their working status in a paid job, and the results of this analysis are given in Table 8.

Table 8. X^2 Test Results of Students' Preferences for Conducting the Courses in Their Own Programs According to Their Working Status in a Paid Job

Working Status		I would like to be able to take all courses with face-to-face education	I would like to be able to take all courses via distance education	I would like to be able to take some courses via distance education	No idea	Total	X^2	p
Working	**N**	13	20	7	0	40	50.306	.000
	%	32.5%	50.0%	17.5%	0.0%	100.0%		
Not working	**N**	218	37	117	8	380		
	%	57.4%	9.7%	30.8%	2.1%	100.0%		
Total	**N**	231	57	124	8	420		
	%	55.0%	13.6%	29.5%	1.9%	100.0%		

When Table 8 is examined, there was a significant difference in terms of working in a paid job (X^2=50.356, p<0.05). Accordingly, 50% of the working students and only 9.7% of the non-working students stated that they wanted all courses with distance education. The rate of those who wanted to take some courses with distance education was 17.5% for working students and 30.8% for those who were not working. On the other hand, the ratio of students who wanted to come to the school and take all the courses face to face was 32.5% among working, while it was 57.4% among non-working students.

3.Findings on the Students' Views on the Applicability of Their Programs for Distance Education

The opinions of the students about whether their own programs can be made with distance education were asked and the findings are given in Table 9.

Table 9. Students' Opinions about the Applicability of Their Programs with Distance Education

	N	%
Yes	89	21.1
No	193	46.0
Partially	134	31.9
No idea	4	1.0
Total	420	100.0

21.1% of the students stated that their programs were applicable for distance education, and 31.9% of them stated that they were partially applicable. While 46% of the students stated

that their programs were not applicable for distance education, 1% of the students did not express an opinion on this issue. Considering the opinions of the students about the fact that their programs could be made completely (21.1%) and/or partially (31.9%) through distance education; 53% of the students thought that distance education could be applied in their programs.

In order to evaluate the students' views on the applicability of their programs with distance education, the chi-square test was conducted and the results of this analysis are given in Table 10.

Table 10. X^2 Test Results of Students' Views on The Applicability of Their Programs with Distance Education

Programs		Yes	No	Partially	No idea	Total	X^2	p
ODH	**N**	11	25	27	2	65	27.236	.075
	%	16.9%	38.5%	41.5%	3.1%	100.0%		
Paramedic	**N**	12	41	23	0	76		
	%	15.8%	53.9%	30.3%	0.0%	100.0%		
PAT	**N**	14	43	21	0	78		
	%	17.9%	55.1%	26.9%	0.0%	100.0%		
MDS	**N**	19	26	26	1	72		
	%	26.4%	36.1%	36.1%	1.4%	100.0%		
MIT	**N**	12	23	6	0	41		
	%	29.3%	56.1%	14.6%	0.0%	100.0%		
MLT	**N**	9	19	20	0	48		
	%	18.8%	39.6%	41.7%	0.0%	100.0%		
EC	**N**	12	16	11	1	40		
	%	30.0%	40.0%	27.5%	2.5%	100.0%		
Total	**N**	89	193	134	4	420		
	%	21.2%	46.0%	31.9%	1.0%	100.0%		

Regarding the applicability of students' programs with distance education, the rate of those who said yes varied between 15.8% and 30%, the rate of those who said no varied between 36.1% and 56.1%, and the rate of those who said partially varied between 14.6% and 41.7%. However, according to the results of the chi-square test, no significant difference was found between the students' views on the applicability of their own programs with distance education and the programs studied (X^2=27.236, p>0.05).

As a result, when the "yes" and "partially" answers given by the students were evaluated together; more than half of the students in ODH, MDS, MLT, MIT, and EC programs and nearly half of the students in Paramedic and PAT programs thought that distance education could be applied in their own programs. In order to evaluate the students' views on the applicability of their programs with distance education in terms of their working status in a paid job, the chi-square test was conducted and the results of this analysis are given in Table 11.

Table 11. X^2 Test Results of Students' Views on the Applicability of Their Programs with Distance Education According to Their Working Status in a Paid Job

Working Status		Yes	No	Partially	No idea	Total	X^2	p
Working	**N**	20	11	9	0	40	22.239	.000
	%	50.0%	27.5%	22.5%	0.0%	100.0%		
Not working	**N**	69	182	125	4	380		
	%	18.2%	47.9%	32.9%	1.1%	100.0%		
Total	**N**	89	193	134	4	420		
	%	21.2%	46.0%	31.9%	1.0%	100.0%		

According to the results of the chi-square test, it was determined that there was a significant difference between the students' views on the applicability of their own programs with distance education and their status of working in a paid job (X^2=22.209, p<0.05). The rate of students who were positive or partially positive about the feasibility of their own programs with distance education was 70% among the working students and 50% among the non-working students. Although working students view this issue more positively, the rate of non-working students cannot be ignored.

4.Findings on Students' Preference for the Distance Education Alternative of Their Own Programs

The students were asked which one they would prefer if their program had a distance education alternative and the findings are given in Table 12.

Table 12. Distribution of Students' Preferences in Case Their Own Programs has a Distance Education Alternative

	N	%
Face-to-face education	292	69.5
Distance education	83	19.8
No idea	45	10.7
Total	420	100.0

Even if their programs had a distance education alternative, 69.5% of the students stated that they would choose face-to-face education and 19.8% stated that they would choose distance education, but 10.7% did not express an opinion on this issue.

Chi-square test analysis was conducted to examine students' preferences in terms of programs in case their own programs had a distance education alternative, and the results of this analysis are given in Table 13.

Table 13. X^2 Test Results of Students' Preferences in Case Their Own Programs has a Distance Education Alternative According to Programs

Programs		Face-to-face education	Distance education	No idea	Total	X^2	p
ODH	**N**	43	15	7	65	17.793	.122
	%	66.2%	23.1%	10.8%	100.0%		

Paramedic	**N**	48	20	8	76
	%	63.2%	26.3%	10.5%	100.0%
PAT	**N**	64	9	5	78
	%	82.1%	11.5%	6.4%	100.0%
MDS	**N**	56	9	7	72
	%	77.8%	12.5%	9.7%	100.0%
MIT	**N**	27	9	5	41
	%	65.9%	22.0%	12.2%	100.0%
MLT	**N**	32	8	8	48
	%	66.7%	16.7%	16.7%	100.0%
EC	**N**	22	13	5	40
	%	55.0%	32.5%	12.5%	100.0%
Total	**N**	292	83	45	420
	%	69.5%	19.8%	10.7%	10.0%

When Table 13 is examined; the students who stated that they would still prefer face-to-face education even if there was a distance education alternative were mostly from PAT (82.1%) program and from EC (55%) program at least. Despite this, according to the results of the chi-square test, it was determined that there was no significant difference between the preferences of the students in case their programs had a distance education alternative and the programs (X^2=17.793, p>0.05).

Table 14. X^2 Test Results of Students' Preferences in Case Their Own Program has a Distance Education Alternative According to Their Working Status in a Paid Job

Working Status		**Face-to-face education**	**Distance education**	**No idea**	**Total**	X^2	**p**
Working	**N**	18	18	4	40	18.095	.000
	%	45.0%	45.0%	10.0%	100.0%		
Not working	**N**	274	65	41	380		
	%	72.1%	17.1%	10.8%	100.0%		
Total	**N**	292	83	45	420		
	%	69.5%	198%	10.7%	100.0%		

The chi-square test was conducted in order to evaluate the preferences of the students in case their own program had a distance education alternative in terms of working in a paid job, and the results of this analysis are given in Table 14.

According to the results of the chi-square test, there was a significant difference between the students' preferences in case if their own programs had a distance education alternative and their status of working in a paid job (X^2=18.095, p<0.05). While 45% of working students stated that they would prefer the distance education alternative, 17.1% of the non-working students stated that they would prefer the distance education alternative. 45% of working students preferred face-to-face education despite the distance education alternative, and also the reasons for this shall be investigated.

5.Findings on Whether the Readiness Levels of Students for Distance Education Differ According to the Programs They Study and Their Working Status

The readiness levels of the students for distance education were analyzed both according to their working status and according to the programs. The t-test results according to the working status are given in Table 15.

Table 15. T-Test Results of Students' Readiness According to Their Working Status

Working Status	n	x̄	S	df	t	p
Working	40	5.6409	1.03022	418	3.688	.000
Not working	380	4.8548	1.30560			

According to the results of the t-test; a significant difference was found between the attitude scores of working and non-working students towards distance education. While the readiness level of students working was x̄=5.64, it was x̄=4.85 for non-working students. This shows that working students are more ready for distance education than non-working students.

Table 16. Readiness Levels of Students for Distance Education According to the Programs

Programs	N	Min	Max	x̄	s
ODH	65	2.42	7.00	5.0904	1.19436
Paramedic	76	1.45	7.00	4.7237	1.26113
PAT	78	1.91	7.00	4.8361	1.34024
MDS	72	2.24	7.00	5.2376	1.12104
MIT	41	1.85	6.70	4.6881	1.35870
MLT	48	1.24	6.91	5.0486	1.26116
EC	40	1.09	7.00	4.7927	1.65523
Total	420	1.09	7.00	4.9296	1.30155

The students' attitude scores towards distance education were examined in terms of the programs studied, and the average scores are given in Table 16 and the results of the ANOVA test for this analysis are given in Table 17.

The readiness level of the programs for distance education was categorized as low (1-3), medium (3-5), and high (5-7) by calculating the group interval coefficient (n-1/n). Accordingly, the readiness levels of the programs for distance education were approximately at medium and above medium levels. It has been determined that the highest level of MDS (x̄=5.24) and the lowest MIT (x̄=4.69) programs.

Table 17. ANOVA Results of Students' Readiness Levels for Distance Education According to The Programs

Source of variance	Sum of squares	df	Mean Squares	F	p
Between groups	16.236	6	2.706	1.611	.142
Within groups	693.566	413	1.679		
Total	709.802	419			

When the results of the one-way analysis of variance (ANOVA) were examined, it was determined that there was no significant difference between the readiness levels of the students who studied in different programs ($F_{(6-413)}$ =4.812, p>.05).

DISCUSSION

The study focused on the views of health technician candidates on distance education. When students' desire to study with distance education was examined; the majority of students (70.2%) did not want to study in any higher education program that provided education with distance education. In the literature, the results of health education studies conducted in online environments also differ. In some studies, it was reported that students wanted to receive education with distance education, and in some studies, they did not want to. Students were more satisfied with using online environments because they interacted more outside of the classroom and were more motivated to help each other learn collaboratively (Kelly, Lyng, McGrath & Cannon, 2009; Maag, 2006). Along with the studies showing that learning online provides more in-depth learning opportunities than in the classroom (Christianson, Tiene & Luft, 2002), there were also studies showing that students preferred face-to-face education, although they liked many opportunities offered by distance education (Mitchell, Gadbury-Amyot, Bray & Simmer-Beck, 2007). In this regard, Farrell, Cubit, Bobrowski & Salmon (2007) state that nursing students had negative attitudes towards environments where distance education was used without face-to-face classroom environments, on the grounds that they could not provide a face-to-face meeting environment with teachers and peers.

When the preferences of the students for the conduct of the courses in their own programs were examined; 55% of the students wanted to take all the courses through face-to-face education, 29.5% of them wanted to take some courses via distance education, 13.6% of them wanted to take all the courses via distance education, and 1.9% of them did not express an opinion on this issue. The students preferred distance education due to the reasons as; for providing comfort in following and working, not having time to attend classes' formal education, more economical, and not having the desired formal education institution. In this regard, Clarke & Hermens (2001) stated that distance education allows access to field experts and new teaching programs by removing geographical and temporal barriers. Distance education reduces costs (Kaya, 2002), and it provides many opportunities for universities by increasing access and accessibility (Herrington, Reeves & Oliver, 2009).

When the opinions of the students about the applicability of their own programs to the distance education method were examined; only 21.1% of the students thought that their programs could be done completely by distance education method, while 31.9% of them stated that education could be done partially with distance education. As a result, slightly more than half thought that it could be done partially or completely by distance education. Nearly half of them thought that the programs were not applicable for the distance education method. The combination of traditional classroom teaching and online teaching (e-learning) is referred as blended learning in the literature (Garrison & Vaughan, 2008). Farrell et al. (2007) reported that students did not fully embraced online learning. However, a quantitative study by Billings, Connors & Skiba (2001) found that students participate more actively in online learning than face-to-face learning. This difference may be related to applied courses in health technician education. MIT students (56.1%) were the most likely to think that their programs could not be done with distance education, followed by PAT students (55.1%), and Paramedic students (53.9%), respectively. It is seen that these programs are departments where vocational and applied education takes place more. It could be said that this difference between the programs is due to the inadequacy and limitedness of distance education in the context of vocational and applied education. Similarly, Kaya (2002) pointed out that distance education was not effective enough in realizing students' behaviors related to their skills and attitudes and in students' practical lessons as the most important disadvantages of distance education. As a matter of fact, Uşun (2006) stated that distance education is effective in gaining cognitive domain behaviors, while its' effect is less in gaining affective psycho-motor behaviors and practical lessons. In addition, in health disciplines; due to the need for practice and demonstration-based learning types; it is stated that various problems can be experienced in digital environments (Gensichen, Vollmar, Sönnichsen, Waldmann & Sandars, 2009; Hammarlund, Nilsson & Gummesson, 2015).

When the student's preference for the distance education alternative of their own programs was examined, 69.5% of the students stated that they would still choose face-to-face education even if there was a distance education alternative, 19.8% would choose distance education, and 10.7% did not express an opinion on this issue. Unlike the results of this study, Ayvacı & Bebek (2016) found that students were more willing to participate in distance education courses. Özgöl, Sarıkaya & Öztürk (2017) counted among the advantages of distance education as; it saved students extra time, it is independent of time and space, and it allows lessons to be watched again. It is seen that the differences in the findings are due to the high number of vocational and applied courses, especially in health technician education. It is

expected that students' views will change in departments where vocational and applied courses are the majority in programs such as ODH, Paramedic, and MIT. In the literature, it is stated that the effect of distance education on students' practical lessons is less (Kaya, 2002; Uşun, 2006).

Finally, there was a significant difference between the readiness level of students for distance education and the status of working in a paid job. While the readiness level of students working in a paid job was $\bar{x}$=5.64, it decreased to $\bar{x}$ =4.85 in non-working students. This shows that working students had higher readiness levels for distance education. However, it was determined that there was no significant difference between the students' readiness levels and their own programs. When the obtained findings are considered together with the studies in the literature, it is a consistent finding that workings prefer distance education compared to non-workings, as distance education provides a more flexible, accessible, and economical learning environment without time and space limitations (Gündüz, Aydemir & Karaman, 2018). In addition, Uşun (2006) stated that it provided working students the opportunity to continue their duties and education together and improved them.

CONCLUSION

In this study, the views and readiness levels of health technician candidates about distance education has been investigated. For this purpose, health technician candidates' willingness to study in a higher education program that provides education through distance education, their preferences for conducting the courses in their own programs, their opinions about the applicability of their own programs for distance education method, their preference for the distance education alternative of their own programs and their level of readiness for distance education were examined.

The data of the study were collected from the health technician candidate students studying in 7 different programs at Gazi University Vocational School of Health Services, which was reached with the convenience sampling method and voluntary participation due to the difficulty of sampling and time constraints. In this context, the generalizability of the research was limited. It is thought that considering a similar study with health technician candidates studying at different universities for future studies will contribute to the evaluation of the prevalence of the results. Similarly, it is recommended to search the distance education experiences of the lecturers and administrators working in health technician programs and to compare the experiences of health technician candidates, lecturers, and administrators on distance education.

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