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Determining the Effect of University Students' Technology Usage Levels on Digital Reading Self-Efficacy

Research Article
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ABSTRACT

This study aimed to determine the effect of technology use of university students studying in the field of health on their digital reading self-efficacy according to different variables, in this study. The survey model was determined to be suitable for the research and the data were obtained by convenience sampling method. The sample group consists of 461 (372 female-89 male) students studying at Sivas Cumhuriyet University. The research data were obtained by applying the "Reliability of the Technology Usage Scale" and the "Digital Reading Self-Efficacy Scale". Descriptive statistics, independent groups t-test, ANOVA, Tukey, CFA, and SEM techniques were used in the analysis of the data obtained. It was determined that students' technology use levels differed significantly in terms of internet usage time, digital reading self-efficacy in terms of grade level, and branch according to the research findings. In addition, it was determined that students' technology use levels had a positive effect on their digital reading self-efficacy levels and predicted all their factors.

Keywords: Digital reading, self-efficacy, SEM, technology use, university students

Üniversite Öğrencilerinin Teknoloji Kullanım Düzeylerinin Dijital Okuma Öz-Yeterlikleri Üzerindeki Etkisinin Belirlenmesi

ÖZ

Bu araştırmada sağlık alanında öğrenim gören üniversite öğrencilerinin teknolojiyi kullanma düzeylerinin dijital okuma öz-yeterlikleri üzerindeki etki düzeyinin belirlenmesi, farklı değişkenlere göre incelenmesi amaçlanmıştır. Araştırmanın modeli olarak tarama modeli benimsenmiş olup veriler kolayda örnekleme yöntemiyle elde edilmiştir. Örneklem grubu Sivas Cumhuriyet Üniversitesinde sağlık alanında öğrenim gören 461 (372 kadın-89 erkek) öğrenciden oluşmaktadır. Araştırma verileri Zincirkıran ve Tiftik (2014) tarafından geliştirilen "Teknoloji Kullanım Ölçeği" ve Akkaya ve Çıvğın (2020) tarafından geliştirilen "Dijital Okuma Öz Yeterlilik Ölçeği" uygulanarak elde edilmiştir. Elde edilen verilerin analizinde tanımlayıcı istatistikler, bağımsız gruplar t testi, ANOVA, Tukey, DFA ve YEM teknikleri kullanılmıştır. Araştırma bulgularına göre; öğrencilerin teknoloji kullanım düzeylerinin internet kullanım süresi, dijital okuma öz-yeterliklerinin sınıf düzeyi, branş ve internet kullanım süresi değişkenleri açısından anlamlı farklılık gösterdiği belirlenmiştir. Ayrıca öğrencilerin teknoloji kullanım düzeylerinin dijital okuma öz-yeterlik düzeyleri üzerinde pozitif yönde etkisi olduğu ve tüm faktörlerini yordadığı saptanmıştır.

Anahtar kelimeler: Dijital okuma, öz-yeterlilik, YEM, teknoloji kullanımı, üniversite öğrencileri

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INTRODUCTION

Technology is increasing its influence in all aspects of life from health to education, traffic to shopping all over the world and making people's lives easier. The technology that individuals use in their education, professional and daily lives has an indispensable importance. There are overlapping aspects of the technology used in different areas, as well as differentiating aspects. All over the world, technological tools in numerous categories that are developing and developed at an incredible speed are being released. While technological tools such as computer, phone, tablet, gender, age, etc. appeal to everyone, the tools used in areas such as health, automotive, education appeal to a more limited segment. Technological devices developed specifically for all segments of society or for more specific areas are constantly updated in terms of their physical structures as well as their features. In this direction the internet, computer, mobile phone, tablet, mobile memory, CD, camera, etc. are used in the field of education, constantly evolving, both physically and in software (Öksüz & Karakoç, 2010). In this way, education does not lag behind technological development and becomes suitable for the era. The advantages of technology in educational environments offer great benefits by facilitating the learning process. Using technology in education, multiple learning environments are created, students' different learning needs are prioritized, and interesting methods are brought to the education environment in order to maximize students' interest in the lesson (Yalın, 2003). At the same time, since the use of technology reduces the loss of time spent in the education process, the time allocated for achieving the learning goal and making learning permanent is more (Katrancı & Uygun, 2013).

The materials that have a significant impact on learning should be used in learning environments by adapting them to the technology of the era and they should be constantly updated within the framework of emerging needs (Bozpolat & Arslan, 2018; Ellis, 1997). While the importance of all kinds of technological tools used in learning environments is emphasized, one of the important issues is the necessity of educators who need to use these tools to have the necessary competence (Dargut & Çelik, 2014). In this direction, educators at all levels of education should have the necessary level of competence (Allwright, 1981). Of course, a quality learning environment cannot be created just as a result of educators having technological competence.It is important that students as well as educators, develop their skills to use technology (Koehler & Mıshra, 2005).

Today, it is seen that technology is used in almost every lesson in educational environments. Technology, which is used in different courses for different purposes and techniques, not only contributes to students' lessons but also positively affects their success. The student whose course success increases also develops a positive perception of their learning becomes more active in lessons and develops self-confidence about learning. One of the contributions of technology to educational environments, perhaps the most important one, is that access to information occurs in almost seconds. The knowledge and skills related to many topics in different lessons are acquired not only from books, as in traditional teaching but also from platforms with different software and features based on the internet; but it is also important that the skills related to the use of this information are improved. The students who acquire information by reading from written different sources formerly (books, magazines, newspapers, brochures, etc.), should have digital reading skills by transferring this information to digital media. Otherwise, they have a limited chance to use this information. As with traditional learning, reading is more important in digital learning than other skills. Because reading skill is the basis of the student's learning and understanding of many lessons. In this context, students have to effectively read digital resources as well as printed materials (Güneş, 2016). As Luma (2002) says; it should not be forgotten that the reading skill has a decisive effect on the success of the individual in their academic life since reading is not limited to just reading the information straight, it includes the processes of discovering information, understanding, making connections, restructuring the mind by analyzing and evaluating (Güneş, 2016). For a person to adapt quickly to the developing and changing world, it is necessary to constantly improve the reading skill that she/he has throughout her education life since the moment he/she stepped into the school (Akkaya & Çıvgın, 2020). Of course, this development directly affects the development of the society in which the individual lives, as well as affects his/her own life. After all, all societies are made up of individuals (Bloom, 1979; İşeri, 1998).

Most of the information was obtained by reading from printed sources in the past. However, with the entrance of technology into our lives, information is now received through digital reading using a variety of technologies such as computers, smartphones, tablets, e-book readers, electronic signs, and visual screens. These tools not only make it easier for individuals to access, read and understand information, but they also allow rapid exchange of information via various social media platforms such as WhatsApp, Facebook, Instagram, and sharing e-mails. Digital reading, also known as screen reading or e-reading, is defined as loading new meanings into the information reflected on the displays of various tools and absorbing this knowledge through mental processes (Akkaya &

Çıvgın, 2020). People read by accessing the information they want with an internet connection without any restrictive factors such as place and time. This new type of reading, which is the result of the times we live in, includes different features that everyone, especially students, has not experienced before in their lives (Odabaş, Odabaş, & Sevmez, 2018). The benefit and functionality of digital reading are high, as it provides instant access to the needed information. Knowledge, language, and mental talents combine to generate a new kind of communication (Wolf & Barzillai, 2009). A personalized and interactive information flow is offered by digital tools. Moving texts and visual components add vitality to reading, making it more enjoyable. Thus, students of all ages can read without getting bored (Akkaya & Çıvgın, 2020). Although it appears simple to read digitally on a regular and continuous basis; it is required to have various technical and protective information such as the advertisements, harmful elements, text tracking functionality, and other distractions from the text (Odabaş, 2019). Furthermore, it is critical to learn how to use the screen, pay attention to screen indications, remember the information presented on the screen, and highlight important locations if necessary. In this way, skills such as high-level thinking skills, attention, comparison are also developed. Research reveals that young people use digital reading more efficiently and widely than older people. However, especially during the Coronavirus pandemic we are in, digital reading has also developed in older people, as many jobs need the use of technology (Akkaya & Çıvgın, 2020).

In order to use technology, which assists people in almost every profession, more effectively during the pandemic period, it is necessary to make accurate digital readings of information in many fields. In this sense, people's self-efficacy in digital reading is also important. In general terms, self-efficacy is accepted as a belief or judgment of a persons' abilities in a particular subject (Bandura, 1994; Pajares, 2002). In digital readings, it was thought that a person's strong self-efficacy perception may make the person more successful.

Currently, technology that causes changes in perception thought, and behavior in all areas has become a very important topic in the field of education, especially during the coronavirus pandemic. The pre-existing concept of "distance education" has become an indispensable part of the education of all students, not just a certain part of students, during this period. Although there are many studies on the reflections of distance education during the pandemic period, no study has been found on university students studying in the field of health. During the Covid 19 period, students' competence in using technology is very important for the quality of education. It is accepted that students' effective use of technology will positively affect their education. This issue is especially important in the field of health, which is one of the fields that should receive face-to-face training. As a result of the presupposition of the interaction between university students' level of technology use and their level of digital reading self-efficacy, it was decided to conduct this study. This study aims to determine the effect of technology use levels (TUL) on digital reading self-efficacy (DRSE) of students studying in the field of health. In addition to this purpose; it was also aimed to determine whether TUL and DRSE differ in terms of students' gender, grade level, branch, daily internet usage time. In this regard; it has been accepted that it is important to determine the effect of students' TUL on their DRSE, and this research on this subject will contribute to the literature. The research problems and hypotheses determined in line with the purpose of the research are as follows:

P_1: Is there a significant difference in TUL and DRSE of students receiving health education based on gender, grade level, branch, and daily internet usage time? The hypotheses developed in the context of this problem are as follows:

H_1: TUL and DRSE are affected by student gender.

H_2: TUL and DRSE are affected by student grade levels.

H_3: TUL and DRSE are affected by the student field of study.

H_4: TUL and DRSE are affected by students' daily internet usage time.

P_2: Is there an effect of the TUL of the students on DRSE? The hypotheses developed in the context of this Problem are as follows:

H_5: The students' TUL affects their DRSE.

METHOD

In this section of the research, information about the sample group, data collection tools, data collection, and analysis processes are presented.

Study Group

The data were obtained with the general scanning model, and the convenience sampling method was applied. In the general scanning model, each unit in the universe has a probability of being selected for research. In addition, each selected unit has a decisive effect on the probability of the other being selected. In short, there is a possibility of independent participation completely (Özen & Gül, 2007). It is possible to calculate the error rates

and accuracy levels of the data obtained from the participants (Kish, 1965). Based on d= ±0.03 sampling error at 0.05 significance level (Yazıcıoğlu & Erdoğan, 2014), 461 (372 female, 89 male) students were taken as a sample from 3356 students studying in different programs at Sivas Cumhuriyet University Vocational School of Health Services. Demographic information about the sampling is presented in Table 1.

Table 1. Demographic Information of the Sampling

Variables		**(f)**	**(%)**	**Variables**		**(f)**	**(%)**
Gender	1.Female	372	80.7	Daily internet usage time	1.1-2 hours	268	58.1
	2. Male	89	19.3		2.3-4 hours	161	34.9
Class level	1.1nd grade	173	37.5		3.5-6 hours	23	5.0
	2.2nd grade	288	62.5		4. 7 hours or more	9	2.0
Branch	1. Child development	94	20.4	Internet access reason	1. Lesson follow-up	116	25.2
	2. Audiometry	59	12.8		2. Communication	97	21.0
	3. Emergency and first aid	52	11.3		3. Social media	141	30.6
	4. Medical imaging	78	16.9		4. Get information	46	10.0
	5. Dialysis	36	7.8		5. Watching a movie	14	3.0
	6. Operating Room Services	48	10.4		6. Listening to music	13	2.8
	7. Physiotherapy	32	6.9		7. Others	34	7.4
	8. Laboratory techniques	30	6.5	Used tools	1. Phone	445	96.5
	9. Dental prosthesis	32	6.9		2. Computer	16	3.5

Data Collection

The research data were obtained by applying the "*Reliability of the Technology Usage Scale*" developed by Zincirkıran and Tiftik (2014), and applying the *"Digital Reading Self-Efficacy Scale"* developed by Akkaya and Çıvgın (2020).

Reliability of the Technology Usage Scale (RTUS): The scale developed by Zincirkıran and Tiftik (2014) consists of 12 items. It was prepared in a five-point Likert style with the answers "*Absolutely agree=5 ...Absolutely disagree=1*". The reliability of the scale was checked and the Cronbach Alpha value was found to be .84, and it was found to be .81 in this research as well. The scale scores a maximum of 60 and a minimum of 12 points to participants.

Digital Reading Self-Efficacy Scale (DRSES): The scale developed by Akkaya and Çivğın (2020) consists of four factors: "*Use=5, Access=4, Negativeness=4, Suitability for Purpose=5*" and a total of 18 items. It was prepared in a five-point Likert style with the answers "*Absolutely agree=5 ... Disagree=1*". The reliability of the scale was found to be .82, and it was found to be .83 in this research as well. The scale scores a maximum of 90 and a minimum of 18 points to participants.

Data Analysis

When applying the online questionnaire to the participants, the principle of volunteerism was respected and the identities of the participants were kept secret. The research data were obtained by applying the scales to the students studying from nine different programs at SCU-VSHS in the spring semester of 2020-2021. The data were analyzed using the SPSS and AMOS statistical package programs. For the assumption of normality, the Kolmogorov-Smirnov (K-S) test was used, and since normality values could not be obtained in some factors, the coefficient of skewness and kurtosis were checked. The coefficient of skewness and kurtosis were found to be within the limits of flexibility (±1.96). So the independent groups' t-test and ANOVA test, which are among the parametric statistical analysis methods, were applied (Kalaycı, 2014). Tukey analysis was used to determine the groups that were found to have significant differences in the ANOVA test. Tukey analysis is commonly preferred in research because it provides researchers to control the amount of error as the number of groups increases (Clever & Scarisbrick, 2001; Kayri, 2009). CFA analysis was applied to the scales to determine the effect of the technology use levels of the participants on their digital reading self-efficacy, and the scales were found to be within the accepted limits. Concordantly, the Structural Equation Model (SEM) was applied using the Maximum Likelihood

calculation method (Gürbüz, 2019). SEM analysis is in group describes as second-generation analysis techniques. The advantage of SEM is that it provides the solution to complex research problems in a single transaction (Bagozzi & Fornell, 1982). The path analysis method was applied to determine the fit of the variables in the model developed by SEM analysis. The results obtained whereby the analysis applied in the research are expressed in tables and figures with detail.

Research Ethics

The ethical permission of the research was obtained with the decision of the SCU Scientific Research and Publication Ethics Social and Human Sciences Committee, dated 07.06.2021 and numbered E-60263016-050.06.04-45661.

FINDINGS

The factor and item averages, standard deviation values, and reliability values obtained from the RTUS and DRSES of the students studying in the field of health are all expressed entirely in Table 2.

Table 2. Descriptive Statistics on Scales

	n	Lowest score	Highest score	$\overline{X}$	İtem average (1-5)	ss	Cronbach Alfa
RTUS	461	14	60	32.64	2.72	7.96	.81
DRSES	461	18	90	58.43	3.25	10.64	.83
Use	461	5	25	16.20	3.24	4.87	.87
Access	461	4	20	14.88	3.72	3.24	.74
Negativeness	461	4	20	12.80	3.20	3.74	.80
Suitability for Purpose	461	5	25	14.55	2.81	4.24	.81

According to the analysis of the scales in Table 2; it was determined that the average score of the students to RTUS was at a moderate level, and the average score of the students to DRSES was at a moderate level for use (usage), negativeness, and suitability for purpose factors and was at a high level for access factor. In addition, it was observed that the reliability values of the scale were generally at a high level.

The average scores of university students from the RTUS and DRSES were evaluated in terms of gender and class-level variables, and the Independent Groups t-Test results are presented in Table 3.

Table 3. Independent Groups t-Test Results by Gender and Grade Level Variable

	Gender	**n**	**x̄**	**ss**	**t**	**sd**	**p**
RTUS	Female	372	32.68	7.90	.201	459	.841
	Male	89	32.48	8.24			
DRSES	Female	372	58.03	10.61	-1.650	459	.101
	Male	89	60.10	10.66			
Use	Female	372	16.02	4.93	-1.666	459	.098
	Male	89	16.93	4.58			
Access	Female	372	14.83	3.25	-.724	459	.470
	Male	89	15.10	3.22			
Negativeness	Female	372	12.71	3.82	-1.170	459	.244
	Male	89	13.19	3.38			
Suitability for Purpose	Female	372	14.47	4.27	-.827	459	.410
	Male	89	14.88	4.13			
	Class	**n**	**x̄**	**ss**	**t**	**sd**	**p**
RTUS	1. 1nd grade	173	32.42	6.46	-.468	459	.640
	2. 2nd grade	288	32.77	8.74			

DRSES	1. 1nd grade	173	59.45	11.08	1.576	459	.116
	2. 2nd grade	288	57.81	10.34			
Use	1. 1nd grade	173	16.94	4.53	2.634	459	.009*
	2. 2nd grade	288	15.75	5.02			
Access	1. 1nd grade	173	14.57	3.21	-1.611	459	.108
	2. 2nd grade	288	15.07	3.25			
Negativeness	1. 1nd grade	173	13.27	3.56	2.123	459	.034*
	2. 2nd grade	288	12.52	3.83			
Suitability for Purpose	1. 1nd grade	173	14.67	4.36	.472	459	.637
	2. 2nd grade	288	14.48	4.18			

***p<.05**

When analyzing Table 3, according to the gender variable of the participants, there were no significant differences in the scores they received from both scales (p>05). It was determined that there was no significant difference in the scores of the students from the RTUS according to the class level variable, although there were significant differences in the scores they received from the DRSES in two factors (p<.05), and there was no significant difference in totally (p>.05). In the research, it was determined that H1, which was developed due to the P1 question, was not confirmed, and H2; while not verified for TUL, it was found to be verified for DRSE.

The results of the ANOVA test applied to the average score obtained by students according to the branch variable from the RTUS and DRSES are expressed in Table 4.

Table 4. ANOVA Test Results by Branch Variable

	Branch	**n**	**x̄**	**ss**	**Source of variance**	**sd**	**F**	**p**	**Significant differences**
RTUS	1. Child development	94	32.77	7.61	Between groups	8	1.925	.055	-
	2. Audiometry	59	32.49	6.93					
	3. Emergency and first aid	52	32.38	8.77					
	4. Medical imaging	78	34.91	7.70	Within groups	452			
	5. Dialysis	36	33.64	7.81					
	6. Operating Room Services	48	30.88	6.30					
	7. Physiotherapy	32	29.75	7.39					
	8. Laboratory techniques	30	31.00	7.47	Total	460			
	9. Dental prosthesis	32	33.38	11.62					
DRSES	1. Child development	94	57.64	10.67	Between groups	8	1.624	.116	-
	2. Audiometry	59	58.64	9.55					
	3. Emergency and first aid	52	58.10	7.92					
	4. Medical imaging	78	58.87	11.07	Within groups	452			
	5. Dialysis	36	56.47	7.24					
	6. Operating Room Services	48	58.35	10.75					
	7. Physiotherapy	32	62.38	12.29					
	8. Laboratory techniques	30	54.73	14.81	Total	460			
	9. Dental prosthesis	32	61.63	11.12					
Use	1. Child development	94	16.11	4.85	Between groups	8	.605	.774	-
	2. Audiometry	59	16.66	4.29					
	3. Emergency and first aid	52	15.38	5.14					
	4. Medical imaging	78	16.00	4.58	Within groups	452			
	5. Dialysis	36	15.53	4.25					
	6. Operating Room Services	48	17.00	3.99					
	7. Physiotherapy	32	16.63	5.40					
	8. Laboratory techniques	30	15.93	6.04	Total	460			
	9. Dental prosthesis	32	16.75	6.34					

Access	1. Child development	94	14.28	3.38	Between groups	8	5.538	.000	***3-1, *3-6, *3-8, *2-8, *4-8, *7-8, *9-8**
	2. Audiometry	59	14.93	3.07					
	3. Emergency and first aid	52	16.06	2.76					
	4. Medical imaging	78	15.47	3.47	Within groups	452			
	5. Dialysis	36	13.97	2.80					
	6. Operating Room Services	48	14.10	3.16					
	7. Physiotherapy	32	16.25	1.74					
	8. Laboratory techniques	30	12.73	4.03	Total	460			
	9. Dental prosthesis	32	16.00	2.33					
Negativeness	1. Child development	94	12.16	3.62	Between groups	8	1.905	.049	***7-1, *7-3,**
	2. Audiometry	59	13.20	3.18					
	3. Emergency and first aid	52	12.00	2.91					
	4. Medical imaging	78	12.62	3.94	Within groups	452			
	5. Dialysis	36	13.19	3.19					
	6. Operating Room Services	48	12.88	3.87					
	7. Physiotherapy	32	14.63	2.73					
	8. Laboratory techniques	30	13.47	4.93	Total	460			
	9. Dental prosthesis	32	12.75	5.07					
Suitability for Purpose	1. Child development	94	15.10	4.20	Between groups	8	1.989	.046	***9-8**
	2. Audiometry	59	13.85	3.89					
	3. Emergency and first aid	52	14.65	3.79					
	4. Medical imaging	78	14.78	4.38	Within groups	452			
	5. Dialysis	36	13.78	3.08					
	6. Operating Room Services	48	14.38	4.26					
	7. Physiotherapy	32	14.88	4.67					
	8. Laboratory techniques	30	12.60	5.16	Total	460			
	9. Dental prosthesis	32	16.13	4.56					

***p<.05**

When analyzing Table 4, it was determined that the scores obtained by the students from the RTUS did not differ statistically significantly according to the branch variable (p>.05). While there was no significant difference in total in the scores obtained by the students from the DRSES, it was determined that there were significant differences for the three sub-factors (p<.05). The H3 which is developed depending on the question P1, in the research; is not confirmed for TUL but is confirmed for DRSE.

Table 5 shows the results of the ANOVA test used to determine if the scores of students in the field of health from the RTUS and DRSES make a statistically significant difference based on daily internet usage times.

Table 5. ANOVA Test Results for Internet Usage Time Variable

	Time	**n**	**x̄**	**ss**	**Source of variance**	**sd**	**F**	**p**	**Significant differences**
RTUS	1.1-2 hours	268	32.91	8.25	Between groups	3	3.201	.023	***4-2**
	2.3-4 hours	161	31.67	7.48					
	3.5-6 hours	23	33.70	7.54	Within groups	457			
	4. 7 hours or more	9	39.33	4.03	Total	460			
DRSES	1.1-2 hours	268	57.85	10.06	Between groups	3	1.699	.166	-
	2.3-4 hours	161	58.62	11.80					
	3.5-6 hours	23	62.65	8.85	Within groups	457			
	4. 7 hours or more	9	61.22	7.90	Total	460			
Use	1.1-2 hours	268	15.87	4.75	Between groups	3	1.957	.120	-
	2.3-4 hours	161	16.56	5.13					
	3.5-6 hours	23	17.96	3.67	Within groups	457			
	4. 7 hours or more	9	14.78	5.47	Total	460			
Access	1.1-2 hours	268	14.87	3.43	Between groups	3	.949	.417	-
	2.3-4 hours	161	14.73	3.02					
	3.5-6 hours	23	15.43	2.21	Within groups	457			

	4. 7 hours or more	9	16.33	3.20	Total	460			
Negativeness	1.1-2 hours	268	12.57	3.62	Between groups	3	1.090	.353	-
	2.3-4 hours	161	13.05	3.87					
	3.5-6 hours	23	13.74	3.85	Within groups	457			
	4. 7 hours or more	9	13.11	4.57	Total	460			
Suitability for Purpose	1.1-2 hours	268	14.54	4.15	Between groups	3	1.617	.185	-
	2.3-4 hours	161	14.29	4.27					
	3.5-6 hours	23	15.52	4.42	Within groups	457			
	4. 7 hours or more	9	17.00	5.63	Total	460			

***p<.05**

When analyzing Table 5, it was found that there was a significant difference in the scores that students received from the RTUS, and this difference was in favor of students who used the internet for a longer period (p<.05). It was determined that student scores did not make a significant difference for DRSES both in total and for all factors (p>.05). The H4 which is developed depending on the P1 question in the research; was found that while it was confirmed for TUL, not confirmed for DRSE.

In line with the purposes within the scope of the study, CFA analyzes were conducted on both scales in order to determine whether the technology use levels of the students had a decisive effect on their digital literacy. The findings of the analysis are presented in Table 6.

Table 6. CFA Fit Index Values of Factor Structures

Model Fit Indices	**Acceptable Compliance Values**	RTUS	DRSES
		Values	Values
X^2/sd	0< X^2/sd< 5	3.84	3.28
RMSEA	0.00≤RMSEA≤0.08	0.07	0.07
NFI	0.90≤NFI≤1.0	0.90	0.88
CFI	0.90≤CFI≤1.0	0.92	0.91
IFI	0.90≤ IFI ≤1.0	0.92	0.91
GFI	0.85≤GFI≤1.0	0.94	0.90

When the model fit values in Table 6 were examined, it was determined that the results obtained were within the generally acceptable range. The factor structures of the RTUS and DRSES to be used in path analysis were confirmed by CFA analysis.

Table 7. Fit Values for RTUS-DRSES Structural Model

Model Fit Indices	**Acceptable Compliance Values**	**Model Fit Values**
X^2/sd	0< X^2/sd< 5	3.53
RMSEA	0.00≤RMSEA≤0.08	0.07
NFI	0.90≤NFI≤1.0	0.86
CFI	0.90≤CFI≤1.0	0.92
IFI	0.90≤ IFI ≤1.0	0.92
GFI	0.85≤GFI≤1.0	0.93

When the model fit values in Table 7 were examined, it was determined that the results obtained were within the generally acceptable range. The model fit values for the RTUS and DRSES were confirmed.

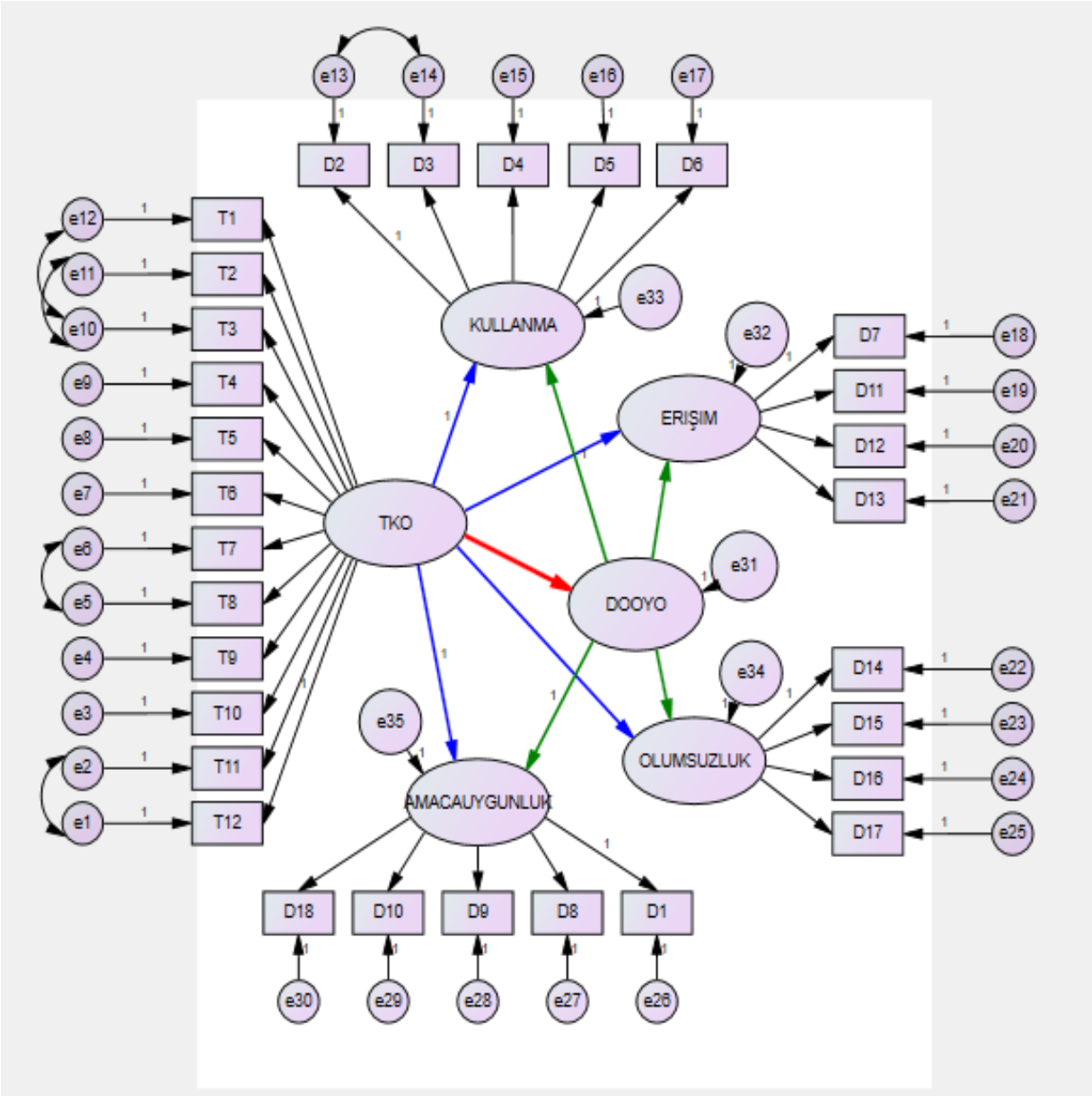

Figure 1. *Path Analysis Diagram*

Table 8. Structural Model Standardized Path Coefficients of the Research Model and Analysis Results

Hypothesis	Path		Estimate(ß)	S.E	C.R	p	Result
H1: RTUS	→	Use	1.117	0.040	5.392	0.000	**Accept**
H2: RTUS	→	Access	1.037	0.119	5.681	0.000	**Accept**
H3: RTUS	→	Negativeness	0.472	0.122	3.172	0.002	**Accept**
H4: RTUS	→	Suitability for Purpose	1.273	0.144	5.494	0.000	**Accept**

In Table 8, it was observed that the model was confirmed and the hypotheses of the research were tested in accordance with the structural model with implicit variables. The relationships between the factors of use, access, negativeness, and suitability for purpose of the RTUS and DRSES, "p" values of the were less than 0.05; this demonstrates that the correlations between factor attributions and latent variables are significant, in the analyzes. In the findings; it was found that the RTUS and DRSES positively affect the use factor (ß=1.117; p<.05), and positively affect the access factor (ß=1.037; p>.05), and positively affect the negativeness factor (ß=0.472; p<.05), and positively affect the suitability for purpose factor (ß=1.273; p>.05). According to the values of the regression coefficients, it was found that the students' technology use levels had a positive effect on their digital reading self-efficacy levels and statistically in all factors (p<0.05).

DISCUSSION & CONCLUSION

It was found that the average score of students on the RTUS was moderate level. The average score of the students from the DRSES; was determined that the total score was moderate for the factors of use, negativeness, and suitability for purpose, and the access factor was found to be at a high level. Additionally, it was found that the scale's reliability values were generally at a high level. In a study conducted by Aksoy (2018) on RTUS; in accordance with this study, it was found that the reliability of the scale meets the value found appropriate to use. It was found that the average score of students on the level of use of technology is compatible with previous studies (Aksoy, 2018; Seyitoğulları & Yalçınsoy, 2016; Zincirkıran & Tiftik, 2014).

It was determined that there were no significant differences in the scores that participants from the RTUS according to the gender variable. The result of Aksoy's study (2018) also supports the result of this study. In the study conducted by Karasakaloğlu, Saracaoğlu and Uça (2011), and Yılmaz, Üredi, and Akbaşlı (2015) for university students, similar results were reached in terms of the gender variables. It was found that the scores that students received from DRSES did not differ significantly in terms of gender variables. Ulu and Zelzele (2018) investigated students' self-efficacy for screen reading, and they did not find any significant findings in terms of gender. It can be considered that all young people studying at the university have to use technology in their education and that access to technology becomes very easy in this case is effective. It can be assumed that the fact that they are already performing digital reading in this sense on many platforms connected with technology also has an impact on this situation. Odabaş (2017) says that people perform reading the newspapers, magazines, news, novels, etc. on digital platforms nowadays. He even says that printed publications may lose their former importance after a while.

It was determined that there was no significant difference in the scores of the student got from the RTUS and DRSES according to the grade level variable in terms of total scores. The findings of the study conducted by Yılmaz et al. (2015), in order to determine the level of students' use of technology support the findings of this study. Because the technology has reached a point that it is accessible for everyone today, it proves that students are familiar with the technology before starting university education and that they already have competence in terms of many technologies. In parallel with this study, the results of the study conducted by Yıldız and Keskin (2016), for digital reading indicated that there were no statistical differences in class level.

It was found that there were no significant differences in the scores that students received from the RTUS and DRSES, based on the total score, in terms of the branch variable. However, it was found that there were significant differences in the scores of students on the DRSES in three sub-factors in total. Bulut and Karasakaloğlu (2019) investigated the digital reading tendencies of university students and found that there was a significant difference in terms of branch variables. It was found that there was a significant difference in the scores that participants received from RTUS according to the internet using time variable and this difference was in favor of students who used the internet for a longer time. It was determined that there was no significant difference in terms of DRSES. It was determined that this difference was in favor of students who used the internet for a longer time and that there was no significant difference in terms of DRSES. As internet usage time increased, significant differences were found in peoples' RTUS scores, while no significant differences were found in DRSES scores. This result coincides with the fact that students express that they use the internet, not for information or reading but rather to follow social media.

In this study, 25% of students stated that they used the internet mostly for following the lesson. 75% of the students state that they use the internet mostly for text messages with friends, watching movies, listening to music, and communicating with other people. Imren and Tekman (2020) investigated the impact of university students ' intensity of using technology on their cognitive abilities. They found that there was no difference in cognitive executive abilities of students who used technology for a longer time, but it affected maintaining attention and memory use.

CFA analyses of the scales used in the study were conducted, and it was determined that the fit values of the scales were ensured. Besides, model fit analysis was performed using the structural equation modeling of both scales. The produced model was found to be compatible. As a result of the path analysis, the fact that the "*p*" scores of the students in the relations between the use, access, negativeness, and suitability for purpose factors of the RTUS and DRSES were less than 0.05 indicates that the relations between factor attributions and latent variables are important. As a result, it was determined that the RTUS and DRSES had a positive effect on the factors of use, access, negativeness, and suitability for purpose. According to the values of the regression coefficients, it was

determined that the students' technology use levels had a positive effect on their digital reading self-efficacy levels with statistically in all factors. İmren and Tekman (2020) investigated the relationship between TUL and cognitive abilities of university students and determined that there was a low correlation between them.

A general evaluation of the research results showed that there were no significant differences in the total scores of students RTUS and DRSES, in all other demographic variables, except for the RTUS on the internet using time. However, it was determined that the RTUS had a positively significant effect on DRSES. Today, with including technology in educational environments, it is necessary to investigate these issues in learning environments; both in educational tools, educational methods, and techniques. In parallel with this research about digital reading self-efficacy, it is important to investigate many interrelated issues such as digital writing, digital listening, digital understanding, and digital presentation, together or with other factors. This study was performed at the university level. Şahenk-Erkan and Dağal (2018) investigated the opinions of university students about digital reading, digital writing, and digital presentation. They found that students had some negative thoughts as well as positive thoughts about understanding, interpreting, expressing, and presenting examples of what they read in digital environments. Although using technology in every field of education processes occurs somewhat quickly due to the coronavirus pandemic, the statements indicate that distance education applications will continue after the pandemic. In this direction, because distance education is provided at all levels of education during the pandemic, determining the positive and negative impressions of the educational process on digital reading and other issues will help the authority while preparing future curriculums.

Researchers' Contribution Rate

The study was conducted and reported by the corresponding author

Conflict of Interest

The authors of this article declare that there is not conflict of interest.

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