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## THE RELATIONSHIP OF ACADEMICIANS WITH TECHNOSTRESS LEVELS AND JOB SATISFACTION IN THE COVID-19 PROCESS

*(Research article)*

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## Abstract

The aim of this research is to determine the technostress levels experienced by academicians who carry out distance education activities during the COVID-19 process and to examine the relationship between this stress level and job satisfaction. The research is a relational comparison type of research. The participants of the research consisted of 1450 academicians working in different disciplines, determined according to the purposeful sampling method. Technostress scale, job satisfaction scale and open-ended question form were used as data collection tools in the research. Descriptive statistics, multiple linear regression, MANOVA and inductive content analysis were used in the analysis of the data. According to the research findings, it was determined that academicians were exposed to intense technology use in distance education during the COVID-19 process, their workload increased, and this situation negatively affected the private lives, work performance and job satisfaction of academicians. It has been determined that the job satisfaction of academics with higher seniority and title, working at public universities that provide distance education during the COVID-19 process, was higher. In the study, it was determined that gender, type of institution in which academicians work, title and seniority from the main effects, and their interaction made a significant difference on the level of technostres of academicians. According to the results of the research, it has been determined that distance education negatively affects private life in the COVID-19 period, however, it has some useful aspects with difficulties in practice. Based on the results of the research, it is recommended to improve the online learning and technology literacy skills of academicians, to run some of the courses in universities with distance education to be ready for online and emergency distance education, and to improve the employment conditions of academicians working in private universities.

*Keywords:* COVID-19; distance education; technostress; job satisfaction; academician

## 1. Introduction

The COVID-19 outbreak, which first appeared in the world in December 2019 in Wuhan, China, has been declared an epidemic by the World Health Organization due to its rapid spread in a short time and its impact on a dense population (Zhu et al., 2020). The COVID-19 epidemic



has deeply affected higher education as well as all service sectors, and significant problems have begun to be experienced in higher education (Ali, 2020). As a result of this situation, significant changes have been made in the education-teaching processes of higher education institutions (Paudel, 2021).

Due to the increasing negative impact of the COVID-19 epidemic on societies and the lack of preventive treatment for the prevention of the epidemic, face-to-face education has been suspended in educational institutions (including higher education) in most countries, and education services have begun to be offered online (Bao, 2020). It can be said that online teaching-learning processes have developed gradually over time, since universities are generally not ready for the transition process to distance education (Chakraborty et al., 2021; Pokhrel & Chhetri, 2021), could develop an alternative education strategy for distance education, and due to insufficient infrastructure (Zhang et al., 2020; Zawacki-Richter, 2021).

With the increase of the COVID-19 epidemic, distance education has started to be implemented as an alternative education model in higher education institutions (Arora & Srinivasan, 2020; Inciso, 2021). Various measures have been taken in higher education in Turkey, as in the rest of the world, in order to prevent the negative reflections of this transformation in education processes due to the epidemic (Bao, 2020; Erhan & Gümüş, 2020). With the spread of the COVID-19 pandemic in Turkey, with the press statement of the Council of Higher Education (YÖK) dated March 18, 2020, it was decided to suspend face-to-face education in higher education and to switch to distance education as of March 23, 2020. It was ensured that universities with distance education units within their bodies continue their education activities through distance education by using their own infrastructure. For universities that do not have a distance education unit, it was decided to receive support from universities with a strong distance education infrastructure and also with open education units under the coordination of YÖK (YÖK, 2020). In addition, different online platforms have been used to support online education in higher education during the pandemic process (Basilaia & Kvavadze, 2020; Nash, 2020).

With the effect of pandemic conditions in higher education, a technology-based process has been experienced in the delivery of education and training services in distance education (Mishra et al., 2020). The urgent distance education process, in which universities were caught unprepared, brought along some problems (Bozkurt et al., 2020; Toquero, 2020). In the distance education process, it was determined that there was a lack of infrastructure related to access to distance education in higher education (Ifijeh & Yusuf, 2020; Lassoued et al., 2020), insufficient professional competencies of faculty members for distance education (Marinoni et al., 2020), lack of access to distance education for some students (Adnan & Anwar, 2020; Dhawan, 2020; Korkmaz & Toraman, 2020) and internet-related problems (Ferri et al., 2020; Mahmood, 2020). However, it was determined that students experienced fear, anxiety, depression and stress problems (Cao et al., 2020; Salari et al., 2020), students experienced negative perceptions and lack of motivation for online education (Patricia, 2020), student-faculty interaction was inadequate (Flores & Gago 2020), and there were fundamental problems related to the lack of technological literacy skills of faculty members for distance education (Ahmed & Opoku, 2021; Laufer et al., 2021). On the other hand, it has been determined that universities with distance education infrastructure and experience has managed this process better without difficulty than other universities and adapted to this process more easily (Butnaru et al., 2021; Mishra et al., 2020).

It can be said that the distance education process also includes some advantages for students and faculty members. It can also be said that distance education offers opportunities such as

providing flexibility in terms of place and time (Ali, 2020; Dhawan, 2020; McPartlan et al., 2021), ensuring lifelong learning (Alharthi, 2020; Lall & Singh, 2020), reducing educational costs (Dustkabilovich, 2021; Wang, 2021), laying the groundwork for digital transformation in higher education institutions (Abdulrahim & Mabrouk, 2020; Zawacki-Richter, 2021), updating the higher education curriculum according to the needs of time (Toquero, 2020). When the distance education carried out during the COVID-19 process is generally evaluated, it can be said that although the process involves some opportunities, in general, students and faculty members face some psychological, pedagogical, social and technological problems in the process.

Distance education has created a rich online sharing world through new technologies (Gunawardena & McIsaac, 2013). This has paved the way for positive changes in technology that contribute to learning through different learning environments, such as individuals acquiring information-sharing behaviors (Çimen & Yılmaz, 2017; Ghadirian et al., 2014), creating social interaction between individuals (Tee & Karney, 2010) and creating learning communities through social relationships (Kukulka-Hulme, 2012, Ma & Yuen, 2011; Tseng & Kuo, 2010). In addition to the positive contributions of technology-based changes, it has been determined that it also causes negative situations such as anxiety, fear, anxiety and stress in individuals to keep up with these changes (Fernández-Batanero et al., 2021; Maples-Keller et al., 2017).

Stress, anxiety and anxiety related to changes in information and communication technologies are expressed as technostress (Jena, 2015; Kim & Lee, 2021). Technostress causes negative effects such as anxiety, fear, fatigue, low morale and motivation, low performance and job satisfaction (Salanova et al., 2013; Tarafdar et al., 2015). However, studies have shown that technostress negatively affects individuals' job satisfaction (Ho-Jin & Cho, 2016; Jena, 2015; Molino et al., 2020; Suh & Lee, 2017; Tarafdar et al., 2007).

Job satisfaction can be defined as the pleasurable state and emotions that an individual obtains as a result of evaluating his/her work and work life (Judge & Kinger, 2007). Job satisfaction is an important variable that enables us to understand the feelings and thoughts of individuals about their work and professional life (Arifin, 2015; Skaalvik & Skaalvik, 2011). In job satisfaction, it is possible for individuals to meet their individual needs as well as positively influence their emotional and value judgments (Aziri, 2011). The fact that academicians have high job satisfaction increases their productivity by positively affecting their skills such as productivity, creativity and being open to innovation (Bashir & Gani, 2021). In addition, high job satisfaction of academicians positively affects their job performance and motivation to work (Hutabarat, 2015; Majeed & Jamshed, 2021), and contributes to academicians' raising more qualified students and more successful scientific studies (Filiz, 2014). Factors such as unfavourable working conditions (Toropova et al., 2021), excessive workload (Paulík, 2012), academic failure of students, disciplinary problems in school (Shen et al., 2012), inability to achieve professional development and lack of professional experience (Klassen & Chiu, 2010), occupational anxiety, burnout and stress (Ferguson et al., 2012) were found to negatively affect job satisfaction. The fact that academicians have low job satisfaction causes a decrease in their work performance and productivity, and they experience more anxiety and stress at work (Hesli & Lee, 2013).

In the studies conducted during the COVID-19 process, it has been determined that the increasing workload with the increasing authoritarian leadership-oriented management approach in the distance education process in higher education also increases technostress (Christian et al., 2020; Spagnoli et al., 2020). As the technostress experienced by individuals increased, it was



determined that they were exposed to negative factors such as anxiety, tension, fatigue, attention deficit, physical diseases and insomnia, resulting in decreased productivity, job satisfaction and organizational commitment (La Torre et al., 2019; Tarafdar et al., 2010). It has been reported that factors such as the uncertainties of the COVID-19 process, the insufficient technological literacy of academicians, and the technostress caused by the intense use of technology in distance education negatively affect the job satisfaction and performance of academics (Boyer-Davis, 2020; Casacchia et al., 2021; Christian et al., 2020; Penado Abilleira et al., 2021). However, changes in information and communication technologies have enabled individuals to diversify their jobs, and also to increase their work and the speed of performing work (Gregory & Lodge, 2015).

## **1. 2. Aim of Study**

After the start of the COVID-19 pandemic, educational activities at universities were carried out partially face-to-face, reduced by taking necessary precautions in applied sciences, and continued with distance education in all other sciences. It can be said that during the distance education process, faculty members are subjected to intensive and long-term technology use, and at different times they carry out many tasks such as teaching, consulting and commission duties, participating in seminars and in-house activities, and fulfilling their duties and responsibilities related to their field through new technological software for distance education. Especially in this process when universities were caught unprepared, it was expected that academicians were involved in a technology-based education process without the necessary professional qualifications, and they were expected to adapt to the distance education process in a short time and fulfill their educational activities and other duties. It is possible that this technology-intensive process experienced in distance education will negatively affect the technostress levels and job satisfaction of academicians. In addition, being constantly busy with with business life anywhere and anytime with distance education tools and other information and communication tools can lead to violation of the boundaries of private life, decrease in work and even life satisfaction, as well as an increase in technostress caused by the use of these tools. Considering the increasing use and importance of technology in the distance education process, this research is thought to be important in order to prevent technostress caused by technology use and its negative effects on job satisfaction. Did the intensive use of distance education tools and other information and communication-oriented technological tools in this period cause stress in academics? Did it even affect their job satisfaction accordingly? These questions formed the main motivation of the research. The aim of this research is to determine the technostress levels experienced by academics who conduct distance education activities online during the COVID-19 process and to examine the relationship between this stress level and job satisfaction.

## **2. Method**

In the study, the levels of technostress and job satisfaction of academicians during the COVID-19 process and the relationships between these variables were examined. Therefore, the research is a relational comparison type of research (Fraenkel et al., 2012).

### **2.1. Participants**

The universe of the research is academicians working at universities in Turkey. Since the research was conducted with the principle of voluntary participation, the researchers collected data from academics from whom they could easily obtain data. This situation made the research sample a purposeful sample. When using purposeful sampling, researchers determine the characteristics of the people who will form the research universe and reach people who fit these



characteristics. Based on the researcher's knowledge of the universe, it is ensured that the people (subjects) who can give the best information for the purpose of the research are selected (Christensen et al., 2014; McMillan & Schumacher, 2014). Some demographic variables of 1427 academicians participating in the research are given in Table 1.

**Table 1.** *Demographic characteristics of the academicians participating in the research*

	Variables	Frequency (Percentage)
Gender	Female	803(56.3)
	Male	624(43.7)
University Type	State	1290(90.4)
	Private	137(9.6)
Akademic Title	Research Assistant	172(12.1)
	Dr. Research Assistant	94(6.6)
	Lecturer	173(12.1)
	Dr. Lecturer	118(8.3)
	Assistant Professor Doctor	339(23.8)
	Associate Professor Doctor	290(20.3)
	Professor Doctor	241(16.9)
Seniority	Less Than 5 Years	269(18.9)
	6-10 Years	361(25.3)
	11-15 Years	278(19.5)
	16 Years and Above	519(36.4)
Academic Field	Educational Science	251(17.6)
	Liberal Arts and Basic Sciences	216(15.1)
	Health Sciences	207(14.5)
	Social Sciences, Humanities, Law and Theology	225(15.8)
	Applied Sciences	301(21.1)
	Foreign Languages/Philology	106(7.4)
	Arts	121(8.5)
	Total	1427(100)

## 2.2. Data Collection Tools

In the research, data were collected with technostress and job satisfaction scales. The technostress scale was developed by Tarafdar et al. (2007) to determine the technostress levels of academicians and was adapted into Turkish by Ilgaz et al. (2016). The scale consisted of 23 items that obtained five-point Likert-type participant responses. Factor analysis confirmed that 23 items were grouped under five subscales. The first of the subscales is “techno overload” (items 1-5), the second is “techno invasion of private life” (items 6-9), the third is “techno complexity” (item 10-14), the fourth is “techno insecurity” (items 15-19) and the fifth is “techno uncertainty” (items 20-23) dimension. Cronbach Alpha reliability level was determined for the sub-dimensions of the scale. Reliability levels were between .70 and .90. The job satisfaction scale was developed by Brayfield and Rothe (1951) and shortened by Judge et al. (1998) to measure the job satisfaction of employees and was adapted into Turkish by Basol and Çömlekçi (2020). The scale consisted of five items that obtained five-point Likert-type participant responses. According to the factor analysis, it was confirmed that the

items were gathered under a single factor. The Cronbach Alpha reliability level of the scale was determined. Reliability level was calculated as .93.

### **2.3. Analysis of Data**

Technostress and job satisfaction levels experienced by academics were analyzed with descriptive statistics (mean, standard deviation, median, minimum and maximum scores). Technostress level experienced on job satisfaction level, gender, type of institution (private or state), seniority, education level (undergraduate, graduate) and weekly lecture hours in distance education (0-15 hours, 16-30 hours and 30 hours and the effect of the above) variables was examined using the multiple linear regression method. There are many variables that are included in the regression model and have a possible effect. Multiple linear regression models are used to examine the effect of multiple independent (explanatory, predictive) variables on a dependent (outcome, output) variable (Cohen et al., 2002). In the multiple linear regression modeling, the technostress level variable included in the model is a continuous variable. But other variables (such as gender, seniority) are categorical variables. These categorical variables were included in the regression model as dummy variables. The reason for including categorical variables as dummy/artificial variables in the regression analysis is to prevent autocorrelation between variables (Power & Xie, 2008). Possible differences in the technostress levels of male and female academicians with different seniority in different types of institutions (state and private) were analyzed with MANOVA.

At the end of the measurement tools, an open-ended section was left for the academicians to convey their views as they wish, and in this section, they were asked to convey "their experiences with technology origin in the COVID-19 process and the reflections of this process on their lives". Responses to this section were analyzed by inductive content analysis (Mayring, 2000).

### **2.4. Ethical Consideration**

This research was carried out with the decision of Çanakkale Onsekiz Mart University Scientific Research Ethics Committee dated 01/07/2021 and numbered E-84026528-050.01.04-2100097557.

## **3. Findings**

### **3.1. Technostress and Job Satisfaction Levels of Academicians**

Technostress and job satisfaction scales of academicians were applied in the research. Apart from these scales, demographic information was obtained from teachers as to gender, type of institution (private or state), seniority, education level (undergraduate, graduate) and weekly lecture duration in distance education. Descriptive statistics on the level of technostress experienced by teachers based on the answers given by 1427 teachers are given in Table 2.

**Table 2.** *Technostress levels of academics*

Items	Mean (Standard Deviation)	Median (Min-Max)
1 Technology forces me to work faster.	3.7(1.1)	4(1-5)
2 Technology is forcing me to do more work than I can do.	3.4(1.2)	4(1-5)
3 Technology forces me to work in very limited times.	3.2(1.3)	3(1-5)
4 I need to change my work habits to adapt to new technologies.	3.4(1.3)	4(1-5)
5 I have more workloads due to increased technology complexity.	3.4(1.4)	4(1-5)
6 I spend less time with my family because of technology.	3.2(1.4)	3(1-5)
7 Because of technology, I stay in touch with my work even on vacation.	4.1(1.1)	4(1-5)
8 I sacrifice my holidays and weekends to keep myself up to date with new technologies.	3.4(1.4)	4(1-5)
9 I feel my personal life is being invaded by technology.	3.5(1.4)	4(1-5)
10 I don't know enough about technology to do my job satisfactorily.	2(1.1)	2(1-5)
11 I need a long time to understand and use new technologies.	2.3(1.2)	2(1-5)
12 I can't find enough time to work to improve my technological skills.	2.6(1.2)	3(1-5)
13 I think that new employees in this institution know more about computer technology than I do.	2.3(1.3)	2(1-5)
14 Understanding and using new technologies is often too complicated for me.	2.2(1.1)	2(1-5)
15 I constantly feel my job security is under threat because of new technologies.	1.9(1.1)	1(1-5)
16 I have to constantly improve my skills so that my job position is not changed.	2.5(1.3)	2(1-5)
17 I am threatened by more technologically skilled co-workers.	1.7(0.9)	1(1-5)
18 I do not share my information with my colleagues so that my job position is not changed.	1.4(0.8)	1(1-5)
19 I feel that there is less information sharing among coworkers due to fear of job position change.	1.9(1.2)	1(1-5)
20 There are new developments in technology that we constantly use in our institution.	3.1(1.2)	3(1-5)
21 There are constant changes in computer software in our institution.	2.7(1.2)	3(1-5)
22 There are constant changes in computer hardware in our institution.	2.4(1.2)	2(1-5)
23 Frequent updates are made in computer networks in our institution.	2.8(1.2)	3(1-5)

N=1427

The item that academics most agreed is "I keep in touch with my work even on vacation because of technology". It is understood that technology affects the private life of academicians and even their holidays. The least agreed items are "I feel my job security is constantly under threat due to new technologies", "I am under threat from colleagues with more technological





skills", "I do not share my information with my colleagues so that my job position is not changed" and "I feel that there is less information sharing between colleagues due to fear of job position change". Academics do not perceive a threat to their job security due to technology. The job satisfaction levels of the academicians participating in the research were examined. The results are given in Table 3.

**Table 3.** Job satisfaction levels of academicians

Items	Mean (Standard Deviation)	Median (Min-Max)
1 I love my job.	4,5(0,7)	5(1-5)
2 I feel happy when I work.	3,8(1)	4(1-5)
3 I am satisfied with my current job.	4,3(0,9)	5(1-5)
4 I find my job enjoyable.	4,3(0,9)	5(1-5)
5 Time passes well at work.	3,9(1)	4(1-5)

N=1427

The job satisfaction levels of academicians are generally high. Academics enjoy their work, are satisfied with their work, and find their work enjoyable.

### 3.2. The Effect of Technostress Level and Some Demographic Variables on Teachers' Job Satisfaction

The effect of technostress level, gender, type of institution (private or state), seniority, education level (undergraduate, postgraduate) and weekly distance education (0-15 hours, 16-30 hours and 30 hours and above) on the level of job satisfaction was examined by multiple linear regression methods. The results of the analysis are given in Table 4.

**Table 4.** Variables affecting job satisfaction

Model	B	Std. Error	t	p	95% Confidence Interval		R <sup>2</sup>	F	p
Male	0,385	0,206	1,871	0,062	-0,019	0,789	0.11	7.99	<0.0001
State University	1,206	0,345	3,500	<0,0001	0,530	1,882			
Research Assistant	-	0,368	-4,701	<0,0001	-2,453	-1,009			
Dr. Research Assistant	-	0,436	-0,252	0,801	-0,965	0,746			
Instructor	0,151	0,356	0,425	0,671	-0,547	0,850			
Dr. Instructor	-	0,392	-0,385	0,701	-0,919	0,618			
Assoc. Prof. Dr.	0,257	0,304	0,846	0,398	-0,339	0,854			
Prof. Dr.	0,491	0,358	1,372	0,170	-0,211	1,194			
Less than Five	0,143	0,354	0,404	0,687	-0,551	0,836			
6-10 Year	-	0,306	-0,104	0,917	-0,632	0,568			
10-15 Year	-	0,300	-2,091	0,037	-1,217	-0,039			
Educational Sciences	-	0,315	-0,987	0,324	-0,928	0,307			

Basic Sciences	0,562	0,326	1,723	0,085	-0,078	1,201
Health Sciences	-0,276	0,338	-0,816	0,415	-0,939	0,387
Social Sciences, Humanistic discipline and Theology	0,350	0,327	1,069	0,285	-0,292	0,991
Foreign Language, Philology	0,307	0,421	0,728	0,467	-0,519	1,132
Art	0,783	0,398	1,967	0,049	0,002	1,564
Technological Load	0,053	0,028	1,860	0,063	-0,003	0,108
Technological Extortion	-0,079	0,033	-2,407	0,016	-0,144	-0,015
Technological Complexity	-0,026	0,026	-1,005	0,315	-0,078	0,025
Technological Insecurity	-0,154	0,031	-5,037	<0,0001	-0,214	-0,094
Technological Change	0,142	0,025	5,651	<0,0001	0,093	0,192

Model fit was tested with ANOVA test and model fit was determined ( $p < .05$ ). The total explanatory power of the model was determined as 11% ( $R^2 = 0.11$ ). The level of explaining job satisfaction of the variables included in the model is 11%. Being an academician in public universities has a positive effect on job satisfaction compared to being in a foundation university. Being a research assistant negatively affects job satisfaction compared to being a Dr. Lecturer. Being an academician for 10-15 years affects job satisfaction negatively compared to being an academician working for 16 years or more. Being an academician in the field of arts has a positive effect on job satisfaction compared to being an academician in applied sciences. Technology-induced invasion of private life (techno invasion) and technology-induced insecurity (techno insecurity) are variables that have a negative effect on job satisfaction. Constant change in technology (techno uncertainty) is a variable that has a positive effect on job satisfaction.

### 3.3. Academicians' Gender, Type of Institution and Technostress Level

Possible differences in the technostress levels of male and female academicians working in different types of institutions (state and foundation) were analyzed with MANOVA. The results are given in Table 5.

**Table 5.** Comparison of technostress levels of male and female academicians working in different types of institutions (state and foundation) (MANOVA)

Effect	F	Hypothesis df	Error df	p	$\eta^2$
Gender	4.244	5	1419	0.001	0.015
University Type	4.916	5	1419	<0.0001	0.017
Gender * University Type	0.568	5	1419	0.725	0.002

It was determined that gender, one of the main effects on the technostress level of academicians, created a significant difference ( $F_{[5-1419]}=4.244$ ,  $p<.05$ ). The significant difference identified is in the low effect size ( $\eta^2=0.015$ ) according to the Cohen (1988) classification. Among the main effects, it was determined that the type of institution in which the academicians work makes a significant difference on the level of technostress ( $F_{[5-1419]}=4.916$ ,  $p<.05$ ). The significant difference obtained is at the low effect level ( $\eta^2=0.017$ ). It was determined that the interaction of gender and the type of university in which the academicians work did not make a difference on the level of technostress ( $p>.05$ ).

In order to determine which sub-scales/scales of the technostress scale, gender and university type that make a significant difference from the main effects, the results of ANOVA conducted within MANOVA were examined. The results are given in Table 6.

**Table 6.** Comparison of technostress level by university type and gender (ANOVA)

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Gender	Techno Overload	140.809	1	140.809	5.868	0.016	0.004
	Techno Invasion	223.884	1	223.884	12.831	<0.0001	0.009
	Techno Complexity	171.821	1	171.821	7.679	0.006	0.005
	Techno Insecurity	14.998	1	14.998	0.945	0.331	0.001
	Techno Uncertainty	104.195	1	104.195	6.240	0.013	0.004
University Type	Techno Overload	39.782	1	39.782	1.658	0.198	0.001
	Techno Invasion	15.522	1	15.522	0.890	0.346	0.001
	Techno Complexity	254.806	1	254.806	11.388	0.001	0.008
	Techno Insecurity	9.258	1	9.258	0.584	0.445	0.000
	Techno Uncertainty	48.564	1	48.564	2.908	0.088	0.002

The gender of the academicians made a significant difference on “techno overload” ( $F=5.868$ ,  $p<.05$ ). Technological load average of women (17.89) is higher than the average of men (16.73). Gender created a significant difference in “techno invasion of private life” ( $F=12.831$ ,  $p<.05$ ). The average of women's invasion of private life due to technology (14.95) is higher than the average of men (13.46). Gender created a significant difference in

“experienced techno complexity” ( $F=7.679$ ,  $p<.05$ ). The average of technological difficulty experienced by women (11.41) is higher than the average of men (10.11). Gender made a significant difference on “continuous change in technology (techno uncertainty)” ( $F=6.240$ ,  $p<.05$ ). Women's average of continuous changes in technology (11.79) is higher than that of men (10.78). The significant differences obtained are at the low effect size level.

The type of university where the academics worked made a significant difference in “techno complexity” ( $F=11.388$ ,  $p<.05$ ). The average of technological difficulties experienced by academics in state universities (11.55) is higher than the average of academics in foundation universities (9.97). The significant differences obtained are at the low effect size level.

### 3.4. Title, Seniority, Field of Study and Technostress Level of Academicians

Possible differences in the technostress levels of academics working in different scientific fields with different titles and seniority were analyzed with MANOVA. The results are given in Table 7.

**Table 7.** Comparison of technostress levels of academics with different titles and seniority and working in different fields of science (MANOVA)

Effect	F	Hypothesis df	Error df	p	$\eta^2$
Akademic Title	2.302	30	6325	<0.0001	0.011
Seniority	1.694	15	3789	0.045	0.007
Academic Field	1.150	30	6325	0.262	0.005
Seniority	1.522	90	6325	0.001	0.021
Akademic Title * Academic Field	1.178	180	6325	0.054	0.032
Seniority * Academic Field	0.997	90	6325	0.082	0.018
Akademic Title * Seniority * Academic Field	1.103	370	6325	0.090	0.061

It was determined that the title, which is one of the main effects on the technostress level of academicians, created a significant difference ( $F_{[30-6325]}=2.302$ ,  $p<.05$ ). The significant difference identified is in the low effect size ( $\eta^2=0.011$ ). Among the main effects, it was determined that the seniority of the academicians created a significant difference on the level of technostress ( $F_{[15-3789]}=1.694$ ,  $p<.05$ ). The significant difference obtained is at the low effect level ( $\eta^2=0.007$ ). Among the main effects, the field of science in which academicians work did not make a significant difference on the level of technostress ( $p>.05$ ).

The interaction between the title of academics and their seniority created a significant difference on the level of technostress ( $F_{[90-6325]}=1.522$ ,  $p<.05$ ). The significant difference obtained is at the low effect level ( $\eta^2=0.007$ ). Other variable interactions did not make a significant difference. In order to determine which subscales/scales of the technostress scale, one of the variable interactions with title and seniority, which creates a significant difference from the main effects, the title-seniority interactions make a difference, the results of ANOVA conducted within MANOVA were examined. The results are given in Table 8.

**Table 8.** Comparison of technostress level by university title, seniority, field of science (ANOVA)

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Akademic Title	Techno Overload	192.308	6	32.051	1.360	0.228	0.006
	Techno Invasion	186.734	6	31.122	1.757	0.105	0.008
	Techno Complexity	350.693	6	58.449	2.640	0.015	0.012
	Techno Insecurity	106.484	6	17.747	1.151	0.331	0.005
	Techno Uncertainty	276.267	6	46.044	2.958	0.007	0.014
Seniority	Techno Overload	48.098	3	16.033	0.680	0.564	0.002
	Techno Invasion	0.795	3	0.265	0.015	0.998	0.000
	Techno Complexity	59.376	3	19.792	0.894	0.444	0.002
	Techno Insecurity	261.055	3	87.018	5.642	0.001	0.013
	Techno Uncertainty	57.647	3	19.216	1.234	0.296	0.003
Akademic Title * Seniority	Techno Overload	495.923	18	27.551	1.169	0.280	0.016
	Techno Invasion	275.227	18	15.290	0.863	0.625	0.012
	Techno Complexity	567.330	18	31.518	1.424	0.111	0.020
	Techno Insecurity	617.389	18	34.299	2.224	0.002	0.031
	Techno Uncertainty	888.268	18	49.348	3.170	<0.0001	0.043

The title of academics made a significant difference in "techno complexity" ( $F=2.640$ ,  $p<.05$ ). The average of technology difficulty experienced by physician lecturers (10.10) is lower than that of associate professors (12.51). The title of academics has made a significant difference due to the "continuous change in technology (techno uncertainty)" ( $F=2.958$ ,  $p<.05$ ). The mean change in technology (10.16) of doctoral faculty members is lower than that of lecturers (11.72) and associate professors (11.66). The significant differences obtained are at the low effect size level.

The seniority of academics has made a significant difference to "technology-induced insecurity" ( $F=5.642$ ,  $p<.05$ ). Technological resources distrust averages of those with less than 5 years of experience (10.35) are higher than those with 6-10 years of experience (8.91). The significant differences obtained are at the low effect size level.

The interaction of seniority and title of academicians made a significant difference over "techno insecurity" ( $F=2.224$ ,  $p<.05$ ). Technological distrust averages of doctor research assistants and associate professors with less than 5 years of experience are higher than 11-15 years' research assistants, 6-10 and 11-15 years' doctor lecturers, associate professors 16 years and above, professors 16 years and above. The interaction of seniority and title of academicians has made a significant difference over the "continuous change in technology (techno uncertainty)" ( $F=3.170$ ,  $p<.05$ ). The average of continuous changes in technology for doctoral research assistants, lecturers, doctoral faculty members and professors with 16 years or more is higher than research assistants for less than 5 years, research assistants for 6-10 years and research assistants for 11-15 years. The significant differences obtained are at the low effect size level.

### 3.5. Views of Academics on Technostress Levels in the COVID-19 Process

At the end of the assessment tools, an open-ended section was left for the teachers to convey their opinions as they wish, and in this section, they were asked to convey "their experiences with technology origin in the COVID-19 process and the reflections of this process on their lives". Responses to this section were analyzed with inductive content analysis. As a result of the analysis, codes were collected in three categories under the theme of distance education in the COVID-19 period. These are the effect of distance education on private life, its difficulties in practice and its beneficial aspects. The opinions of the academicians with 52 codes under these three categories are summarized in Figure 1.



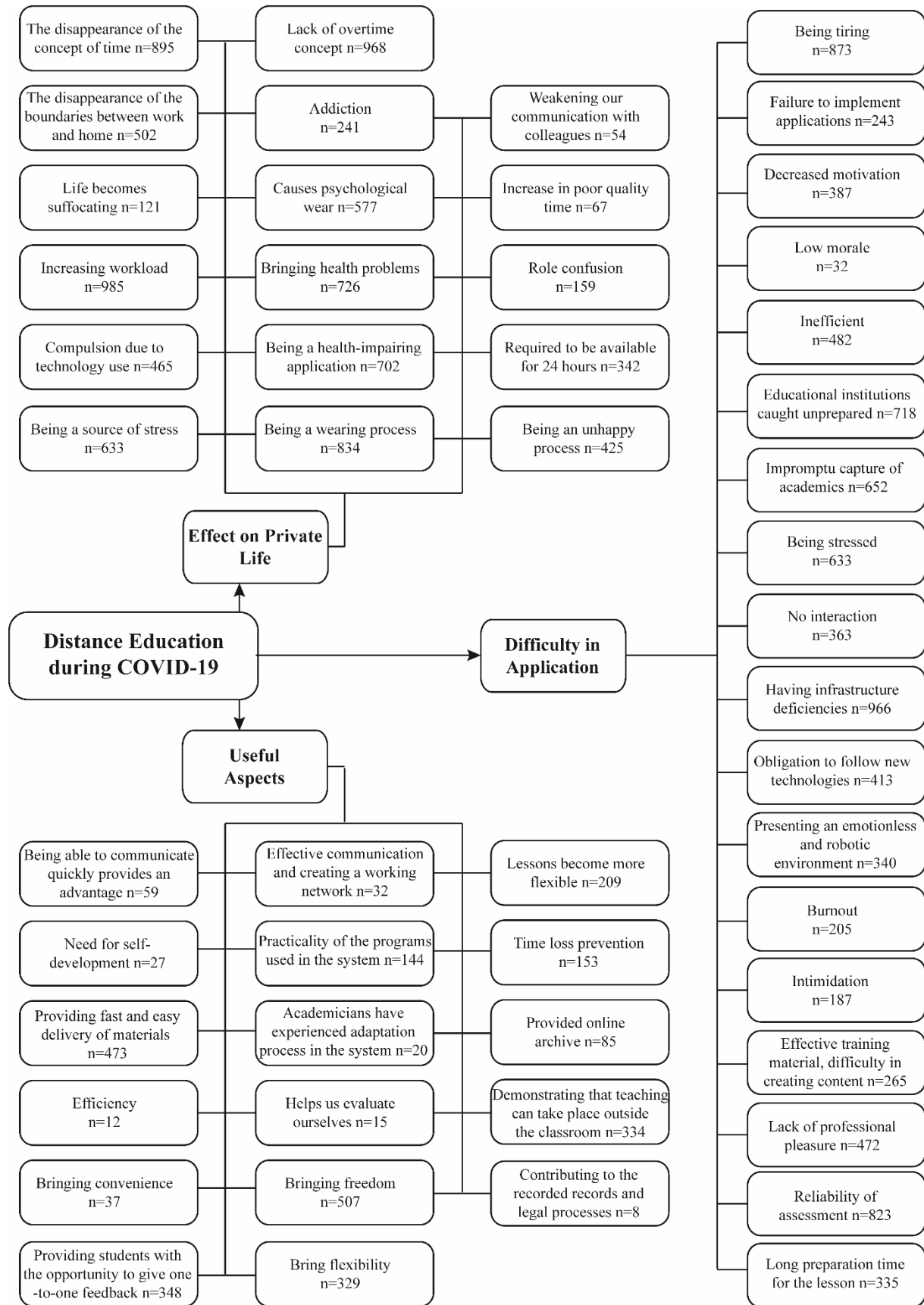


Figure 1. The Experiences of academics in distance education in the COVID-19 process and their thoughts on the process

During the COVID-19 pandemic, academics regarding the education and training activities carried out in the form of distance education emphasized the impact of distance education on private life, especially its negative impact. At the same time, academicians think that distance education has many difficulties in practice. Although it is not emphasized as much as the negative aspects, the useful aspects of distance education are also indicated by academicians.

Academicians stated that distance education eliminates the concepts of time and work, removes boundaries between work and home, makes life suffocating, causes poor quality time and psychological wear, increases workload, brings health problems, forces academics to be online all the time, makes them unhappy and, in short, is a debilitating process. Some participating academics expressed their views as follows:

*“It was a great convenience to get rid of Istanbul traffic with online education. I think that because people found more free time, they took on more burden themselves. That's why we're subject to a technological invasion. However, difficulties arose because so many people work so hard in their spare time and you are expected to adapt to them in some way. Although I completely keep myself and my family away from business life on holidays, the fact that students send messages even to my mobile phone makes it difficult for me to prevent this. I even have conflicts with students about it. I think that we need written etiquette rules to establish this work ethic, and that even e-mails should not be sent outside of working hours.”*

*“I think that as academics, those of us who are concerned about doing their job properly, have sacrificed too much from their private lives. We do not spend enough time with our family. I feel that I am very worn out psychologically and that my life is in pieces.”*

*“Working from home is easy but very tiring in terms of reaching many people at once. I had a confusion of time and role. Are you a teacher? Are you a mom? Are you a wife? The work of the house and the work of the workplace are mixed together. Face-to-face training is better. It had a habit of working life and an order.”*

Academicians saw distance education as a type of teaching that is tiring, unsuitable for applied education, reduces morale and motivation, is inefficient, stressful, does not allow interaction with the student, is callous, causes burnout and frustration, does not provide professional pleasure, does not allow reliable measurement and evaluation. At the same time, academicians stated that universities and academicians are caught off guard by distance education, that there are infrastructure deficiencies and that it is difficult to prepare content and effective educational material. Some participating academics expressed their views as follows:

*“Distance education provided a clean working environment away from unnecessary conversations with unnecessary people in the school environment, but the efficiency in education decreased. Lack of technological infrastructure is a cause of stress. I also think that lecture videos are against personal rights.”*

*“The materials I used in my classes were compatible with technology, I could use all of them easily, whether online or face-to-face. Since my materials were ready, switching to online training did not require extra time. Either way, there was no problem in this regard. However, the lack of interaction in face-to-face education, I really wanted to be able to see the expression of understanding in the eyes of the students, which was missing, so even though I was happy to explain it, I was deeply unhappy with my lesson, but I was careful not to reflect it on them because it was important to keep the student's morale and motivation as high as the course content during this period. I had students whose parents were unemployed, who had to work themselves and had to follow courses from the records,*



*who didn't have internet because they lived in the village, and who followed the records from the home of their relatives in the district over the weekend, while trying to make it easier for them to access as much resources as possible while trying to make sure they believed they could make it possible without losing hope. I list the problems I have experienced in the context of stress; 1) We ran online classes with zoom in the fall semester and we had no problems, but in the spring period everything was turned upside down with Microsoft Office, we had many, many connection problems, the connection was lost while the lesson was going on, we were struggling to connect to the lesson again by typing on whatsapp and saying "don't leave the class 2) Preparing questions over and over again due to the problem such as compensation for the visa, compensation for the final, in short, compensation for the compensation because students have connection problems:) 3) The haste of uploading all lecture notes, homework etc. to the system in a short time, for the entire semester for all courses, with the instruction sent from the dean's office without arranging training to the instructors of information processing related to the distance education process. We didn't have any extra time because, since we switched to the home school system, my son had live lessons in the other room while I was teaching in different rooms of the house. The follow-up of their lessons, whether there were course deficiencies because the process seemed to have come out of school and from the teacher. We have had a great success in my thesis consultancy and graduate courses. Their participation in the course increased, and because they were employees, we were able to update the course hours in line with their possibilities. There is so much more I can tell you, but I have a meeting to catch. I wish you success in your research."*

Although the impact of distance education on private life and its difficulty in practice were not emphasized as much, the academician also expressed the beneficial aspects of distance education. The advantage of distance education in providing fast communication, creating an effective communication network, making the courses more active, making academics feel the need to improve themselves, being practical of distance education software, preventing time loss, providing archives, providing fast and easy access to materials, being efficient, proving that teaching can be done outside the classroom, bringing freedom and flexibility are indicated. Some participating academics expressed their views as follows:

*"Students cannot keep me busy, I am not exposed to their annoying attitudes and behaviors in the lessons, I teach the lesson as I wish, there is no distraction by coming to the lesson late and opening the door, I do not bother asking permission to leave the lesson, the noise in the corridors does not affect me anymore. I hardly ever go to college. I don't see many academics who have psychological problems, who are annoying, demoralizing, arrogant, worthless. They can no longer steal my joy of life. Although the duration of the lessons is 20 minutes, I teach much more than before. No one can steal my lessons by taking students to the conference room during my lesson. I was losing four or five classes this way every semester. No more losses. I don't see the students who sleep in the classes and deal with their phones. I don't have to come to my room and do therapy for young people who are caught up in the agony of love, lack of money, ideological conflicts. I'm teaching in the kitchen and sipping my tea in between. It is easy to share many images and videos. Don't give me that class, I don't have to struggle with problems that the administration could not solve for years, such as the windows do not open, the projector does not work, the number of rows is not enough. The epidemic has made me so happy, it has brought so much peace to my life that I never want it to end. I almost pray that new, but not lethal, variants are produced every day. I would almost pray for viruses. It was that good. If I am given the opportunity to be outside the city, I can happily work at the university of this city until I retire without ever coming to this unfortunate city. I live happily ever after with my extended family. Provided that there are no heavy restrictions. Institutions should allow us to be in different cities during closures. It would be better to be able to be close with*

*our mother and father. As a matter of fact, it is not right to leave the needs of old people to the mobile healthcare teams while we are there.”*

*“On-Line teaching has contributed to the understanding that TEACHING does not necessarily have to be in a classroom. It ensured that all the negativities that would occur in a classroom environment were recorded and contributed to the legal processes. It helped us to see academics who did not give their lectures on time and in sufficient time. It enabled students to access their course records offline and be included in the system whenever they want and are open to learning. It has ensured that academics do not waste time in class with unnecessary and irrelevant extracurricular questions/problems. It allowed the students adapt the system according to themselves and develop a mass copy system. It turned out that EDUCATION is a different concept than teaching. It revealed that academics are also human beings, that they are not robots, that they have families, and that students and all administrations should know about this. It has shed light on us to develop the foresight of how a community could grasp in the dark in the absence of education and teaching. It helped to show how academics who don't do their job right can still be protected, and how some students can stay in the system without making a sound as long as they get passing scores from these academics. In about 18 months, it revealed how the system can or should evolve into other systems, and the fact that assesment systems do not indicate success and knowledge. Anyway, I can write dozens more...”*

#### **4. Conclusion and Discussion**

When the findings related to the technostress levels of the academicians were examined in the study, it was determined that the academicians had the most workload in the COVID-19 process and they agreed with the scale items that they were in contact with work even on vacation due to technology. It can be said that the use of technology in the distance education process affects the private life of academicians and even their holidays. Similar findings have been obtained in some studies (Melin et al., 2014; Suharti & Susanto, 2014) that increased workload increases technostress. In addition to the intensive use of technology in distance education applications used to protect against the effects of the pandemic during the COVID-19 process, it can be said that the conduct of research, project, consultancy, various commission and management tasks at the university online, in addition to the educational activities of academicians, has an impact on these results. In similar studies in the literature, findings have been obtained that the intensive use of technology during the COVID-19 process adversely affects the private lives of individuals (Dey et al., 2020; Molino et al., 2020).

Academics were found to be least agreed with "I feel constantly threatened by new technologies", "I am under threat from colleagues with more technological skills", "I do not share my knowledge with colleagues so that my job position is not changed" and "I feel that there is less information sharing between colleagues due to fear of job position change". It can be said that academicians do not perceive a threat in their job security due to the use of technology in the distance education process. Unlike our research results, in some researches, we have implemented more authoritarian decision-making processes in the COVID-19 process, where academics are subjected to undemocratic governance, business-based inequality and exploitative practices, professional autonomy is weakened, contracts are not renewed as a result of financial pressures, a culture of fear is formed among academics with increasing job insecurity, academics are passive due to fear of financial losses, and university administrations have implemented more authoritarian decision-making processes in this process. (Holmwood & Marcuello Servos, 2019; Watermeyer et al., 2021). It can be said that academicians working



in public universities in Turkey do not have a problem with job security due to the fact that their personal and staff rights are legally guaranteed.

According to the results of the research, it can be said that the job satisfaction levels of the academicians are high in general during the COVID-19 process and that the academicians enjoy their work. In some studies, conducted during the COVID-19 process, it was determined that the job satisfaction levels of academicians were high (Kulikowski et al., 2021; Saha & Awal, 2021). In the researches carried out, it was determined that academicians have good relations with the university administration during the pandemic process (Kulikowski et al., 2021), personal rights and positive relationships with individual development, work environment and colleagues rather than promotion opportunities positively affect the job satisfaction of academicians (Saha & Awal, 2021). Based on the results of the research, it can be said that the problems experienced in the COVID-19 process and the distance education process, which is predominantly technological applications, do not negatively affect the job satisfaction of academicians.

According to the results of the research, being an academician in public universities during the COVID-19 process has a positive effect on job satisfaction compared to being in a foundation university. Similarly, in some studies, it has been determined that the job satisfaction of academicians working at state universities is higher (Chapagain, 2021; Toropova et al., 2021). It can be said that academics working in private universities during covid-19 have lower job satisfaction due to the lack of guaranteed job security and higher workloads. According to the results of the research, in terms of title, being a research assistant negatively affects job satisfaction according to being a Dr. Faculty Member. Being an academician for 10-15 years affects job satisfaction negatively compared to being an academician working for 16 years or more. Based on the results of the research, it can be said that as the title and seniority of academicians' increase, their job satisfaction also increases. In some studies, similar results were obtained indicating that higher seniority and higher academic titles affect job satisfaction positively (Din et al., 2010; Filiz, 2014). It can be said that the academic and economic gains of the academicians as a result of the change of title and the increase in seniority have a positive effect on their job satisfaction.

According to the results of the research, being an academician working in the field of arts has a positive effect on job satisfaction compared to being an academician in applied sciences. Similarly, some studies have found that being an academician working in the field of arts has higher job satisfaction than being an academician in applied sciences (Altinok, 2011; Filiz, 2014). This can be explained by the fact that professional values that support individual job satisfaction such as aesthetics and creativity are more prominent in the field of art. When the results of the research are examined, it has been determined that the technology-induced invasion of private life and technology-induced insecurity (techno insecurity), which are sub-dimensions of the technostress scale, have a negative effect on job satisfaction. The invasion of private life by technology defines situations where the lines between work and personal life are blurred and one is compelled to be 'online' all the time (Tarafdar et al., 2007). In the COVID-19 process, it can be said that academics fulfill their educational duties and other administrative duties and responsibilities at home and online. In this process, it is possible that the home environment of academicians has turned into a work environment, and this situation violates the boundaries of private life and reduces job satisfaction in academics. In researches on distance education activities carried out in the COVID-19 epidemic, similar results were obtained indicating that academics are accessible at any time with technological tools and this situation violates private life (Akour et al., 2020; Boncori, 2021; Casacchia et al., 2021).



Another important finding obtained in the research is the negative effect of technology-based insecurity on the job satisfaction of academicians. Universities, and therefore academicians, are caught unprepared for distance education (Bozkurt et al., 2020; Toquero, 2020), insufficient infrastructure regarding access to distance education in higher education (Ifijeh & Yusuf, 2020; Lassoued et al., 2020; Marinoni et al., 2020), insufficient professional competencies of faculty members for distance education (Marinoni et al., 2020), uncertainties in the COVID-19 process, intensive use of technology in distance education (Boyer-Davis, 2020; Casacchia et al., 2021; Christian et al., 2020; Penado Abilleira et al., 2021), it can be said that factors such as technology-based insecurity negatively affect the job satisfaction of academicians. When the research results are examined, it has been determined that the continuous changes in technology (techno uncertainty) positively affect the job satisfaction of academicians. Continuous changes in technology are likely to have positive effects on academics' job satisfaction due to factors such as the use of changes in technology in higher education in the context of educational technology, the importance of personal and professional development of academicians in order to adapt to these changes, and the changes in technology facilitating academic activities and other duties of academics.

According to the results of the research, it has been determined that the main effects on the technostress level of academicians are gender and the type of institution in which the academicians work. It was determined that the interaction of gender and the type of university in which the academicians work did not make a difference on the level of technostress. It has been determined that academics make a significant difference in favor of female academics in all sub-dimensions, including "techno overload", technology-infested invasion of private life, "techno complexity" and "continuous change in technology (techno uncertainty)". During COVID-19, it can be said that female academics feel that their private lives are invaded by more technology than male academics, they have more difficulty in using technology and they are more affected by the constant change in technology, and they experience more technostress based on all these factors. This can be explained by the fact that female academics are exposed to the technology-intensive COVID-19 distance education process at home, as well as having additional responsibilities related to motherhood and family compared to male academics (Ali & Ullah, 2021, Parlak et al., 2021).

According to the results of the research, the type of university where the academicians work made a significant difference in "techno complexity". The average of technological difficulties experienced by academics in state universities is higher than the average of academics in foundation universities. The reason for this situation can be cited as the unpreparedness of universities for the emergency distance education process (Bozkurt et al., 2020; Toquero, 2020), the inadequate infrastructure regarding access to distance education in higher education (Ifijeh & Yusuf, 2020; Lassoued et al., 2020; Marinoni et al., 2020). However, it can be said that factors such as the excess number of students in state universities and the lack of human resources (YÖK, 2021) are also effective. On the other hand, it has been determined that universities with distance education infrastructure and experience, managed this process better than other universities without technological complexity and adapted to the process more easily (Butnaru et al., 2021; Mishra et al., 2020). The deficiencies in this area can be eliminated with research and new infrastructure investments in distance education, which universities are caught unprepared for in terms of infrastructure and experience.

According to the results of the research, it was determined that the title, which is one of the main effects on the technostress level of the academicians, created a significant difference, and the title created a significant difference in the "techno complexity" sub-dimension. The average





technology difficulty experienced by doctoral faculty members is lower than the average of associate professors. On the other hand, it was determined that the title of academicians made a significant difference due to the "continuous change in technology (techno uncertainty)", and that the average of change in technology of doctoral faculty members was lower than that of lecturers and associate professors. In this case, it can be said that doctoral faculty members consider themselves more adequate than lecturers and associate professors in terms of effective use of technology for the distance education process, so they have less difficulty.

Another result obtained in the research is that the interaction between the seniority of the academicians and the seniority and title creates a significant difference on the level of technostress. It was determined that the seniority of the academicians made a significant difference in the "techno insecurity" sub-dimension. According to the research findings, the technology resources distrust averages of academicians with less than 5 years of seniority are higher than those with 6-10 years of seniority. It was determined that the seniority and title interaction of academicians differed significantly in the sub-dimension of "techno insecurity", and that doctoral researchers and associate professors with less than 5 years of seniority experienced higher levels of technological insecurity than research assistants for 11-15 years, doctoral lecturers for 6-10 and 11-15 years, associate professors for 16 years and above, and professors of 16 years and older. Based on the results of the research, it can be said that academics with lower seniority and academic titles experience more technostress. This situation can be explained by the fact that the professional experience of academicians, the opportunities provided by high seniority and having a higher academic title affect their job satisfaction positively (Din et al., 2010; Filiz, 2014).

According to the results of the research, the interaction of seniority, seniority and title of academicians created a significant difference on "techno insecurity". According to the research findings, technology-based insecurity averages of academics with less than 5 years of seniority are higher than those of academics with 6-10 years of seniority. Again, the average technological insecurity of doctoral researchers and associate professors with less than 5 years of seniority is higher than that of research assistants for 11-15 years, doctoral lecturers for 6-10 and 11-15 years, associate professors for 16 years and above, and professors of 16 years and above. Based on the results of the research, it can be said that academicians with low seniority and academic titles experience more technology-related insecurity and this situation is effective in increasing their technostress levels. In similar studies, it has been determined that individuals with low seniority experience more technology-related insecurity (Akgün, 2019; Le Roux & Botha, 2021).

According to the results of the research, the interaction of seniority and title of the academicians created a significant difference over the "continuous change in technology (techno uncertainty)". The average of continuous changes in technology for doctoral research assistants, lecturers, doctoral faculty members and professors with 16 years or more is higher than research assistants for less than 5 years, research assistants for 6-10 years and research assistants for 11-15 years. Based on this result, it is likely that as the seniority and titles of academicians' increase, their professional development and experience and academic productivity increase, and as a result, they benefit more from the change in technology. In some studies, it has been determined that academic title and seniority have an effect on academic productivity (Abramo et al., 2016; Perkmann et al., 2021).

According to the results of the research, findings have been obtained that distance education negatively affects private life in the COVID-19 period, however, it has difficulties in practice and some useful aspects. Academicians stated that distance education eliminates the concepts

of time and work, removes boundaries between work and home, makes life suffocating, causes poor quality time and psychological wear, increases workload, brings health problems, forces academics to be online all the time, makes them unhappy and, in short, is a debilitating process. During the COVID-19 pandemic, it can be said that they emphasized the negative impact of education and training carried out in the form of distance education on private life. Similarly, it has been determined that the use of intensive technology during covid-19 negatively affects the private lives of individuals (Dey et al., 2020; Molino et al., 2020), that academics are available at any time with technological means, that this violates private life (Akour et al., 2020; Boncori, 2021; Casacchia et al., 2021), and that the digital fatigue of individuals increases (McGaughey et al., 2021; Shankar et al., 2021).

According to the views of academics, distance education is seen as a type of education that is tiring, not suitable for applied education, reduces morale and motivation, is inefficient, stressful, does not allow interaction with students, is apathetic, does not provide professional pleasure due to burnout and intimidation, and does not allow reliable assessment and evaluation. It can be said that similar results were obtained in the studies carried out. Studies have shown that individuals experience fear, anxiety, depression and stress problems with the effect of the quarantine process (Cao et al., 2020; Salari et al., 2020), negative perceptions and lack of motivation towards online education (Patricia, 2020), student-faculty-teacher interaction is insufficient (Flores & Gago 2020), distance education is not possible for all fields. It has been determined that basic problems such as assessment and evaluation cannot be made reliably (Korkmaz & Toraman, 2020). At the same time, academics also stated that universities and academicians were caught unprepared for distance education, that there were inadequacies in infrastructure and the difficulty of preparing content and effective educational materials. In the researches, similar results were obtained that the universities were caught unprepared for the emergency distance education process (Bozkurt et al., 2020; Toquero, 2020), the lack of infrastructure related to accessing distance education in higher education (Ifijeh & Yusuf, 2020; Lassoued et al., 2020; Marinoni et al., 2020), and the lack of professional competencies of the faculty members in distance education (Marinoni et al., 2020).

When the results of the research are examined, it is seen that the beneficial aspects of distance education are also emphasized, although it is not emphasized as much as its negative aspects. It has been determined that distance education has positive and beneficial aspects such as the advantage of providing fast communication, creating an effective communication network, making the courses more active, making the academicians feel the need to improve themselves, being practical of distance education software, preventing time loss, providing archives, providing fast and easy access to materials, being efficient, proving that teaching can be done outside the classroom, and bringing freedom and flexibility. It can be said that the distance education process has some advantages for the faculty members. In some studies, similar findings were obtained regarding the benefits of distance education in the COVID-19 process (Abdulrahim & Mabrouk, 2020; Alharthi, 2020; Ali, 2020; Dhawan, 2020; Dustkabilovich, 2021; Lall & Singh, 2020; Toquero, 2020; Wang, 2021; Zawacki-Richter, 2021).

## 5.1 Recommendations

Based on the results of the research, strategies can be developed to make the course hours of academicians flexible in distance education, to apply flexible working employment methods for academicians and to provide work-life balance. As a solution to the problems experienced by academics regarding the use of technology, trainings can be organized to improve their



technology literacy. In order to be prepared for online and emergency distance education, some of the courses in universities can be provided with distance education. Employment policies can be developed to improve the employment conditions, personal rights and working conditions of academicians working in private universities, and to improve their job satisfaction. Projects can be developed to improve the professional skills of academicians in the fields of e-content preparation, e-learning design, classroom management, e-assessment and evaluation.

## **5.2.Limitations**

There are some limitations in this study, which examines the technostress levels experienced by academics during the COVID-19 pandemic distance education process and the relationship between this technostress level and job satisfaction. The results of the study should be evaluated considering these limitations. Due to COVID-19 conditions, data was collected online rather than face-to-face. The generalizability of the research findings can be tested by conducting research examining technostress and job satisfaction for other fields and institutions that are adversely affected by the COVID-19 process.

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