The Main Stressors of Tertiary Level EFL Instructors Teaching Remotely Amidst Covid-19*

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Abstract

With the global COVID-19 pandemic outbreak, our lives, especially education, have been adversely affected. This research investigates the relationship between technostress and burnout levels of English language instructors amidst the pandemic and makes recommendations about the role of online language education in the coming years. In this study, Turkish adaptation of Maslach's MBI-ES and Defining Teacher's Technostress Level Scale was administered to 188 English instructors working at State and Foundation Universities in Turkey. Semi-structured interviews were also conducted with 10 English language instructors. The findings indicate that instructors have medium level of technostress and low level of burnout. Age and gender were found to be an important contributing factor for both technostress and burnout levels. Correlation analyses showed a relationship between subscales of burnout and technostress measures. The research findings suggest adapting the curriculum of English language teaching programs to increase the technology literacy of prospective English language teachers and prepare them for the increasing role of online language teaching in the coming years as well as providing professional development opportunities for in-service language teachers.

Keywords: Teacher burnout, technostress, pandemic, online education, Covid-19

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INTRODUCTION

With the breakout of the global COVID-19 pandemic in late 2019, people's daily lives have been tremendously affected in many ways (World Health Organization, 2020). Shortly after the COVID-19 spread worldwide, it started to impact human life more significantly and deeply, compelling governments to take strict and sudden measures to counter the disease. (World Health Organization, 2020). As a result of various strict regulations and restrictions, the entire world population had to adapt itself to the new way of life, which the authorities would later define as "new normal." (World Health Organization, 2020). As is the case in a number of fields, education was severely disrupted by COVID-19. Most of the schools and educational institutions had to switch to remote teaching as of March 2020 to mitigate the effects and spread of COVID-19 (OECD, 2020).

Switching to remote or hybrid teaching models in such a short time posed a significant obstacle in the education continuum (OECD, 2020). Since student-student and teacher-student interactions are considered essential in language teaching (Hall, 2010; Krashen, 1982; Rivers, 1987; Spada, 2007) and student participation is key to an effective language classroom, it has posed more challenges for language instructors to conduct their classes in remote settings and thus increased their already high stress level.

Kyriacou (2001) defines stress as a "disagreeable emotional experience accompanied with feelings of anxiety, anger, frustration, and tension, and connected with specific environmental causes." (as cited in Haydon et al., 2018, p.1). As in many professions which require closely working with people, stress is observed also with teachers, leading to burnout, health issues, and reduced job satisfaction (Shernoff et al., 2011). As of 2021, technology and reliance on video conferencing tools, driven by the lockdowns because of COVID-19, increased ten times compared to the pre-covid period (Branscombe, 2020). A significant increase was also observed in the usage of asynchronous learning and teaching platforms such as Edx and Coursera (Khan, 2020). It can be assumed that these significant changes in practical use of technology and digital tools might increase the technostress level of individuals, including teachers. Salanova et al. (2013) provided a comprehensive definition of technostress as follows:

> A negative psychological state related to the use of ICT or a threat to its use in the future. This state is conditioned by the perception of a mismatch between demands and resources related to the use of ICTs, leading to a high level of unpleasant psychophysiological activation and the development of negative attitudes towards ICT (Salanova et al., 2013, p. 231).

A number of studies have been conducted on the reasons of technostress. The qualitative study conducted by Çoklar et al. (2016) yielded five main reasons leading to technostress for teachers which were reported as individual, technical, educational, health and time-related problems. Similarly, Penado-Abilleira et al. (2021) found that individual problems, technical problems, education-oriented problems, health problems and time problems were the main stress-causing factors for teachers. In their study, Effiyanti and Sagala (2018) concluded that computer anxiety had a significant impact on increasing the teachers' workload, leading to increased technostress levels.

In a very recent study conducted by Damicone (2021) to identify the technostress levels of language teachers as well as the techno stressors during COVID-19 pandemic, the results showed that language teachers had low to medium level technostress. The findings also indicated that lack of readiness and exposure to technology prior to the start of the pandemic and time were the main reasons of teachers' technostress during the pandemic. In addition to these findings, teachers reported that their overall experience with the technology use in education during the pandemic was mentally and physically exhausting for them. It was also found that teachers were suffering from loneliness, lack of appraisal and an unclear work organization.

Gender has consistently been found to be a determining factor on technostress across the studies (Busch, 1995; Çoklar et al., 2016; Shepherd, 2004). Marchiori et al. (2018) maintain that it is

hard to suggest a definite answer to why gender plays a major role in technostress levels, and males and females react differently to different dimensions of technostress. There is evidence that men hold more positive beliefs and feel less anxiety about the use of technology than women do (Çoklar & Şahin, 2011) while in some others men were found to have more stress towards ICT (Tarafdar et al., 2011). In Çoklar et al.'s (2016) study, female teachers believed technical problems are the most significant factors for their technostress, while male teachers believed their financial and individual problems were the main reasons for their technostress. Furthermore, male instructors also stated they have time issues that directly influence their technostress, which female teachers did not report. In another study conducted by Garcia-Gonzalez et al. (2020), the researchers aimed to investigate the main stressors that female professors struggle with during their online classes at the tertiary level. The researchers identified nine psychosocial risk factors, some of which were mental overload, time constraints, irregular schedules, and emotional exhaustion. They also found out that all these factors were correlated with the use of ICT tools in the workplace.

In another line of studies, researchers were primarily interested in the effect of age on technostress. Based on the research which depicted that young people are more adept in coping with the challenges and novelties of technology, age is considered to be a determining factor on the levels of technostress (Marchiori et al., 2018). Estrada-Munoz et al. (2021) aimed to measure the technostress levels of teachers working at primary and secondary school level. The findings indicated no significant association between the age and technostress levels of teachers although gender appeared as a determinant. Female participants were found to have a higher level of technostress and techno fatigue compared to male participants. Primarily concerned with the effects of age, Tams, Thatcher and Grover (2018) explored technology-mediated interruptions and how (if any) they affect the performance of younger adults versus older adults. Their study revealed that age acts as a moderator between the interruption and stress link.

Burnout is another "psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job" (Maslach & Leiter, 2016, p. 1). According to Maslach (2003), it is common for teachers to experience burnout when they go through stressful periods for long, which might appear in the form of emotional exhaustion, depersonalization and lack of personal accomplishment. In a study conducted by Kokkinos (2007) with 447 primary school teachers in Cyprus to investigate the relationship between burnout and underlying stressors, the researcher found that the degree of burnout was closely related to personality and work-related reasons, supporting the claim that environmental and personal variables should be considered to analyze the burnout process.

Age and gender are important factors in contributing to teacher burnout although the results are not very consistent. For example, Farber (1984) claims that gender does not affect teachers' burnout level, whereas Bibou-nakou et al. (1999), and Burke and Greenglass (1993) reported that male teachers experience more burnout compared to women. In studies where gender differences were observed, it was found that male teachers experienced more depersonalization and emotional exhaustion. Female teachers, on the other hand, were reported to suffer more from emotional exhaustion (Burke & Greenglass, 1993). Similarly, Rumschlag (2017) also showed that the depersonalization level of male teachers was higher than female teachers probably because of "standardized assessments, teacher evaluations, lack of resources, and excessive amount of other requirements" (p.33). On the other hand, female teachers were found to be better at making personal connections with students. Age of the teachers has been reported to correlate with burnout across studies. Previous research has showed that novice teachers suffer from higher levels of emotional exhaustion than older teachers which might be caused by their high expectations at the initial stages of their job (Antoniou et al, 2006). On the contrary, Farber (1984) demonstrated that the teacher group with the highest risk of suffering from burnout is the 34-44 age group and teachers working at high school in junior level.

Among the demographic factors affecting teachers' technostress and burnout levels, the institution type (i.e. private or state school), education levels and teaching experience have been scarcely investigated. For the school type, Aktan and Toraman (2022) found that private school

teachers were found to experience more technostress stemming from the parental pressure and school managements, however, no significant effect of education level was detected in their study. Similarly, seniority, that's the teaching experience, did not significantly affect the levels of technostress in Aktan and Toraman's (2022) study. They detected the effects of gender and organization type to be the only triggering factors.

Contemplating on the isolation and anxiety experienced by millions, the debut of COVID pandemic and prolonged lockdowns coupled with teaching continuously online might have triggered teacher burnout. Pressley (2021) conducted a study on the factors leading to teacher burnout during the COVID-19 pandemic. Being one of the earliest studies investigating these factors during COVID-19, the study revealed notable findings which indicated that COVID-19 anxiety, current teaching anxiety, anxiety triggered by having to communicate with parents, and lack of administrative support were the main predictors of teacher burnout and stress.

The rapid spread of the COVID-19 compelled most stakeholders around the globe to switch to remote education without significant preparation, leading to a need for further and more specific studies on technostress and its effects on educators and teachers during the pandemic. Since the COVID-19 is a quite recent phenomenon, very little research focuses on technostress and burnout of teachers during the pandemic. Another gap in the literature is that there are few studies focusing on the technostress of language instructors during COVID-19 (Damicone, 2021; Mokh et al., 2021). Therefore, there is a need to investigate the relationship between technostress and burnout levels of language teachers working at the tertiary level during the COVID-19 pandemic. Furthermore, the context of language teaching at the tertiary level has not been investigated thoroughly. Present studies mainly focus on K-12 instructors (Damicone, 2021; Estrada-Munoz et al., 2021; Joo et al, 2016; Kokkinos, 2007; Özgür, 2020). The purpose of this study is to provide future implications on the role of online teaching by examining the relationship between the burnout and technostress levels of EFL instructors amidst the COVID-19 pandemic. In line with this goal, the following research questions were formed.

1. What are the technostress levels of EFL instructors in higher education during the COVID-19 pandemic?

2. What are the burnout levels of EFL instructors in higher education during the COVID-19 pandemic?

3. To what extent do technostress and burnout levels of EFL instructors in higher education change depending on the age, gender, type of university (foundation, state), education level and teaching experience?

4. Is there a statistically significant relationship between EFL instructors' technostress and burnout levels in higher education during the COVID-19 pandemic?

METHOD

In this study, the mixed-methods sequential explanatory design was used. As its name suggests, this study design includes the collection and analysis of quantitative data first, which is then followed by the analysis of qualitative data in a single study (Tashakkori & Teddie, 1998).

Participants and Context

The study was conducted with 188 English language instructors working in English preparatory programs at various State and Foundation Universities in Turkey which continued distance education during the COVID-19 pandemic. The participants voluntarily accepted to take part in the study, fill out the research surveys, and inform whether they would be willing to take part in the qualitative component of the study. All data were collected via Microsoft Forms because of

convenience amidst the COVID-19 pandemic and informed consents of the participants were taken before they took the survey. Semi-structured interviews were conducted on Microsoft Teams and Zoom. The data analyzed in this study were collected in the first quarter of 2021. For reference, Turkey was suffering from a very high number of patients infected with COVID-19, which resulted in a partial and full lockdown at the time.

Table 1. Distribution of the Socio-Demographic Variables

		Frequency	Percent
Gender	Female	140	74
	Male	48	26
Age	21-25	10	5
	26-30	60	32
	31-35	60	32
	36-40	36	19
	41 +	22	12
Education Level	Bachelor's Degree	46	25
	Master's Degree	54	29
	Master's Degree (Ongoing)	54	29
	PhD	12	6
	PhD (Ongoing)	22	11
Type of University	State University	28	15
	Foundation University	160	85
Experience	0 -2 Years	6	3
	3 - 5 Years	48	26
	6 - 8 Years	44	23
	9 - 10 Years	24	13
	10 Years +	66	35
Total		188	100

Data Collection Instruments

Defining Teacher's Technostress Level, a 5-point Likert style scale used in this study was developed by Çoklar et al. (2017). It consists of 28 items and 5 subscales:

1. Learning-Teaching Process-oriented (Items 1-7): This subscale aims to measure teachers' comfort level with technology in the classroom setting.

    Sample item: The thought of not being able to teach the entire course content because the use of technology takes time makes me nervous.

2. Professional-oriented (Items 8-13): This subscale aims to explore teachers' views on technology's potential influence on the profession of language teaching.

    Sample item: I think that the teaching profession has lost its value due to the fact that the source of information has become technology-oriented.

3. Technical-oriented (Items 14-19): This subscale aims to measure how familiar and comfortable teachers are with the potential technical risks while using technology.

    Sample item: The constant cost of using technology (purchase, maintenance, paid sites, etc.) bothers me.

4. Personal-oriented (Items 20-24): This subscale aims to measure how comfortable teachers are with using technology at the individual level.

    Sample item: Even if I want to use it, I worry about not being able to learn how to use technology.

5. Social-oriented (Items 25-28): This subscale aims to measure to what extent teachers are concerned about the influence of technology on their social life and interaction.

Sample item: I am worried about having problems using technology with my colleagues.

The scoring and evaluation criteria for this 5-point scale is as follows;

Table 2. Evaluation Criteria of the Technostress Scale for Determining Teachers' Techno Stress Levels

Evaluation Range	Evaluation Criteria
1.00 – 2.33	Low Level
2.34 – 3.67	Medium Level
3.68 – 5.00	High Level

The Cronbach's alpha coefficient value is .917 for the overall scale in the original study (Çoklar et al., 2017), while in our study it was found .928, suggesting a high level of statistical reliability (Cortina, 1993).

Maslach Burnout Inventory Educators Survey (MBI-ES) scale was developed by Maslach and Jackson (1981) after tailoring the items on standard MBI scale specifically to the educators. Turkish adaptation of Maslach Burnout Inventory – Educators Survey was done by İnce and Şahin (2015). The scale consists of 22 items and 3 subscales:

1. Emotional Exhaustion (Items 1, 2, 3, 6, 8, 13, 14, 16, 20): This subscale aims to measure to what extent teachers have difficulty meeting their emotional needs in their professional life.

Sample item: I feel emotionally cold from teaching.

2. Personal Accomplishment (Items 5, 10, 11, 15, 22): This subscale aims to measure to what extent teachers find themselves successful and feel accomplished in their teaching career.

Sample item: I feel that I treat some students as if they were objects.

3. Depersonalization (Items 4, 7, 9, 12, 17, 18, 19, 21): This subscale aims to measure to what extent teachers ignore their students and peers and isolate themselves.

Sample item: I can easily understand how my students feel about a topic.

The minimum and maximum scores that can be obtained from each item are, respectively, 0 and 6. The scoring and evaluation criteria for the 6-point Likert type MBI-EF scale is as follows; "0 – Never", "1 – Several times a year", "2 – Once a month", "3 – Several times a month", "4 – Once a week", "5 – Several times a week", "6 – Every day".

Table 3 . MBI-ES Scoring and Evaluation Rubric

	Low Level	Medium Level	High Level
Emotional Exhaustion	0-16	17-26	27 and above
Depersonalization	0-8	9-13	14 and above
Personal Accomplishment	37 and above	31-36	0-30

The Cronbach Alpha values for the dimensions of emotional exhaustion, depersonalization and personal accomplishment are, respectively, 0.88, 0.78 and 0.74 (Maslach & Jackson, 1981). While in this study, the Cronbach alpha values were 0.76, 0. 81 and 0.79, respectively.

Semi-Structured Interviews

In the study, qualitative data obtained from the interviews were used to confirm the quantitative data on the levels of burnout and technostress felt by the participants. For this reason, five questions that could be useful for leading the interviews and obtaining more data were formed. The preliminary questions ranged from their definitions of technology to their conceptions of the role of technology in language teaching. Due to the nature of semi-structured interviews, probing questions were also asked depending on the overall flow of the interviews. In total, interviews were held with ten volunteers. The average interview duration was 25 minutes.

Data Analysis and Interpretation

Normality analyses were carried out to decide whether parametric tests or nonparametric tests will be used in the research. Within the framework of normality analysis, the skewness and kurtosis values of the research scales were examined. All scales and subscales used in the study have skewness and kurtosis values between -1.5 and +1.5 indicating that the research data is normally distributed (George & Mallery, 2010). The normal distribution was also confirmed on Q&Q plots, so the hypotheses created in line with the research purposes were tested with parametric test methods as deemed appropriate by normality tests. Upon ensuring normal distribution, independent samples t-test, one-way ANOVA, and Pearson correlation coefficient tests were run on quantitative data.

To analyze qualitative data, conventional qualitative content analysis was conducted. This method simply does not rely on pre-set categories while analyzing qualitative data, on the contrary researchers come up with their own categories that are uniquely derived from the data, which is also called inductive category development (Kondracki et al., 2002)

Defined as "non-numerical examination and interpretation of observations, to discover underlying meanings and patterns of relationships" by Babbie (2016, p.382), qualitative analysis requires interrogation and subjective interpretation along with a systematic approach. In order to have such a systematic approach, qualitative data was analyzed by MAXQDA2020 due to its visual coding tools, practical coding layout, and easy-to-use interface. To ensure objectivity, two different coders who are experts in language education coded qualitative data. The Cohen's Kappa value was computed on MAXQDA2020 by comparing two coders' output, and it was found 0.78. Therefore, the agreement between the coders is more than acceptable (Wood, 2007).

FINDINGS

Descriptive statistics that answer the first two research questions are given in Table 4 as displays of the mean scores and standard deviations for the overall and subscales of Technostress and Burnout scales.

Table 4. Mean Scores of the Technostress and Burnout Scales

	Mean ± Std	Min – Max
Average Technostress Level	2.56 ± 0.61	1.3 – 4.5
Learning-Teaching Process Oriented	2.69 ± 0.76	1.1 – 4.5
Professional Oriented	2.34 ± 0.65	1 – 4.1
Technical Oriented	2.76 ± 0.85	1 – 5
Personal Oriented	2.02 ± 0.76	1 – 4
Social Oriented	3.02 ± 0.84	1.50 – 5
Burnout- Total Score	38.72 ± 20.1	1 – 86
Burnout - Emotional Exhaustion	20.58 ± 11.7	0 – 48
Burnout - Depersonalization	5.51 ± 5.90	0 – 23
Burnout - Personal Accomplishment	12.62 ± 7.5	0 – 40

For technostress, all subscales other than personal oriented technostress have a mean score indicating mediocre level stress (2.34 – 3.67). On the other hand, personal oriented technostress has a

mean score of 2.02 ± 0.76, which indicates a low level of technostress. As for the Burnout subscales, low mean scores are observed for the overall scale whereas in terms of emotional exhaustion medium burnout level is detected.

In Table 5, descriptive statistics regarding the gender and school type variables across the research scales are presented. Independent samples t-tests were run for the examination of the significant mean differences between genders and the school type to investigate if technostress and burnout levels change according to these two variables.

Table 5. Mean Differences Between Gender, School Type and Technostress and Burnout Scales

Factors	Gender			School Type		
	Gender	M	SD	School type	M	SD
Average Technostress Levels	Female	2.62	0.58	State	2.55	0.64
	Male	2.40	0.70	Foundation	2.57	0.62
Learning-Teaching Process Oriented	Female	2.74	0.68	State	2.66	0.83
	Male	2.58	0.95	Foundation	2.70	0.75
Professional Oriented	Female	2.37	0.63	State	2.30	0.51
	Male	2.26	0.70	Foundation	2.35	0.67
Technical Oriented	Female	2.87	0.82	State	2.77	0.96
	Male	2.44	0.88	Foundation	2.76	0.84
Personal Oriented	Female	2.08	0.74	State	2.17	0.81
	Male	2.44	0.83	Foundation	2.01	0.75
Social Oriented	Female	3.08	0.85	State	2.84	0.66
	Male	2.90	0.80	Foundation	3.06	0.87
Burnout Total	Female	38.49	20.28	State	30.36	15.30
	Male	39.42	20.03	Foundation	40.19	20.59
Burnout- Emotional Exhaustion	Female	21.33	11.81	State	18.29	10.11
	Male	18.42	11.57	Foundation	20.99	12.04
Burnout- Depersonalization	Female	4.77	5.36	State	3.29	2.26
	Male	7.67	6.88	Foundation	5.90	6.25
Burnout- Personal Accomplishment	Female	12.39	7.51	State	8.79	4.43
	Male	13.33	7.68	Foundation	13.30	7.79

** = $p<0.01$, * = $p<0.05$

On the whole, female teachers have significantly higher technostress levels than male teachers, $t(186) = 2.111$, $p = .036$. As for the subscales of technostress scale, there is a statistically significant difference between female and male teachers in terms of technical oriented subscale, $t(186) = 3.129$, $p = .002$. Regarding the burnout scale, there is a statistically significant mean difference between the female and male teachers in terms of depersonalization, $[t(186) = -2.994, p = .003]$ where male participants have higher mean scores than female participants (see Table 6).

T-test results indicate that while there is no statistically significant mean difference between the university type and technostress total score and subscales ($p>0.05$), there is a statistically significant mean difference between the state and foundation universities in terms of the total burnout levels ($t(186) = -2.410$, $p = .017]$, depersonalization $[t(186) = -2.184, p = .030]$, and personal accomplishment levels $[t(186) = -2.98, p = .003]$. When these significant mean differences are closely examined, it is found that the participants who are working at the Foundation Universities have higher burnout scores than the State University participants.

Table 6 shows the descriptive statistics according to the age, education level, and work experience variables across the scales. One-way ANOVA tests were run to investigate if there are any statistically significant mean differences between theses variables and research scales.

Table 6. Mean Differences Between Age, Education Level, Work Experience, Technostress and Burnout Scales

Factors		Age		Education Level			Work Experience		
	Age Intervals	M	SD	Degrees	M	SD	Years	M	SD
Average Technostress Levels	21-25	2.90	0.43	Bachelor's Degree	2.52	0.64	0 -2 Years	2.83	0.30
	26-30	2.50	0.68	Master's Degree	2.73	0.55	3 - 5 Years	2.55	0.72
	31-35	2.48	0.49	Master's (Ongoing)	2.61	0.61	6 - 8 Years	2.58	0.53
	36-40	2.52	0.71	PhD	2.44	0.82	9 - 10 Years	2.69	0.56
	41 +	2.89	0.54	PhD (Ongoing)	2.21	0.49	10 Years +	2.49	0.64
Learning-Teaching Process Oriented	21-25	3.23	0.88	Bachelor's Degree	2.73	0.79	0 -2 Years	3.38	0.85
	26-30	2.60	0.83	Master's Degree	2.80	0.62	3 - 5 Years	2.62	0.79
	31-35	2.57	0.61	Master's (Ongoing)	2.77	0.81	6 - 8 Years	2.77	0.78
	36-40	2.75	0.73	PhD	2.48	1.01	9 - 10 Years	2.69	0.68
	41 +	2.99	0.80	PhD (Ongoing)	2.31	0.63	10 Years +	2.65	0.73
Professional Oriented	21-25	2.57	0.67	Bachelor's Degree	2.28	0.71	0 -2 Years	2.33	0.39
	26-30	2.22	0.72	Master's Degree	2.41	0.59	3 - 5 Years	2.33	0.81
	31-35	2.32	0.53	Master's (Ongoing)	2.48	0.65	6 - 8 Years	2.33	0.55
	36-40	2.33	0.77	PhD	2.28	0.58	9 - 10 Years	2.47	0.56
	41 +	2.65	0.41	PhD (Ongoing)	2.02	0.61	10 Years +	2.31	0.64
Technical Oriented	21-25	2.93	0.59	Bachelor's Degree	2.59	0.82	0 -2 Years	2.83	0.26
	26-30	2.79	0.94	Master's Degree	3.09	0.72	3 - 5 Years	2.80	1.00
	31-35	2.70	0.83	Master's (Ongoing)	2.82	0.86	6 - 8 Years	2.80	0.71
	36-40	2.58	0.85	PhD	2.31	1.05	9 - 10 Years	3.14	0.70
	41 +	3.08	0.69	PhD (Ongoing)	2.42	0.83	10 Years +	2.57	0.87
Personal Oriented	21-25	2.20	0.48	Bachelor's Degree	2.12	0.76	0 -2 Years	1.93	0.63
	26-30	1.91	0.83	Master's Degree	2.28	0.75	3 - 5 Years	1.93	0.83
	31-35	1.97	0.72	Master's (Ongoing)	1.85	0.65	6 - 8 Years	2.04	0.66
	36-40	1.96	0.80	PhD	2.13	1.01	9 - 10 Years	2.17	0.89
	41 +	2.58	0.46	PhD (Ongoing)	1.60	0.66	10 Years +	2.05	0.75
Social Oriented	21-25	3.65	0.59	Bachelor's Degree	2.91	0.79	0 -2 Years	3.75	0.59
	26-30	3.04	0.86	Master's Degree	3.07	0.84	3 - 5 Years	3.15	0.87
	31-35	2.84	0.69	Master's (Ongoing)	3.15	0.94	6 - 8 Years	3.01	0.79
	36-40	3.04	0.93	PhD	3.21	0.91	9 - 10 Years	3.00	0.70
	41 +	3.20	1.00	PhD (Ongoing)	2.77	0.64	10 Years +	2.90	0.89
Burnout Total	21-25	46.40	17.60	Bachelor's Degree	36.39	18.05	0 -2 Years	55.00	6.75
	26-30	42.93	19.72	Master's Degree	35.37	18.90	3 - 5 Years	43.42	19.34
	31-35	34.77	20.12	Master's (Ongoing)	45.26	20.68	6 - 8 Years	35.77	19.67
	36-40	42.72	22.43	PhD	31.67	19.83	9 - 10 Years	41.08	19.44
	41 +	28.00	12.15	PhD (Ongoing)	39.64	23.56	10 Years +	34.94	21.04
Burnout - Emotional Exhaustion	21-25	26.40	10.57	Bachelor's Degree	19.74	11.63	0 -2 Years	31.33	3.14
	26-30	22.83	13.10	Master's Degree	19.52	10.30	3 - 5 Years	24.04	13.16
	31-35	18.93	10.68	Master's (Ongoing)	24.70	11.40	6 - 8 Years	18.23	10.16
	36-40	21.06	12.67	PhD	12.50	12.93	9 - 10 Years	23.00	10.90
	41 +	15.55	7.29	PhD (Ongoing)	19.27	13.26	10 Years +	17.79	11.40
Burnout - Depersonalization	21-25	6.00	7.15	Bachelor's Degree	5.00	4.62	0 -2 Years	7.33	5.96
	26-30	5.73	5.15	Master's Degree	4.22	4.78	3 - 5 Years	5.67	5.23
	31-35	4.70	5.52	Master's (Ongoing)	6.70	6.77	6 - 8 Years	4.95	5.83
	36-40	8.44	7.62	PhD	5.17	6.53	9 - 10 Years	5.67	5.11
	41 +	2.09	1.48	PhD (Ongoing)	7.00	7.61	10 Years +	5.55	6.74
Burnout - Personal Accomplishment	21-25	14.00	4.52	Bachelor's Degree	11.65	6.40	0 -2 Years	16.33	5.09
	26-30	14.37	8.40	Master's Degree	11.63	7.35	3 - 5 Years	13.71	7.08
	31-35	11.13	7.55	Master's (Ongoing)	13.85	7.47	6 - 8 Years	12.59	9.11
	36-40	13.22	7.32	PhD	14.00	5.36	9 - 10 Years	12.42	8.35
	41 +	10.36	5.40	PhD (Ongoing)	13.36	10.83	10 Years +	11.61	6.55

$** = p<0.01, * = p<0.05$

A one-way ANOVA revealed that age signicantly significantly affected the average technostress level [$F(4, 183) = 2.920$, $p = 0.02$], learning-teaching process oriented technostress [$F(4, 183) = 2.848$, $p = 0.02$], personal oriented technostress [$F(4, 183) = 3.811$, $p = 0.005$], social oriented

technostress [F(4, 183) = 2.420, p = 0.05], total burnout level [F(4, 183) = 3.706, p = 0.006], emotional exhaustion [F(4, 183) = 2.551, p = 0.04], and depersonalization [F(4, 183) = 4.743, p = 0.001].

In the context of technostress, there are statistically significant relationships between the age variable and the overall technostress and learning-teaching process oriented, personal oriented and social oriented levels (p<0.05). When these significant mean differences were examined for the technostress scale and its subscales, the age groups of 21-25 and 41+ have the highest scores. As for the burnout, the age group of 21-25 has the highest levels in terms of the overall burnout and emotional exhaustion, and for the depersonalization, the age group of 36-40 has the highest levels among all age groups.

As for the education level, there are significant differences across the groups in terms of the average technostress level [F(4, 183) = 3.085, p = 0.017], technical oriented technostress [F(4, 183) = 4.632, p = 0.001], personal oriented technostress [F(4, 183) = 4.499, p = 0.002], and emotional exhaustion [F(4, 183) = 3.474, p = 0.009]. When these significant mean differences were evaluated for the technostress dimensions, participants with a Master's degree have the highest scores among the other groups. Similarly, for the burnout scale, the same group has the highest emotional exhaustion score.

Regarding the work experience variable, significant mean differences were obtained across the groups for the total burnout level [F(4, 183) = 2.614, p = 0.037] and emotional exhaustion [F(4, 183) = 4.166, p = 0.003]. When these statistically significant mean differences were examined, it could be concluded that for both overall burnout and emotional exhaustion levels, the participant group with 0-2 years of experience has the highest scores among the participant groups.

The Pearson correlation test results, which were performed to determine statistically significant and linear relationships between the research scales, are shown in Table 7.

Table 7. Correlation Analysis between the Technostress and Burnout Scales

		Technostress Total	Learning - Teaching Process Oriented	Professional Oriented	Technical Oriented	Personal Oriented	Social Oriented
Burnout Total	r	0.105	0.054	.143*	0.051	0.001	.209**
Emotional Exhaustion	r	.171*	0.125	.262**	0.072	0.003	.263**
Depersonalization	r	0.072	0.057	0.048	0.048	0.003	.149*
Personal Accomplishment	r	-0.043	-0.095	-0.065	-0.014	-0.004	0.032

** = p<0.01, * = p<0.05

According to the results, professional-oriented (r = 0.143, p<0.05) and social-oriented (r=0.209, p<0.01) technostress have a statistically significant, weak and directly proportional correlational relationship with total burnout level. It means that when the participants' overall burnout levels increase, the professional-oriented and social-oriented technostress levels also increase.

As for the emotional exhaustion, there is statistically significant, weak and directly correlational relationship between the total technostress (r=0.171, p<0.05), professional-oriented (r=0.262, p<0.01) and social-oriented (r=0.263, p<0.01) technostress. In other words, when the participants' emotional exhaustion level increases, the overall technostress, professional-oriented and social-oriented technostress levels also increase. The only statistically significant correlational relationship for the depersonalization subscale is obtained between the social-oriented technostress (r=0.149, p<0.05), and this statistically significant relationship is weak and directly proportional. In this regard, when the participants' depersonalization level increases, the social-oriented technostress also increases. Lastly, no statistically significant relationship exists between the personal accomplishment subscale and none of the technostress subscales (p>0.05).

Qualitative Findings

Qualitative data collected through semi-structured interviews from 10 participants were analyzed on MAXQDA2020. The interviews were conducted in Turkish, which is the native language of all participants in the study. Coding was done in English by both coders. The themes, codes of the qualitative data and their overall distributions are given in Table 8.

Table 8. Subcategories and Code Breakdowns

Theme	ff	%	Subcategory	Ff	%%	Code Breakdowns	f	%
Techno Anxiety	49	39	Technological Catch-up	19	15.45	Attending professional workshops on technology	5	4.07
						Spending a considerable amount of non-class time to learn about different Ed-tech tools	4	3.25
						Seeking support from colleagues about remote technology tools	4	3.25
						Taking computer skills courses online	3	2.44
						Watching YouTube tutorials to learn more about educational tech tools	3	2.44
			Reliance on Devices	11	10.94	Spending too much time on computer for class preparation	4	3.25
						Having to create digital materials instead of printed materials	4	3.25
						Increased online communication because of online teaching problems	3	2.44
			Problem Solving	19	15.45	Difficulty of reaching out to IT professionals during the class time	3	2.44
						Confusion in case of any technical problem	4	3.25
						Difficulty of finding alternative digital solutions	3	2.44
						Stressing out about potential problems and workarounds before the class	3	2.44
						Difficulty of dealing with infrastructure and computer-specific problems	4	3.25
						Major bugs and glitches in newly released Zoom and Team updates	2	1.63
Mental Tiredness	55	46	Personal Reasons	13	11.38	Having to pay attention to something else while working from home	3	2.44
						Medical reasons that prevent instructors from looking at screen for long	1	0.81
						Feeling exhausted because of working remotely	4	3.25
						Lack of tech equipment in the household	1	0.81
						Overlapping classes with another family member in the household	3	2.44
						Feeling worried and stressed because of being recorded	2	1.63
			Limited Interaction	27	21.85	Inefficient group work and interaction	4	3.25
						Lack of student motivation to do collaborative work	3	2.44
						Difficulty of improving individual student and teacher contact	5	4.07
						Students not being present and responsive during the class	7	5.69
						Students not turning on their microphones and cameras	8	6.50
			Pedagogical Reasons	15	12.2	Tendency to give too much teacher talk	4	3.25
						Less in-class practice and personalized instruction	3	2.44
						Challenges in using communicative and task-based teaching methodologies	3	2.44
						Limited control over students and challenges in class management	3	2.44
						Having to rely on digital content/ coursebook	2	1.63

	18	15	AI in Language Learning	8	6.51	Rapid developments of machine learning and natural language processing applications	3	2.44
Technology As a Potential Threat						Students' decreased motivation to learn languages due to the ease of access to machine translation services	3	2.44
						Increasing use of automated machine translation for cheating purposes	2	1.63
			Profession-related Concerns	10	8.13	Likelihood of replacement of language teachers with automized digital tools	4	3.25
						Rapid prevalence of digital learning platforms and their increasing adoption in society	3	2.44
						Prevalence of asynchronous and/or self-language learning	3	2.44
Total	122	100		122			122	100

According to the results, techno-anxiety is revealed in the form of technological catch-up, reliance greatly on technological devices, and difficulties with problem-solving when encountering tech-related problems during their teaching practice. Some participants also reported that feeling obligated to keep themselves up to date with the latest trends in educational technology increases the pressure on them causing stress.

Most participants interviewed in the study stated in different ways that they mentally feel overloaded during the COVID-19 pandemic. They reported various reasons such as the risk of having unexpected technical problems in class time, class management in digital environments and extra efforts to encourage students to participate in the classes. Personal reasons had the highest frequency under mental tiredness during the thematic coding process. Instructors also stated that they struggled with creating class materials for online environments and adapting language teaching methodologies to digital classrooms. Some instructors pointed out that this significantly increased their preparation time and working hours, which was described as overwhelming (15.45 %).

Another theme associated with the code segments obtained from the interviews is that technology is a potential threat to the teaching profession. Some participants are concerned about the possibility that language teaching could be entirely or mainly automatized, eliminating the need for teachers in the future (15 %). The practices during the pandemic and how education was heavily impacted by technology were also found to be dangerous for the teaching profession by some participants. Some participants expressed their concerns regarding the developments in artificial intelligence and teaching profession-related risks in the future (6.5 %).

The qualitative results of the study are also mostly consistent with the quantitative findings presented earlier. Semi-structured interviews held with ten language instructors showed that instructors are struggling with catching up with the latest trends in technology, relying too much on tech devices and solving problems that unexpectedly arise during their active use of technology in class time. These qualitative findings are in line with the medium level of technical-oriented, professional-oriented, and learning-teaching process-oriented technostress that was found in the quantitative part of the study. Depersonalization and Personal Accomplishment-related burnout were found to be low level while emotional exhaustion level was found to be medium from the quantitative data. Qualitative findings also reveal that personal reasons (11.38%), lack of social interaction (21.85 %) and pedagogical challenges (12.2%) in remote education led to mental tiredness. As far as all the interviews are concerned, it can be concluded that there tend to be some signs of technostress and mental exhaustion.

DISCUSSION AND CONCLUSION

With respect to teachers' technostress levels, participants had a medium level of professional-oriented, technical-oriented, social-oriented, learning-teaching process-oriented technostress while the participants' personal-oriented technostress level was low. Technostress levels of the participants are

identical to the findings of Çoklar et al. (2016) except for profession-oriented technostress, which was low in their study. Our results align with the findings of Branscombe (2020) which indicate that reliance on technology due to mass and rapid adoption of synchronous and asynchronous web tools during the pandemic increased around ten times, resulting in higher levels of technical-oriented and professional-oriented technostress. In addition, Effiyanti and Sagala (2018) and Agai-Demjaha et al. (2015), also report that lack of technological competence and lack of professional guidance for teachers result in increased technostress levels. Similar to the findings of our study, technical challenges and technical-oriented technostress were also observed in other studies (Li & Wang, 2021; Al-Fudail & Mellar, 2008; Harahap & Effiyanti, 2015) especially in terms of education-oriented problems' and technical problems' being the main reasons for technostress (Penado Abilleira et al., 2021).

The results in relation to teacher burnout indicated that instructors had low levels of depersonalization and personal accomplishment-related burnout in particular while emotional exhaustion level was found to be medium. Qualitative findings also revealed that personal reasons, lack of social interaction and pedagogical challenges in remote education led to mental tiredness. Findings on depersonalization, on the other hand, might be associated with social anxiety and lack of social interaction as a medical study conducted by Michal et al. (2005) revealed that lack of social interaction with the outside world has a medium-high impact on depersonalization and derealization. Likewise, in this study, as revealed by the interviews, limited interaction during remote teaching increased feelings of depersonalization of the participants.

The socio-demographic variables were also analyzed to find out whether teachers' burnout and technostress levels vary based on age, education level, teaching experience and type of university they teach at. In line with Estrada-Munoz et al. (2021), Çoklar et al. (2016) and Garcia-Gonzalez et al. (2020), technostress levels of female instructors were significantly higher than male instructors. Furthermore, results revealed that female instructors also struggle with technical-oriented technostress significantly more than men do. However, these findings are not consistent with Li and Wang (2020), who did not report any significant relationship between gender and technostress.

Regarding the burnout levels, male instructors in this study were found to have higher depersonalization levels than female instructors, which lends support to Bibou-Nakou et al. (1999), and Burke and Greenglass (1993), who claim that men experience more burnout than women implying a relationship between gender and burnout. To be more specific, they found that men suffered from depersonalization and emotional exhaustion more than women, which is partly supported by Rumschlag (2017). It may stem from less social support males receive and a narrower range of interpersonal relations in general; however, more research is needed to determine the actual reasons for this gender gap.

As for age differences in technostress levels of the instructors, age groups of 21-25 and 41+ were found to have the highest technostress level among the participants. A possible explanation for this finding is that new graduate instructors might be struggling with adapting technology into their classroom practice, which typically requires time. The age group of 41+, on the other hand, might be struggling with catching up with the latest trends in educational technology, causing them to feel stressed out about their practical use of technology in the classroom. As far as the burnout levels are concerned, the findings indicate that the age group of 21-25 has the highest burnout and emotional exhaustion level. Lack of institutional and psychological support (Haydon et al., 2018) might have caused such a high level of burnout and emotional exhaustion for young instructors who experienced an extraordinary period like the COVID-19 pandemic making them even more vulnerable.

The results also showed that education level has an impact on the burnout levels of the instructors. Accordingly, master's and PhD students, respectively, were found to have the highest emotional exhaustion. This might have been caused by the increased academic and professional workload of instructors pursuing a master's or PhD degree and working remotely at the same time. Although university type was not a significant factor for the technostress levels, it is a determinant

factor for the burnout levels. As such, instructors working at foundation universities have significantly higher overall burnout, depersonalization, and decreased personal accomplishment. This may indicate that work conditions at foundation universities in Turkey are more challenging in terms of the total work hours and requirements which might be leading to higher burnout levels. These findings are also in line with Kokkinos et al. (2005) and Kokkinos (2007) in which emotional exhaustion and depersonalization were thought to be associated with context-specific work conditions.

Regarding the relationship between technostress and burnout level of instructors, a weak positive correlation between total burnout, professional-oriented technostress and social-oriented technostress was found in addition to a weak positive correlation between emotional exhaustion and professional, social-oriented and overall technostress levels of the teachers. That burnout and technostress are related across multiple dimensions might be explained by the characteristics and responsibilities of the teaching profession. That is, teachers' dynamic and human-dependent responsibilities might cause them feel burnout which might in return affect their professional technological catch-up and overall technostress level because of not being very comfortable with the ICT tools they are supposed to utilize, which might show symptoms of social-oriented technostress.

Depersonalization, on the other hand, had a weak correlation only with social-oriented technostress, which might be caused by lack of social interaction (Greenberg et al., 2016) which was reiterated in our qualitative findings. In addition, working in a remote setting which most instructors had not experienced before might have triggered social anxiety and feeling insecure, leading to increased levels of depersonalization. Based on the study's qualitative data, another association can be made between seeing technology as a threat in the future and extra efforts to adapt and prepare for the future of education. Many teachers regarded this threat as AI-led learning. Since most instructors clearly stated that the profession of teaching is in danger due to the rapid developments in artificial intelligence and slow but steady adoption of self-regulated and automatized learning, instructors might struggle with burnout caused by profession-oriented and teaching-learning oriented technostress.

Suggestions for Practice and Research

Given the technostress felt by the teachers, pre-service teacher training programs should be redesigned by integrating more tech-friendly, adaptable, flexible, and problem-solving-oriented curriculums that also prepare prospective teachers for remote and hybrid settings. For in-service teachers, providing teachers with opportunities for increasing their ICT literacy through online courses and encouraging financial benefits can motivate teachers to improve their skill sets. Taking into consideration the high burnout levels felt especially by novice teachers, institutions should provide psychological and academic support to help instructors deal with major stressors. As for the feelings of depersonalization and mental exhaustion reported by the participants, developing a clear communication network or channel within educational institutions might encourage peer collaboration, potentially reducing stress, mental exhaustion, and depersonalization.

There are some limitations that should be taken into account while drawing conclusions from this study. First of all, data collection is limited to the instruments used in this study. As survey studies are self-reported by nature, they may not fully reflect the real findings. Data triangulation through observations would strengthen the standing of the findings of the study. Secondly, the majority of the participants are working in Foundation Universities. Therefore, findings based on the type of university participants are working in may not have reflected the general findings. Future studies with equal distribution of participants between the state and foundation universities can lead to more comparable results. Third, MBI-ES scale does not contain any items to measure burnout caused by pedagogical reasons and therefore, the study cannot provide any quantitative support to the qualitative findings regarding the pedagogical reasons of teacher burnout. This dimension can be added to the scale for the future studies. Finally, future researchers can conduct a similar study on during and post-covid technostress levels of the students to provide another perspective.

Conflicts of Interest: No potential conflict of interest was declared by the authors..

Funding Details: No funding or grant was received from any institution or organization for this research.

CrediT Author Statement: Oğuzhan Yangöz: Conceptualization, Literature Review, Methodology, Discussion Burcu Ünal: Results, Writing- Original Draft Preparation, Writing- Review and Editing

Ethical Statement: This sequential mixed design research was approved by the Yıldız Technical University's Institute of Social Sciences and the respondents were guaranteed anonymity. A convenient sampling strategy was employed, and the unit of analysis was the teachers working at foundation and state universities in Turkey. All the teachers were invited to participate in this web-based survey, and the data was collected online using the Microsoft forms during the first quarter of 2021. Participation in the study was voluntary.

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