

THE EFFECT OF TECHNOSTRESS ON VARIOUS VARIABLES IN HIGH SCHOOL TEACHERS¹

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Abstract

In this study, the technostress and teaching motivation levels of high school teachers were examined according to the variables of gender, age, professional experience, education level, branch, computer usage skill and smart board usage skill. Descriptive and relational survey models of the quantitative research method were used in the study. The data was obtained by reaching 217 teachers using the accessible sampling method. Personal information form, technostress scale and teaching motivation scale were used as data collection tools. Independent samples t-test, one-way ANOVA and Pearson correlation tests were performed on normally distributed data. According to the main results obtained from the study, teachers' general technostress levels are at a medium level and their intrinsic motivation is higher than their extrinsic motivation. It has been observed that as teachers' professional experience and age increase, their technostress levels increase and their teaching motivation decreases.

Keywords: Technology, technostress, teaching motivation, intrinsic motivation, extrinsic motivation.

TEKNOSTRESİN LİSE ÖĞRETİMENLERİ ÜZERİNDE ÇEŞİTLİ DEĞİŞKENLERE GÖRE ETKİSİ

Özet

Bu çalışmada lise öğretmenlerinin teknostres ve öğretme motivasyonu düzeyleri cinsiyet, yaş, mesleki deneyim, eğitim düzeyi, branş, bilgisayar kullanma becerisi ve akıllı tahta kullanma becerisi değişkenlerine göre incelenmiştir. Araştırmada nicel araştırma yönteminin tanımlayıcı ve ilişkisel tarama modelleri kullanılmıştır. Veriler uygun örnekleme yöntemi kullanılarak 217 öğretmene ulaşılarak elde edilmiştir. Veri toplama aracı olarak kişisel bilgi formu, teknostres ölçeği ve öğretme motivasyonu ölçeği kullanılmıştır. Normal dağılım gösteren veriler üzerinde bağımsız örnekler t-testi, tek yönlü ANOVA ve Pearson korelasyon testleri yapılmıştır. Araştırmadan elde edilen bulgulara göre öğretmenlerin genel teknostres düzeyleri orta düzeyde olup içsel motivasyonları dışsal motivasyonlarından daha yüksektir. Öğretmenlerin mesleki deneyimleri ve yaşı arttıkça teknostres düzeylerinin arttığı ve öğretme motivasyonlarının azaldığı bulunmuştur.

Anahtar Kelimeler: Teknoloji, teknostres, öğretme motivasyonu, içsel motivasyon, dışsal motivasyon

INTRODUCTION

The conveniences and opportunities provided by today's technology have made it an indispensable element of life. Rapid digital transformations and developments in information and communication technologies have an impact on education as well as in many areas. Due to the potential benefits of these technological innovations, efforts are being made to integrate them into learning environments. With technology integration, it is aimed to increase efficiency in teaching activities, take individual differences into account and find solutions to the problems that teachers experience with traditional methods (Pamuk et al., 2012). In this respect, it is important to use teaching tools such as projectors, computers and interactive boards effectively and efficiently in learning environments in order to increase the quality of education (Akyüz et al., 2014). The use of interactive boards and other educational technologies in learning environments enables the use of different and interesting activities, rich e-learning contents, game-based learning, web-based learning environments and educational software (Çelen et al., 2011).

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It is also a fact that placing technology in classrooms alone is not enough for quality education in today's world where learning environments that are not supported by instructional technology are seen as incomplete. It is also emphasized that it is important to train teachers who know how to integrate the technological tools and equipment provided into the lessons with the right pedagogies and who can use these technologies effectively (Adıgüzel & Yüksel, 2012). Today's students, called digital natives (Prensky, 2001), grow up with technology and can easily adapt to new technologies. This curiosity about technology in the new generation requires that the teachers who will teach these students must educate themselves according to the requirements of the age and be experienced and knowledgeable in using technology (Akgün, 2019). In order to keep up with the pace of technological developments, teachers are expected to act in harmony with new technologies while preparing and presenting their lessons. The technological competencies expected of teachers are clearly stated by some institutions. The Ministry of National Education considers it necessary for teachers to use information and communication technologies effectively in the teaching and learning process (Ministry of Education, 2013). The International Society for Technology in Education stated that teachers should be competent in three areas: knowledge of basic operations and concepts in computer technology, knowledge of using technology for their own professional development, and knowledge of technology use in teaching environments (ISTE, 2016). Despite all these requirements and changes, it is observed that teachers experience some psychological problems as well as professional and technical problems during the technology integration process in education, which provides significant benefit to the student-centered education system (Şendurur & Arslan, 2017).

Although technology is generally accepted as a tool that speeds up transactions, it imposes new responsibilities on individuals that must be fulfilled in business life, and human beings are expected to keep up with the development of technology. Increasing expectations from employees require them to constantly renew their technological skills in business life (Çalışkan & Çoklar, 2022). When individuals constantly interact with information and communication technologies, psychological pressure situations such as stress and anxiety may arise (Gökler, 2012). Besides the indisputable benefits of technology, interest in understanding such negative effects on end users has also increased in recent years (Upadhyaya & Vrinda, 2021). From an educational perspective, in order to achieve the benefits arising from the use of technology in education, it has become a necessity for teachers to gain technological competencies, accept and internalize technological innovations, and keep up with constantly changing technology. In addition, the investments made by the Ministry of Education in technology such as the FATİH project in recent years, the fact that students are a generation growing up in technology, the transition to a student-centered education system, and finally the distance education process with the Covid-19 pandemic have forced teachers to use technology intensively. When these situations of necessity and problems arising from technology integration come together, they can create pressure on teachers and cause some psychological effects (anxiety, stress, etc.) (Kıncı & Özgür, 2022). One of these psychological problems caused by intense technology use and seen as the cost of technology use is technostress (Çoklar et al., 2016).

Technostress

The concept of technostress was first introduced by clinical psychologist Dr. Craig Brod. Brod (1984) defined technostress as a modern adaptation disease resulting from the inability to adapt to new technologies. In later studies, it was seen as a type of stress and adaptation problem that emerged due to the changes brought by technology (Tarafdar et al., 2020). It is stated that psychological concerns caused by technostress are more pronounced than behavioral consequences (Nastjuk et al., 2023). It is argued that factors such as individual problems, technical difficulties, educational problems, health problems and time problems are the main causes of technostress in teachers (Çoklar et al., 2016). Tarafdar et al. (2011) examined technostress in five dimensions in terms of its main causes. Among these dimensions, techno-overload describes situations where information and communication technologies force people to work harder and faster. Techno-invasion refers to the need for them to be constantly accessible to users everywhere. Techno-complexity is when rapid and constant changes in technology push users to invest more effort and time. Techno-insecurity is users' fear of losing their jobs to those who use new technologies better. Techno-uncertainty refers to a situation in which users feel uncertain and indecisive because technology constantly changes and needs renewal.

Teaching Motivation

The concept of motivation is expressed in the literature as a theoretical structure that tries to explain the onset, direction and severity of behavior and ensures its continuity (Akbaba, 2006; Gömleksiz & Serhatlıoğlu, 2014).

Motivation is divided into two: intrinsic motivation, which occurs with the individual's own needs and desires without any external expectations, and extrinsic motivation, which occurs with different reinforcers (Ertürk, 2016; Kauffman et al., 2011). Scientific studies show that internal factors are more effective than external factors in providing motivation and affect individuals' emotions, thoughts, perceptions, attitudes and behaviors more (Aydın, 2013). It is stated that people with intrinsic motivation are driven to work by factors such as their interest in their work, desire and personal satisfaction from their work (Akbaba, 2006). Extrinsic motivation, on the other hand, unlike intrinsic motivation, focuses on the benefits of the activity rather than enjoying it (Gömlüksiz & Serhatlıoğlu, 2014).

Both intrinsic and extrinsic sources of motivation are considered important in the teaching profession. Depending on individual development and situational conditions, their impact waxes and wanes. Ideally, teachers should be intrinsically motivated. Research has revealed that teachers with high intrinsic motivation are more successful than others (Yazıcı, 2009). In particular, it is emphasized that teaching motivations are as important as their teaching abilities (Candan & Gencel, 2015). It is stated that teachers with high motivation levels are more energetic and enthusiastic while carrying out teaching activities (Bulut, 2022), while teachers with low motivation may have problems in achieving success and satisfaction and their stress levels may be high (Akman & Durgun, 2022). In this context, it becomes important to reveal the level of technostress, which is one of the sources of stress that can have negative effects on teachers' motivation towards the educational process, and to evaluate it according to various variables.

Importance and Purpose of the Research

Looking at the literature, the exponential increase in studies on technostress in recent years indicates that it is a current issue (Bondanini et al., 2020). The fact that the concept of technostress, which arises due to the more frequent use of information technologies in education, remains up-to-date has made it the focus of this study. In this respect, it is considered important to reveal the technostress levels of high school teachers who interact with technology in and outside the classroom and to examine it in terms of some variables. It is seen that most of the studies in the literature focus on business and health sectors rather than education (Khlaif et al., 2023). Some of the studies examined aimed to reveal only the technostress levels of users with the descriptive survey model (Çalışkan & Çoklar, 2022; Gökaslan, 2022; Kıncı & Özgür, 2021). In some other studies, perceived job performance (Bourlakis et al., 2023; Penado-Abilleira et al., 2021; Wang et al., 2020), professional motivation (Akman & Durgun, 2022), problem-solving skills (Arslan, 2022), attitude (Khlaif et al., 2023), technological pedagogical content knowledge (Atan, 2021; Gökbulut, 2021), individual innovation characteristics (Çetin & Bülbül, 2017), academic efficiency (Doğrular, 2019; Tarafdar et al., 2011; Upadhyaya & Vrinda, 2021), end user satisfaction (Tarafdar et al., 2011), perceived usefulness (Khlaif et al., 2023) and burnout level (Wang et al., 2020; Yangöz, 2021) and technostress are examined together. Considering that the psychological dimension of the teacher factor is also important in the technology integration process, examining the relationship between technostress and teaching motivation in the current study is considered important in this respect. It is stated that teachers' success, performance and job satisfaction in learning environments are affected by their technology use proficiency and motivation (Çalışkan & Çoklar, 2022; Reçepoğlu, 2013). In this regard, answers were sought to the following research questions in the study:

1. What are the technostress levels of high school teachers?
2. How do high school teachers' technostress situations vary according to gender, age, professional experience, education level, branch, computer usage skill and smart board usage skill?
3. What are the teaching motivation levels of high school teachers?
4. How do high school teachers' teaching motivations vary according to gender, age, professional experience, education level, branch, computer usage skill and smart board usage skill?
5. What is the relationship between high school teachers' technostress level and teaching motivation?

METHOD

Research Model

In this study, where quantitative research method was used, descriptive and relational survey models were used. The survey model aims to describe and reveal the current situation, and for this purpose it often requires the researcher to collect information from a wide audience (Frankel et al., 2012). The relational survey model, on the other hand, enables studies in the field of education to better understand the phenomenon and make predictions

by investigating possible relationships beyond just describing situations or events (Büyüköztürk et al., 2013). While the level of teachers' technostress and teaching motivation was determined with a single descriptive survey, the change in technostress and teaching motivation levels according to some variables was examined with the relational survey model.

Sample Group

Study data were collected from teachers working in high schools in the central districts of Van province (Tuşba, İpekyolu, Edremit) using the accessible sampling method. The data was obtained by reaching a total of 217 teachers from 10 different high schools. Three teachers' papers were not included in the analysis because there were more than 10% gaps in their papers. The number of samples analyzed was 214. Demographic components of the sample group are presented in Table 1.

Table 1. Demographic Characteristics of the Participants

	N	%		N	%
Gender			Educational background		
Female	101	47	Associate degree	8	3.7
Male	113	53	Licence	134	62.6
Age			Master degree	64	29.9
20-25	9	4.2	Doctorate	8	3.7
26-30	43	20.1	Branch		
31-35	62	29.0	Digital	54	25.2
36-40	63	29.4	Verbal	69	32.2
41 and above	37	17.3	Foreign language	26	12.1
Professional experience			Art-sports	14	6.5
0-5 years	50	23.4	Vocational courses	18	8.4
6-10 years	79	36.9	Other	33	15.4
11-15 years	40	18.7	Computer usage skill		
16-20 years	28	13.1	Low	10	4.7
21 and above	17	7.9	Intermediate	137	64.0
Smart board usage skill			Advanced	63	29.4
Low	5	2.3	Expert	4	1.9
Intermediate	121	56.5			
Advanced	83	38.8			
Expert	5	2.3			

Data Collection Tools

Personal information form, technostress scale and teaching motivation scale were used as data collection tools.

Personal Information Form: Personal demographic information of the teachers, such as gender, age, professional experience, education level, branch, computer usage skill and smart board usage skill were obtained with this form.

Technostress Scale: The technostress scale used in the study was adapted from Çoklar et al. (2017). The relevant scale consists of 5 factors and 28 items: learning-teaching process oriented, profession oriented, technical issue oriented, personal oriented and social oriented. The scale items are five-point Likert type, and the data entry process of the items is scored as "1 - Strongly Disagree", "2- Disagree", "3- Partially Agree", "4- Agree" and "5- Completely Agree". The Spearman-Brown coefficient calculated for splitting into two halves was found to be 0.845. The internal consistency coefficients of the factors that make up the scale take values between 0.712 and 0.788. The internal consistency coefficient (Cronbach's alpha coefficient) calculated for the overall scale is stated as 0.917. In the current study, the reliability coefficient was 0.896. The evaluation criteria specified for the scale scores are as follows: The average score between 1.00-2.33 indicates "low level" technostress, between 2.34-3.66 indicates "medium level" and between 3.67-5.00 indicates "high level" technostress.

Teaching Motivation Scale: The original version of the teaching motivation scale used in the study was published by Kauffman et al. (2011). The scale, adapted to Turkish by Candan and Gencel (2015), consists of 2 factors and

12 items: intrinsic motivation and extrinsic motivation. Scale items are 6-point Likert type and are scored as "1 - Strongly disagree", "2- Disagree", "3- Somewhat disagree", "4- Somewhat agree", "5- Agree" and "6- Strongly agree". According to the results of the factor analysis, it was stated that the construct validity of the Turkish form of the scale was ensured ($\chi^2= 136.086$ (df= 44 $p= .00$), AGFI = 0.89). The Cronbach alpha internal consistency coefficient of the scale was found to be 0.92. In the current study, the reliability coefficient was calculated as 0.871.

Data Analysis

The data obtained from the sample group was analyzed in a computer environment using the SPSS 22 package program. First of all, normality analysis was performed to understand whether the data showed a normal distribution. As a result of the skewness and kurtosis values of the scale scores and sub-factors being between -1.5 and +1.5, which is an acceptable level (Tabachnick et al., 2007), parametric tests were applied. Independent sample t-test, One-way ANOVA and Pearson correlation tests were performed for analysis.

FINDINGS

Technostress Levels of Participants

The analysis results obtained regarding the technostress status of the participants are presented in Table 2.

Table 2. Technostress Levels of Participants

Factor	N	\bar{X}	Sd	Status
Learning-teaching process oriented	214	2.72	.64	medium level
Profession oriented	214	2.0	.71	low level
Technical issue oriented	214	3.05	.75	medium level
Personal oriented	214	2.32	.83	low level
Social oriented	214	2.89	.79	medium level
Technostress overall average	214	2.59	.55	medium level

When Table 2 is examined, it can be seen that teachers' technostress levels are at a medium level in terms of the learning-teaching process oriented, technical issue oriented, social oriented sub-factors and the overall scale. It was determined that they had low levels of technostress in professional and personal oriented sub-factors.

Participants' Teaching Motivation Levels

Descriptive statistical findings regarding the teaching motivations of the participants are presented in Table 3.

Table 3. Participants' Teaching Motivation Levels

Factor	N	\bar{X}	Sd
Intrinsic motivation	214	3.53	1.16
Extrinsic motivation	214	3.00	1.02
Scale overall average	214	3.31	1.04

According to the data in Table 3, the participants' intrinsic motivation levels ($\bar{X}=3.53$, $Sd=1.16$) were higher than their extrinsic motivation ($\bar{X}=3.00$, $Sd=1.02$).

Examining the Level of Technostress and Teaching Motivation According to Gender

The results of the independent sample t-test performed to determine the participants' technostress and teaching motivation levels according to gender variable are presented in Table 4.

Table 4. Analysis Results According to Gender Variable

Technostress	Grup	N	\bar{X}	Sd	Df	t	p
	Female	101	2.73	0.57			
	Male	113	2.45	0.50	212	3.622	.000**
Teaching motivation	Grup	N	\bar{X}	SD	Df	t	p
	Female	101	3.65	0.92			
	Male	113	3.00	1.05			

** $p < .01$

According to Table 4, the general technostress level of female teachers ($\bar{X}=2.73$, $Sd=0.57$) was significantly higher than the general technostress level of male teachers ($\bar{X}=2.45$, $Sd=0.50$) ($t(212)=3.622$, $p < .001$). Similarly, the general teaching motivation level of female teachers ($\bar{X}=3.65$, $Sd=0.62$) was significantly higher than the general teaching motivation level of male teachers ($\bar{X}=3.00$, $Sd=1.05$) ($t(212)=4.741$, $p < .001$).

Examining the Level of Technostress and Teaching Motivation According to Age

One-way ANOVA results performed to determine participants' technostress levels according to age variable are presented in Table 5.

Table 5. Analysis Results According to Age Variable

	Source of variance	Sum of squares	Df	Mean squares	F	p	Significant difference
Technostress	Between groups	2.346	4	.587	1.982	.039*	Between 20-25 and 36-40
	Within groups	61.861	209	.296			
	Total	64.207	213				
Teaching motivation	Between groups	23.168	4	5.792	5.845	.000**	Between 20-25 and 31-35, Between 20-25 and 41 and above
	Within groups	207.095	209	.991			
	Total	230.263	213				

** $p < .01$, * $p < .05$

According to Table 5, it is seen that teachers' technostress level average scores differ significantly according to the age variable ($F(4-209)=1.982$, $p < .05$). According to the Post Hoc analysis results, the technostress level of the 36-40 age group ($\bar{X}=2.68$, $Sd=0.54$) was higher than that of the 20-25 age group ($\bar{X}=2.42$, $Sd=0.47$). It is seen that teachers' teaching motivation average scores vary significantly according to age ($F(4-209)=5.845$, $p < .01$). According to the results of Post Hoc analysis, the average score of the 20-25 age group ($\bar{X}=4.26$, $Sd=0.54$) is higher than the score average of the 31-35 age group ($\bar{X}=3.23$, $Sd=1.07$) and the average score of the 41 and above age group ($\bar{X}=2.80$; $Sd = 1.16$) was high.

Examination of Technostress and Teaching Motivation Level According to Professional Experience

One-way ANOVA results performed to determine the participants' technostress and teaching motivation levels according to the professional experience variable are presented in Table 6.

Table 6. Analysis Results According to Professional Experience Variable

	Source of variance	Sum of squares	Df	Mean of squares	F	p	Significant difference
Technostress	Between groups	4.302	4	1.076	3.752	.006**	Between 6-10 years and 21 years and above
	Within groups	59.905	209	.287			
	Total	64.207	213				
Teaching motivation	Between groups	11.384	4	2.846	2.718	.031*	Between 0-5 years and 21 years and above
	Within groups	218.879	209	1.047			
	Total	230.263	213				

* $p < .05$, ** $p < .01$

According to Table 6, it is seen that teachers' technostress levels differ significantly according to their professional experience ($F(4-209)=3.752$, $p < .05$). According to the Post Hoc analysis results, the technostress level of those with 21 years or more professional experience ($\bar{X}=2.74$, $Sd=.40$) was higher than those with 6-10 years of experience ($\bar{X}=2.33$, $Sd=0.55$). It is seen that teachers' teaching motivation average scores differ significantly according to their professional experience ($F(4-209)=2.718$, $p < .05$). According to the results of Post Hoc analysis, the average of teachers with 0-5 years of professional experience ($\bar{X}=3.58$, $Sd=0.94$) was higher than the average of teachers with 21 years of experience and above ($\bar{X}=2.77$, $Sd=1.10$).

Examining the Level of Technostress and Teaching Motivation According to the Education Level

The results of One-way ANOVA performed to determine the participants' technostress and teaching motivation levels according to the education level variable are presented in Table 7.

Table 7. Analysis Results According to Education Level Variable

	Source of variance	Sum of squares	Df	Mean of squares	F	p	Significant difference
Technostress	Between groups	2.190	4	.730	2.472	.063	-
	Within groups	62.017	210	.295			
	Total	64.207	213				
Teaching motivation	Between groups	6.355	3	2.118	1.987	.117	-
	Within groups	223.909	210	1.066			
	Total	230.263	213				

According to Table 7, no significant difference emerged in the participants' technostress ($F(4-210)=2.472$, $p>.05$) and teaching motivation levels ($F(3-210)=1.987$, $p>.05$) according to the education level variable.

Examination of Technostress and Teaching Motivation Level According to Branch

One-way ANOVA results performed to determine the participants' technostress and teaching motivation levels according to the branch variable are presented in Table 8.

Table 8. Analysis Results According to Branch Variable

	Source of variance	Sum of squares	Df	Mean of squares	F	p	Significant difference
Technostress	Between groups	1.853	5	.371	1.236	.293	-
	Within groups	62.355	208	.300			
	Total	64.207	213				
Teaching motivation	Between groups	17.278	3	3.456	3.375	.006**	Between numerical group and occupational group
	Within groups	212.985	208	1.024			
	Total	230.263	213				

** $p<.01$

According to Table 8, there was no significant difference in the technostress levels of the participants according to the branch variable ($F(5-208)=1.236$, $p>.05$). There is a significant difference in teaching motivation levels ($F(4-208)=3.375$, $p<.05$). According to the results of Post Hoc analysis, the average of the teachers in the vocational group ($\bar{X}=3.83$, $SD=.72$) was higher than the average of the teachers in the numerical group ($\bar{X}=3.06$, $SD=1.05$).

Examining the Level of Technostress and Teaching Motivation According to the Computer Usage Skill

The results of One-way ANOVA, which was conducted to determine the participants' technostress and teaching motivation levels according to the variable of computer usage skill, are presented in Table 9.

Table 9. Analysis Results According to Computer Usage Skill Variable

	Source of variance	Sum of squares	Df	Mean of squares	F	p	Significant difference
Technostress	Between groups	.360	3	.120	.394	.757	-
	Within groups	63.848	210	.304			
	Total	64.207	213				
Teaching motivation	Between groups	2.330	3	.777	.716	.544	-
	Within groups	227.933	210	1.085			
	Total	230.263	213				

According to Table 9, there was no significant difference in the participants' technostress levels ($F(3-210)=.394$, $p>.05$) and teaching motivation levels ($F(3-210)=.716$, $p>.05$) according to the variable of computer usage skill.

Examination of Technostress Level According to the Smart Board Usage Skill

The results of One-way ANOVA, which was conducted to determine the participants' technostress and teaching motivation levels according to the variable of smart board usage skill are presented in Table 10.

Table 10. Analysis Results According to Smart Board Usage Skill Variable

	Source of variance	Sum of squares	Df	Mean of squares	F	p	Significant difference
Technostress	Between groups	2.034	3	.678	2.290	.079	-
	Within groups	62.173	210	.296			
	Total	64.207	213				
Teaching motivation	Between groups	3.467	3	1.156	1.070	.363	-
	Within groups	226.796	210	1.080			
	Total	230.263	213				

According to Table 10, there was no significant difference in the participants' technostress levels ($F(3-210)=2.290$, $p>.05$) and teaching motivation levels ($F(3-210)=1.070$, $p>.05$) according to the variable of smart board usage skill.

Examining the Relationship Between Technostress Level and Teaching Motivation

The results of the Pearson correlation analysis conducted to determine the relationship between the participants' general technostress levels and their teaching motivation are presented in Table 11.

Table 11. Correlation Analysis Results

	Technostress overall scale	Teaching motivation scale overall	Intrinsic motivation	Extrinsic motivation
Technostress overall scale	---			
Teaching motivation scale overall	-.164*	-		
Intrinsic motivation	-.122	.964**	--	
Extrinsic motivation	-.205*	.964**	.763**	--

** $p<.01$, * $p<.05$

When the data in Table 11 is examined, it is seen that there is a low-level negative relationship between the general average of technostress level and teaching motivation, intrinsic and extrinsic motivation factors.

CONCLUSION, DISCUSSION AND SUGGESTIONS

In this study, high school teachers' technostress levels and teaching motivations were examined according to various variables. According to the analysis results, the general technostress levels of high school teachers were found to be at a medium level. There are studies in the literature that coincide with this result (Akgün, 2019; Arslan, 2022; Çetin & Bülbül, 2017; Çoklar, et al., 2016; Kınıcı & Özgür, 2021). When examined according to factors, it is seen that learning-teaching process oriented, technical issue oriented and social oriented factors are medium level; It was observed that profession oriented and personal oriented factors were at low levels. It is thought that these factors lead to mid-level technostress, such as technical glitches that occur during distance education and face-to-face teaching processes, anxiety about not being able to complete the course if technology is used, and the idea that intensive use of digital content will cause health problems and steal time from daily social life. However, the fact that technostress has the lowest average value in the profession-oriented sub-factor can be attributed to the fact that the use of technology is accepted as a necessary part of the education process in the teaching profession, although it causes stress.

When teachers' technostress levels were examined by gender, the technostress levels of female teachers were significantly higher than male teachers. Similarly, other studies show that women suffer more from the negative effects of technology compared to men (Arslan, 2022; Çoklar & Şahin, 2016; Penado-Abilleira et al., 2021;

Upadhyaya & Vrinda, 2021; Wang et al., 2020 ; Yangöz, 2021). In some studies, the technostress level of male teachers was found to be higher than female teachers (Dogrular, 2009; Tarafdar et al. 2011). According to another result of the study, it was determined that as age and professional experience increased, the level of technostress also increased. It is also supported in the literature that there is an increase in the level of technostress due to the increase in age and professional experience (Arslan, 2022; Atan, 2021; Çetin & Bülbül, 2017; Çoklar & Şahin, 2011; Kıncı & Özgür, 2021; Penado-Abilleira et al., 2021; Upadhyaya & Vrinda, 2021). In order to achieve the benefits arising from the use of technology in education, it is necessary for teachers to gain technological competencies and accept and internalize technological innovations. This result can be explained by the fact that teachers with higher professional seniority have more difficulty in keeping up with technological developments compared to new generation teachers during the integration of technology into education. Senior teachers who are accustomed to the usual actions and methods may have difficulty accepting new approaches and may resist change (Arslan, 2022). It is thought that technostress levels of teachers with lower professional experience and age are lower due to their higher technological readiness.

Teachers' technostress levels did not differ significantly according to their education level, branch, computer and smart board usage skills. It is estimated that there is no differentiation according to education level, since the majority of the sample group has a licence degree. Similarly, in terms of computer and smart board usage skills, it is thought that there is no significant difference since the majority of the sample group considers themselves to have a medium level of skill.

According to other results of the study, teachers' intrinsic motivation level was higher than their extrinsic motivation level. Although both types of motivation are important, it is considered more valuable in the literature for teachers to be highly intrinsically motivated. Because it is stated that intrinsic motivation provides high quality learning and creativity (Gömlüksiz & Serhatlıoğlu, 2014; Yazıcı, 2009). When teachers' teaching motivation levels were examined by gender, the teaching motivation of female teachers was significantly higher than that of male teachers. When examined according to age and professional experience, it was seen that the younger age group had higher teaching motivation. These results can be explained by the fact that teachers who are at the beginning of their careers and who graduated relatively recently have a fresher motivation. It is emphasized that teachers being excited and enthusiastic in their lessons with this fresh motivation increases the motivation and expectations of students in the same way (Akbaba, 2006; Receptoğlu, 2013).

According to another result obtained from the study, a low-level negative relationship was detected between teachers' technostress level and teaching motivation and its sub-factors, intrinsic and extrinsic motivation levels. This result reveals that teaching motivation and technostress level affect each other, albeit at a low level. In other words, it can be stated that as the level of technostress increases, the level of motivation decreases. In the current study, this situation is seen more clearly in the age and professional experience variables of the teachers. As a matter of fact, it is reported in the literature that teachers with low motivation levels may have problems in achieving success and satisfaction and their stress levels may be higher (Akman & Durgun, 2022). Similarly, a negative relationship between technostress and other variables also stands out in the literature. In Arslan's (2020) study, a negative relationship was found between teachers' technostress levels and problem-solving skills, and in Gökbulut's (2021) study, a low-level negative relationship was found between their technostress levels and techno-pedagogical competencies. Akgün's (2019) study revealed a negative and medium-level relationship between teachers' perceptions of technostress and their acceptance of technology use. In line with the results obtained in this study, the following suggestions can be made:

1. School administration can take steps to reduce possible environmental factors that may cause technostress in teachers.
2. In order to continue the technical support service in schools without interruption, IT counselors can be assigned regularly in schools.
3. In-service training to improve technology proficiency can be increased in order to reduce the technostress level of teachers with high age and professional experience.
4. In future studies, qualitative and mixed method studies can be conducted to learn in depth the reasons for the results obtained.
5. In future studies, comparisons can be made with high school teachers by including teachers at other education levels.

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