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The Relationship of Coronavirus Phobia and Technology Addiction in the Faculty of Health Sciences Students in Türkiye During the Coronavirus Disease 2019 Period

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Main Points

- It has been observed that there is a statistically significant positive correlation between phobia of coronavirus and technology addiction among Health Sciences Faculty students.
- It has been determined that the psychological dimension of coronavirus phobia experienced by women is higher than that of men.
- It was determined that the level of technology addiction increased with decreasing age.

Abstract

This study examined the relationship between coronavirus phobia and technology addiction experienced by health sciences students during the coronavirus disease 2019 pandemic. The current study, structured as a relational and descriptive research design, was conducted with a large public university's Health Sciences Faculty students in Türkiye between March 12, 2021, and April 12, 2021. A total of 1126 volunteer students participated in the study. "Personal Information Form," "Coronavirus Phobia Scale," and "Technology Addiction Scale" were used to collect data. Pearson correlation analysis was used to analyze the relationships between the data, and the independent sample *t*-test and one-way analysis of variance test (Tukey) were used to compare the variables. A significant two-way positive correlation was found between the Technology Addiction Scale and the Coronavirus 19 Phobia Scale ($r = 328$, $p < .01$). This study determined that Health Sciences Faculty students with high coronavirus phobia had high technology addiction, and those with low coronavirus phobia had low technology addiction. Under difficult living conditions such as the pandemic, parameters such as phobia and addiction experienced by young people should be taken seriously, and studies should be carried out in this area, because young people, who are the building blocks of our future, will be physically, socially, and psychologically healthy individuals if they can effectively cope with the difficult situations and the differences they create.

Keywords: COVID-19, Health Sciences Faculty students, pandemic, phobia, technology addiction

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Introduction

In December 2019, a new virus from the coronavirus family was reported to cause an acute respiratory syndrome epidemic in Wuhan, the capital of Hubei province in China (Cascella et al., 2021). The World Health Organization (WHO) proclaimed the name of the new coronavirus as coronavirus disease 2019 (COVID-19) on February 11, 2020, and declared it a pandemic on March 11, 2020 (Cucinotta & Vanelli, 2020). It is a fact that when an epidemic emerges and spreads, some unscientific ideas about disease prevention and treatment or conspiracy theories can also spread in public. In this environment of

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uncertainty, people may feel intense phobia because of the possibility that they and their families will get sick or die. Therefore, once the WHO officially declared the COVID-19 disease as a pandemic, governments taking public health into consideration have immediately taken various drastic measures covering isolation, quarantine, social distancing, and hygiene issues to prevent the spread of the disease from person to person (Gokler & Turan, 2020; Taylor, 2019). These protective actions of governments led to the forced closure of schools and workplaces, thus increasing unemployment rates and financial difficulties. This situation created a secondary stress factor and triggered the emotional distress produced by the experienced stresses. In this period, governments have issued "stay-at-home" orders that allowed students to continue their education online and employees to work from home (Garfin, 2020). These measures significantly increased technology use, which has already been integrated into the fabric of modern life among society. Especially online remote-teaching students, the most interactive users of the technology, have become a high-risk group in technology addiction (Laungani et al., 2020).

Resulting from the human and technology interaction, technology addiction is an addiction type that causes excessive tablet, mobile phone, television, and social media use, leading to withdrawal symptoms when not used (Akkaş, 2019; Ertemel & Aydın, 2018). The technology utilization by people is innumerable. Especially in public health crises causing widespread diseases and restrictions such as pandemics, people spend a long time at home and use technology in different ways, such as playing online gambling, playing computer games, watching TV series, using social media, and surfing the web to reduce their stress and *f* and alleviate depressive mood (Király et al., 2015; Blasi et al., 2019). In times of crisis, such as the COVID-19 epidemic, this tendency can increase significantly and turn into an addiction that is difficult to quit (King et al., 2020). Especially in children and young individuals, uncontrolled and unlimited technology usage can lead to harmful consequences, such as deterioration in thought processes, self-confidence losses, problems in social development, high social anxiety levels, and aggression tendency. In addition, children and young people addicted to computer games and spending a long time on the internet become lonelier, have difficulties in face-to-face communication, have mental deterioration, and display the criteria for hyperactivity disorder (Suhail & Bargees, 2006).

The COVID-19 pandemic introduces a significant opportunity to examine the relationship between humans' stress- and fear-related psychological reactions and addictive behaviors. Studies have confirmed that stress, fear, and anxiety are associated with internet and technology addiction (Carli et al., 2013; Lai et al., 2015; Lau et al., 2018; Yang et al., 2014; Zhang et al., 2013). For this reason, the increased level of stress and phobia caused by the COVID-19 pandemic might change people's technology use behaviors. Considering their ages, students represent a higher risk group in technological addiction when compared to adults. It is known that technology addiction can negatively affect students in the short or long term.

Psychiatric nurses have enormous responsibilities in providing education, counseling, and support to young people and adolescents to bring the physical and mental health level of young people, adolescents, and their families to the highest possible level and maintain this situation. Therefore, this study aimed to determine students' level of COVID-19 phobia and technology addiction during the pandemic and examine the relationship between COVID-19 phobia and technology addiction.

Material and Methods

Participants and Procedure

The research was conducted in the correlational and descriptive design and was carried out at a large public university's Health Sciences Faculty students in Türkiye between March 12, 2021, and April 12, 2021. Ethics committee approval was obtained from Fırat University Social and Human Sciences Research Ethics Committee (October 23, 2020, 420163). The study population consisted of 1600 students studying at the Faculty of Health Sciences. The sample size was calculated to be 310 students, with a 95% CI and a 5% margin of error, using the G*power 3.1.9.4 program before the study started. The research data were completed with 1126 volunteer students who met the inclusion criteria. Inclusion criteria are to be studying at the Faculty of Health Sciences and agreeing to participate in the research. Research data were collected with Personal Information Form, Coronavirus 19 Phobia Scale (C19P-S), and Technology Addiction Scale. Research data were collected via Google Forms.

Personal Information Form

The personal information form consisted of 14 items that determine participants' age, gender, department, class, family economic status, telephone ownership status, computer ownership status, internet connection tool, social network membership status, daily time spent on social media, daily time spent on the instant messaging program, membership to a constantly played online game, having an individual over the age of 65 at home, and having an individual with a chronic disease at home.

Coronavirus 19 Phobia Scale

The scale was developed by Arpacı et al. (2020). The scale is a 5-point Likert-type scale aiming to determine students' technology addiction levels. Scale items are evaluated between "1, Strongly Disagree" and "5, Strongly Agree." The scale is a 5-point Likert-type scale that measures the phobia that may develop against the coronavirus. While psychological subimension is measured by items 1, 5, 9, 13, 17, and 20, somatic subdimension is measured by items 2, 6, 10, 14, and 18, social subdimension by items 3, 7, 11, 15, and 19, and economic subdimension by items 4, 8, 12, and 16. The subdimension scores are the total scores of the answers of the relevant subdimension. The total C19P-S score is the sum of all subdimension scores and varies between 20 and 100 points. A high score on the scale means a high coronaphobia, while a low score implies a low coronaphobia. The Cronbach's alpha coefficient of the scale was .92 (Arpaci et al., 2020). The current study has found the internal consistency score of the scale as .85.

Technology Addiction Scale

The scale was developed by Aydın (2017). Scale items are evaluated between "1, never," "2, rarely," "3, sometimes," "4, very often," and "5, always." It includes four subscales: Social Network Addiction Scale, Instant Messaging Addiction Scale, Online Game Addiction Scale, and Website Addiction Scale. In the scale study, the internal consistency of the subscales was found as follows: the Social Network Addiction Scale: .78; the Instant Messaging

Addiction Scale: .80; the Online Gaming Addiction Scale: .89; and the Website Addiction Scale: .86 (Aydin, 2017). The current study has found the internal consistencies for the same subscales as follows: the Social Network Addiction Scale: .81; the Instant Messaging Addiction Scale: .78; the Online Gaming Addiction Scale: .91; and the Website Addiction Scale: .87.

Data Collection

The research data were collected between March 12, 2021, and April 12, 2021, through an online research form created by the researchers after getting the permission of the ethics committee and the institution. This form was created using the Google Forms application. The prepared online form provided the participants with relevant information about the survey. After their written informed consent, the participants were requested to fill out the forms. Form filling time was between about 10 and 15 minutes. Participation in the research was completely voluntary. While the C19P-S and the Technology Addiction Scale are dependent variables, sociodemographic characteristics such as gender, age, department, class, and socioeconomic status are independent variables.

Statistical Analysis

The collected data were analyzed using Statistical Package for Social Sciences statistical software version 22.0 (IBM SPSS Corp., Armonk, NY, USA) program and transferred to digital media. Percentage, standard deviation, and mean were used in the data. The normality test of the obtained data revealed that the data were in a normal distribution since the skewness and kurtosis values were between −2 and +2. Relationships between normally distributed data were examined by Pearson correlation analysis (George & Mallery, 2010). In the study, the kurtosis value of the Technology Addiction Scale was .564, the skewness value was .915, the C19P-S kurtosis value was −.339, and the skewness value was .371. Independent sample *t*-test and one-way ANOVA test (Tukey) were employed to compare the variables. The CI was 95%, and values with $p < .05$ were considered significant.

Results

As seen in Table 1, the mean age of Health Sciences Faculty students participating in the research was 20.54 ± 2.06, and the majority were female (n = 952, 84.5%). Nearly half of the participants (44.2%) were nursing students, and most of the participants (31.5%) were second-graders. The majority of the students (83.7%) were from middle-income families. Almost all (97.9%) had a smartphone, and more than half (59.3%) did not own a computer. Of the participants, 540 (48.0%) had no options but their smartphones to connect to the internet; more than half (75.7%) had a membership in social networks, and only 187 participants (16.6%) spent no time on social networks. Among the students, 113 (10%) usually used instant messaging programs for 5 hours or more per day, and 227 (20.2%) had an online game that they played constantly. Only 42 (3.7%) played an online computer game 3 hours or more per day. While most of the participants (82.4%) did not have an individual over 65 at home, almost half (50.1%) had a chronic disease patient at home.

As seen in Table 2, the TAS Social Network Addiction subdimension (SNAS) was 13.60 ± 5.35; the Instant Messaging Addiction subdimension (IMAS) was 13.68 ± 5.23; the Online Game Addiction subdimension (OGAS) was 9.05 ± 5.09, and the Website

Table 1.
Sociodemographic Variables (n = 1126)

Variables	Minimum – Maximum	Average ± SD
Age	17 – 41	20.54 ± 2.06
	n	%
Gender		
Men	174	15.5
Women	952	84.5
Department		
Nursing	498	44.2
Midwifery	227	20.2
Nutrition and dietetics	231	20.5
Physical therapy and rehabilitation	170	15.1
Class		
First class	312	27.7
Second class	355	31.5
Third class	268	23.8
Fourth class	191	17.0
Economic situation of the family		
Low	151	13.4
Middle	942	83.7
High	33	2.9
Owning a phone		
Yes	1102	97.9
No	24	2.1
Owning a computer		
Yes	458	40.7
No	668	59.3
Internet connection tool		
Smartphone	540	48.0
Smartphone and other technological devices	586	52.0
Having a social network account		
Yes	852	75.7
No	274	24.3
Time spent on social networks		
Not using	187	16.6
Less than 1 hour	112	9.9
1 – 2 hours	313	27.8
3 – 4 hours	350	31.1
5 hours or more	164	14.6

(*Continued*)

Table 1.
Sociodemographic Variables (n = 1126) (Continued)

Variables	Minimum – Maximum	Average ± SD
Time to use instant messaging programs		
Less than 1 hour	354	31.4
1 – 2 hours	435	38.6
3 – 4 hours	224	19.9
5 hours or more	113	10.0
Playing online games		
Yes	227	20.2
No	899	79.8
Online gaming time		
Not playing	767	68.1
Less than 1 hour	202	17.9
1 – 2 hours	115	10.2
3 hours or more	42	3.7
Having an individual over 65 years old at home		
Yes	198	17.6
No	928	82.4
Presence of an individual with a chronic disease at home		
Yes	564	50.1
No	562	49.9

Note: SD = standard deviation.

Addiction subdimension (WSAS) was 14.06 ± 5.97. The mean TAS total score was 50.41 ± 17.94. While students' addictions to social networks, instant messaging, websites, and general addiction levels were medium, their online game addiction was low. C19P-S psychological subdimension was 20.32 ± 5.93; somatic subdimension was 8.96 ± 4.11; social subdimension was 8.96 ± 4.11, and economic subdimension was 8.02 ± 3.55. The mean of the C19P-S total score was 51.55 ± 15.92.

Table 3 shows the difference between the scales' mean scores and participants' sociodemographic characteristics. The gender variable had a statistically significant difference with the C19P-S psychological subdimension and the total mean score ($p < .05$). The psychological dimension of coronavirus phobia experienced by women was higher than that of men. There was a statistically significant difference between the department variable and the mean C19P-S total score, the psychological subdimension, and the economic subdimension ($p < .05$). Students studying in the Physical Therapy and Rehabilitation Department experienced the phobia of COVID-19 more psychologically and economically compared to the students in the other department. There was a statistically significant difference between the social network membership and C19P-S psychological and social subdimensions ($p < .05$). The C19P-S psychological and social subdimension scores of the students with membership in social networks were higher than those without membership in social networks. As seen in the table, there was a statistically significant difference between the time spent on social networks and the C19P-S total score and all subdimensions ($p < .05$). People spending 5 or more hours daily on social networks had higher psychological, physiological, social, economic, and overall COVID-19 phobia compared to people who spent less than 5 hours a day. There was a statistical difference between living together with individuals over 65 at home and the C19P-S subdimensions and the total score ($p < .05$). Students living with elderly people at home experienced higher levels of COVID-19 phobia in psychological, social, physiological, economic, and general terms compared to others. In addition, there was a statistically significant difference between living together with a chronic disease patient at home and the CP19-S total score and subdimensions ($p < .05$). Students living with a chronic disease patient at home felt more psychological, social, economic, physiological, and general phobia of COVID-19 than others.

Table 4 shows the difference between the mean scores of the TAS and its subscales and the participants' sociodemographic characteristics. There was a statistically significant difference between

Table 2.
Health Sciences Faculty Students' Total Mean Scores on TAS and Subdimensions and C19P-S and Subdimensions

Scales	Minimum	Maximum	Average ± SD
TAS Social Network Addiction Subdimension	6	30	13.60 ± 5.35
TAS Instant Messaging Addiction Subdimension	6	30	13.68 ± 5.23
TAS Online Game Addiction Subdimension	6	30	9.05 ± 5.09
TAS Website Addiction Subdimension	6	30	14.06 ± 5.97
TAS total score	24	120	50.41 ± 17.94
CP19-S psychological subdimension	6	30	20.32 ± 5.93
CP19-S somatic subdimension	5	25	8.96 ± 4.11
CP19-S social subdimension	5	25	14.23 ± 5.06
CP19-S economic subdimension	4	20	8.02 ± 3.55
CP19-S average score	20	100	51.55 ± 15.92

Note: SD = standard deviation.

Table 3.
The Comparison of Health Sciences Faculty Students' COVID-19 Phobia Scale (C19P-S) and Subdimension Total Mean Scores with Their Sociodemographic Characteristics

Variables (n = 1126)	CP19-S Psychological Subdimension, Average ± SD	CP19-S Somatic Subdimension, Average ± SD	CP19-S Social Subdimension, Average ± SD	CP19-S Economic Subdimension, Average ± SD	CP19-S Total Score, Average ± SD
Gender					
Men	18.30 ± 6.26	8.66 ± 4.11	13.55 ± 5.03	7.73 ± 3.65	48.26 ± 16.18
Women	20.69 ± 5.79	9.02 ± 4.11	14.35 ± 5.06	8.08 ± 3.53	52.16 ± 15.81
t/p*	−4.941/.000	−1.058/.290	−1.913/.056	−1.182/.238	−2.978/.003
Department					
Nursing (a)	19.46 ± 5.98	8.86 ± 4.06	13.99 ± 5.05	7.86 ± 3.48	50.18 ± 15.67
Midwifery (b)	20.86 ± 5.63	8.99 ± 4.17	14.06 ± 4.97	7.77 ± 3.59	51.70 ± 15.81
Nutrition and dietetics (c)	20.65 ± 5.92	8.70 ± 3.79	14.43 ± 5.13	8.04 ± 3.40	51.84 ± 15.69
Physical therapy and rehabilitation (d) (d > b > c > a)	21.69 ± 5.90	9.60 ± 4.51	14.89 ± 5.11	8.80 ± 3.80	55.00 ± 16.67
f/p**	7.532/.000	1.792/.147	1.560/.198	3.446/.016	3.948/.008
Owning a phone					
Yes	20.31 ± 5.91	8.90 ± 4.03	14.20 ± 5.04	8.00 ± 3.54	51.42 ± 15.79
No	21.04 ± 6.91	11.83 ± 6.14	15.62 ± 6.02	9.33 ± 3.95	57.83 ± 20.32
t/p*	−.596/.552	−2.321/.029	−1.361/.174	−1.820/.069	−1.954/.051
Having a social network account					
Yes	20.59 ± 5.99	8.94 ± 4.06	14.46 ± 5.09	8.00 ± 3.54	52.00 ± 15.87
No	19.50 ± 5.65	9.03 ± 4.24	13.52 ± 4.94	8.10 ± 3.58	50.16 ± 16.01
t/p*	2.638/.008	−.292/.771	2.676/.008	−.395/.683	1.668/.096
Time spent on social networks					
Not using (a)	19.35 ± 5.78	8.80 ± 4.13	13.31 ± 5.04	8.01 ± 3.53	49.48 ± 16.09
Less than 1 hour (b)	20.23 ± 5.79	9.09 ± 4.48	14.00 ± 5.07	7.85 ± 3.53	51.19 ± 15.76
1 – 2 hours (c)	19.97 ± 5.90	8.60 ± 3.67	13.95 ± 4.73	7.65 ± 3.30	50.19 ± 14.67
3 – 4 hours (d)	20.20 ± 5.91	8.81 ± 3.94	14.06 ± 4.96	7.82 ± 3.39	50.91 ± 15.53
5 hours or more (e) (e > b > d > c > a)	22.42 ± 5.86	10.10 ± 4.75	16.31 ± 5.43	9.30 ± 4.09	58.14 ± 17.41
f/p**	6.836/.000	4.017/.003	9.055/.000	6.615/.000	8.777/.000
Having an individual over 65 years old at home					
Yes	21.18 ± 5.92	9.88 ± 4.71	15.24 ± 5.45	9.21 ± 3.85	55.53 ± 17.36
No	20.14 ± 5.92	8.77 ± 3.94	14.01 ± 4.95	7.77 ± 3.43	50.71 ± 15.47
t/p*	2.235/.026	3.105/.002	3.115/.002	5.221/.000	3.890/.000
Presence of an individual with a chronic disease at home					
Yes	21.22 ± 5.84	9.32 ± 4.26	15.04 ± 5.22	8.32 ± 3.71	53.91 ± 16.34
No	19.42 ± 5.88	8.61 ± 3.91	13.41 ± 4.77	7.73 ± 3.36	49.19 ± 15.14
t/p*	5.162/.000	2.880/.004	5.452/.000	2.792/.005	5.032/.000

Note: *İndependent sample t-test.
**One-way ANOVA (Tukey).
ANOVA = analysis of variance; SD = standard deviation.

gender and TAS and OGAS ($p < .05$). Online gaming and technology addictions of men were higher than those of women. There was a highly significant difference between the department and TAS, SNAS, OGAS, and WSAS ($p < .05$). Nursing department students' technology, social networking, online game, and website addictions were higher than the students in the other department.

Table 4.
The Comparison of the Health Sciences Faculty Students' Technology Addiction Scale (TAS) and Subdimensions Total Average Scores with Their Sociodemographic Characteristics

Variables	TAS Social Network Addiction Subdimension (SNAS) Average ± SD	TAS Instant Messaging Addiction Subdimension (IMAS) Average ± SD	TAS Online Game Addiction Subdimension (OGAS) Average ± SD	TAS Website Addiction Subdimension (WSAS) Average ± SD	TAS Average Score Average ± SD
Gender					
Men	13.89 ± 5.63	13.39 ± 5.16	12.05 ± 5.71	13.77 ± 5.85	53.12 ± 19.48
Women	13.55 ± 5.30	13.74 ± 5.24	8.50 ± 4.77	14.11 ± 5.99	49.91 ± 17.60
t/*p**	.766/.444	−.797/.425	7.721/.000	−.694/.488	2.024/.044
Department					
Nursing (a)	14.00 ± 5.63	14.10 ± 5.36	9.88 ± 5.77	14.56 ± 6.13	52.56 ± 19.11
Midwifery (b)	12.72 ± 4.80	13.33 ± 5.06	7.76 ± 3.68	13.09 ± 5.64	46.92 ± 15.92
Nutrition and Dietetics (c)	13.43 ± 5.02	13.14 ± 5.02	8.50 ± 4.58	13.71 ± 5.61	48.80 ± 16.34
Physical therapy and rehabilitation (d) (a > d > c > b)	13.83 ± 5.54	13.65 ± 5.26	9.10 ± 4.84	14.35 ± 6.22	50.95 ± 18.23
f/*p***	3.170/.024	2.230/.083	10.427/.000	3.578/.014	5.994/.000
Having a social network account					
Yes	13.98 ± 5.30	13.88 ± 5.30	9.12 ± 5.08	14.50 ± 5.99	51.49 ± 17.92
No	12.41 ± 5.34	13.07 ± 4.94	8.84 ± 5.12	12.71 ± 5.69	47.04 ± 17.60
t/*p**	4.271/.000	2.239/.025	.775/.439	4.345/.000	3.591/.000
Time spent on social networks					
Not using (a)	11.81 ± 5.10	12.57 ± 4.54	8.39 ± 4.65	11.82 ± 5.09	44.60 ± 15.88
Less than 1 hour (b)	11.39 ± 4.74	11.93 ± 4.85	9.16 ± 5.22	11.73 ± 5.61	44.22 ± 17.74
1 – 2 hours (c)	12.69 ± 4.62	12.78 ± 4.93	8.63 ± 4.42	12.94 ± 5.15	47.05 ± 15.34
3 – 4 hours (d)	14.41 ± 4.99	14.25 ± 5.13	9.12 ± 4.87	14.82 ± 5.65	52.62 ± 16.47
5 hours or more (e) e > d > c > a > b	17.18 ± 5.94	16.66 ± 5.61	10.37 ± 6.71	18.72 ± 6.40	62.95 ± 20.77
f/*p***	36.981/.000	23.651/.000	4.132/.003	46.396/.000	36.392/.000
Time to use instant messaging programs					
Less than 1 hour (a)	12.65 ± 5.18	12.10 ± 4.95	9.04 ± 5.00	13.02 ± 5.72	46.84 ± 17.29
1 – 2 hours (b)	13.40 ± 5.04	13.41 ± 4.75	8.84 ± 4.77	13.60 ± 5.55	49.25 ± 16.71
3 – 4 hours (c)	14.70 ± 5.68	15.21 ± 5.37	9.25 ± 5.50	15.52 ± 6.29	54.70 ± 18.73
5 hours or more (d) d > c > b > a	15.18 ± 5.67	16.65 ± 5.53	9.47 ± 5.70	16.20 ± 6.60	57.52 ± 19.37
f/*p***	10.581/.000	32.093/.000	.628/.597	14.221/.000	16.075/.000
Playing online games					
Yes	14.80 ± 5.38	14.43 ± 5.50	13.53 ± 6.29	15.29 ± 6.53	58.06 ± 20.62
No	13.30 ± 5.30	13.49 ± 5.14	7.92 ± 4.02	13.75 ± 5.78	48.47 ± 16.66
t/*p**	3.793/.000	2.419/.016	12.800/.000	3.236/.001	6.490/.000
Online gaming time					
Not playing (a)	13.20 ± 5.23	13.34 ± 5.04	7.56 ± 3.61	13.62 ± 5.68	47.73 ± 16.08
Less than 1 hour (b)	13.80 ± 5.58	14.30 ± 5.62	10.09 ± 5.47	14.48 ± 6.46	52.68 ± 19.54
1 – 2 hours (c)	14.95 ± 5.36	14.37 ± 5.57	14.13 ± 5.76	15.49 ± 6.41	58.96 ± 20.40
3 hours or more (d) d > c > b > a	16.26 ± 5.10	15.14 ± 5.16	17.40 ± 6.18	16.16 ± 6.33	64.97 ± 19.69
f/*p***	7.542/.000	3.810/.010	137.024/.000	5.728/.001	26.393/.000

Note: *İndependent samples *t*-test.
**One-way ANOVA (Tukey).
ANOVA = analysis of variance; SD = standard deviation.

Table 5.
Correlation of Age with Averages of CP19-S and Subdimensions and TAS and Subdimensions

	CP19-S Average	Age	SNAS	IMAS	OGAS	WSAS	CP19-S Psychological Subdimension	CP19-S Somatic Subdimension	CP19-S Social Subdimension	CP19-S Economic Subdimension
TAS average	.328**	– .075*	.882**	.847**	.697**	.877**	.184**	.337**	.300**	.344**
CP19-S verage	—	–.039	.334**	.302**	.167**	.278**	.872**	.814**	.912**	.782**

Note: **The correlation is significant at the .01 level (two-tailed).

There was a statistical difference between social network membership and TAS, SNAS, IMAS, and WSAS ($p < .05$). Technology, social networking, instant messaging, and website addictions of people with membership in social networks were higher than those without social network membership. There was a statistically significant difference between the daily time spent on social networks and TAS and its subdimensions ($p < .05$). Technology, social networking, instant messaging, online gaming, and website addictions of people who spent 5 hours or more on social networks were higher than those who spent less than 5 hours. As seen in the table, there was a statistical difference between the daily usage duration of instant messaging programs and TAS, SNAS, IMAS, and WSAS ($p < .05$). Technology, social networking, instant messaging, and website addiction levels of students using instant messaging programs for 5 hours or more per day were higher than those using instant messages for less than 5 hours a day. There was a statistically significant difference between playing an online game and TAS and its subdimensions ($p < .05$). Technology, social networking, instant messaging, websites, and online game addiction of students who played online games for more than 5 hours a day were higher compared to other students.

Table 5 shows a highly significant two-way positive correlation between the TAS average and the CP19-S average. As the coronavirus phobia increased, technology addiction was also rising. In addition, as technology addiction raised, the level of phobia against the coronavirus was also advancing. There was a two-way negative significant relationship between age and TAS average. It was determined that the level of technology addiction decreased as age increased and vice versa.

Discussion

The COVID-19 pandemic and the protection measures against the disease have brought about some physiological and psychological problems. In addition, an isolated lifestyle, reduced levels of social interaction, and other difficulties might cause various addictions in young individuals. This section has compared the research findings in which the COVID-19 phobia and technology addiction levels of Health Sciences Faculty students in this period with the literature findings.

The current study has determined a moderate COVID-19 phobia level in students. Supporting this finding, many studies conducted on youth and adults during the COVID-19 pandemic have stated that the COVID-19 fear experienced by the participants was at moderate levels (Duman, 2020; Mertens et al., 2020; Özmen et al., 2021; Piret & Harper et al., 2020). Along with the pandemic, the spread of the disease, increasing infection and death rates, the new variants and uncertain treatment of the disease, and concerns about the future might cause panic and various mental health problems in the society. The evolution of the fear factor in a pandemic environment under these conditions is an expected result already (Bao et al., 2020).

The present study determined that students' social network, instant messaging, websites, and technology addiction levels were moderate, while online game addiction levels were low during the pandemic period. Studies conducted during the pandemic reported that compared to the prepandemic period, children's and young people's internet and technology utilization significantly increased; the participants showed more internet addiction; and adolescents' technology addiction levels climbed up (Dong et al., 2020; Firdevs & Uzun, 2021; Sun et al., 2020; Potas et al., 2022). In hard times like pandemics, strict preventive measures taken by governments, such as curfews and long-term house isolation, might cause adolescents to be more engaged with technology, which may lead them to technology addiction, a kind of behavioral dependence. As this period gets longer, young people may normalize their newly adopted technology use behaviors due to a lack of social activity. These normalized behaviors may turn into addiction after a while (Firdevs & Uzun, 2021). In addition to the studies having similar findings, some studies' findings differ from the current study, probably because of the age, residence place, education level, and participants' cultural differences.

As for the COVID-19 phobia by gender, the current research has found that the psychological dimension of COVID-19 phobia experienced by females is higher than that of males. Similarly, a previous study conducted during the pandemic has found that females feel the COVID-19 fear more than males (Abdulmuhsin et al., 2021). A paper in the swine flu period in 2011 has reported that females have a higher fear of catching the flu than males (Çırakoğlu, 2011). In addition, studies conducted in China and Türkiye at the time of the pandemic have also reported that females are more vulnerable to COVID-19 and more anxious than males (Ceviz et al., 2020; Zhong et al., 2020). Studies conducted with healthcare workers during the pandemic have declared that female healthcare workers have higher levels of fear than males (Khasne et al., 2020; Luceño-Moreno et al., 2020). A study conducted in Egypt has revealed that female students are more likely to feel anxiety than male students (Wolf & Rosenstock, 2017). These findings suggest that the perceived COVID-19 phobia may differ according to gender due to cultural life practices and gender perception differences. It may be possible to attribute this difference to the physiological, biological, and physical differences between men and women and to the fact that women are more emotional than men.

The current research has determined that the COVID-19 phobia social and psychological subdimension scores of the students who

are members of social networks are higher than those not having any memberships. In addition, it has been determined that people who spend 5 hours or more on social networks every day experience higher levels of COVID-19 phobia in psychological, somatic, social, economic, and overall terms compared to others. A study conducted in Türkiye has observed that the level of COVID-19 fear experienced by people who spend more time on social media during the pandemic is higher. In addition, the same study has found that approximately 60% of the participants' social media use has increased compared to the prepandemic period (Özdemir & Arpacıoğlu, 2020). Another study has revealed that excessive exposure to social media raises health anxiety and COVID-19 fear (Mertens et al., 2020). Other studies examining the relationship between experienced fear and social media have reported that higher exposure to social media is associated with more fear feelings (Garfin et al., 2020; Van den Bulck., 2009). These findings can be significantly associated with social media guiding people with false news, decreasing social relations due to increasing time spent on social media, negative self-evaluations, and loneliness. Because although social media is effective in terms of getting news, communicating with friends, and spending time, it can cause false information to spread even faster and increase phobia and uncertainty in difficult social events such as pandemics.

The current study has determined that students living with an individual over 65 at home experience higher COVID-19 phobia in psychological, social, somatic, economic, and overall terms compared to others. Previous studies conducted with university students during the pandemic have found that students' anxiety levels about an infection of a family member are higher than their anxiety levels about being infected themselves (Yorguner et al., 2021). This anxiety possibly stems from the high morbidity and mortality rates reported in the elderly and the highly contagious profile of the virus, which triggers the fear of transmission of the infection to family members, relatives, or acquaintances. The fear of infecting a family member or a relative becoming sick has been frequently emphasized in healthcare workers working with COVID-19 cases (Wang et al., 2020).

As a result, the current study has determined that students living with and caring for a patient with chronic illness at home feel more psychological, social, economic, physiological, and general COVID-19 phobia than others. Chronic diseases are long-term diseases that can last a lifetime, disrupt people's quality of life, and result in death. When diseases that can already be severely dangerous are combined with epidemic diseases such as COVID-19, the severity can increase even more, and it can be hard to treat. People with chronic diseases are the riskiest and most vulnerable groups for the coronavirus pandemic, and they need to be protected by the people around them and their families. People caring for these chronic diseased patients may be much more concerned about helping them than their own selves (Wang et al., 2020). Similar studies conducted during the COVID-19 pandemic have observed a significant difference between the person's own or family history of chronic disease and the COVID-19 fear (Özmen et al., 2021; Sahin et al., 2020).

The current research on Health Sciences Faculty students has determined that coronavirus phobia increases technology addiction, and, similarly, technology addiction increases coronavirus phobia. A study conducted during the pandemic period in Iran has revealed a highly significant relationship between problematic internet use and fear of COVID-19. Also, the same work has found that problematic internet use indirectly affects metacognitive beliefs, anxiety sensitivity, and COVID-19 fear (Hashemi et al., 2020). Again, some studies conducted during the pandemic have found that internet use is significantly higher than the prepandemic period, and a significant relationship exists between young people's internet addictions and their depression, stress, and sleep disorders (Dikmen, 2021, Priego-Parra et al., 2020). Other similar studies conducted during the pandemic have also shown a reciprocal relationship between participants' internet addictions and problematic internet use and high psychological distress, stress, COVID-19 anxiety, depression, loneliness, and poor sleep quality (Elhai et al., 2020; Fernandes et al., 2020; Li et al., 2021). All these results show us that phobia is a mechanism that should be taken seriously, which can have many physical and psychological consequences on people, can increase its effect even more in difficult conditions such as a pandemic, and cause addictions to form or to further progress existing addictions.

Phobia develops in society and expresses it. Infection phobia not only has been etched into our subconscious from memories of past epidemics but also stems from fictional dramatizations of such potential threats. As in numerous attack scenarios in the literature, mass media (social media and all technological devices) is another critical factor shaping the physical and psychological response of the public to the threat of an infectious disease. Individuals have been displaying depressive symptoms because of the stress and anxiety experienced during the COVID-19 pandemic, and these individuals turn to social media to learn more about the disease. Some studies have reported that false information, news, and fake death rates on social media platforms cause panic and fear (Singh et al., 2020). The current research suggests that phobia and excessive technology use during the pandemic may create a vicious circle that affects each other negatively. Furthermore, in the COVID-19 pandemic, phobia can cause technology addiction, but technology addiction can also be a reason for phobia.

Limitations and Directions/Suggestions for Future Research

Since the research was a descriptive and correlational study, the results only covered the sample in which the research was conducted. The study limitation (difficult to communicate with healthcare workers in pandemic conditions, risk of getting sick, etc.) was mainly that it could not be generalized and causalized.

The current research has revealed a reciprocal relationship between technology addiction and COVID-19 phobia levels and other factors. In line with these results, providing young people and their families with detailed, accurate, and sufficient information about the proper internet and technology use and implementing national programs for the correct and beneficial use of technology is of great importance for the pandemic period and beyond. In addition, if the individual already has a technology-related addiction, necessary treatments and support services should be provided by expert teams, including psychiatric nurses. If they have a psychological infrastructure, these people's self-awareness and self-consciousness about that infrastructure should be increased. In order to prevent the students from feeling lonely and distressed while coping with crises like pandemics, they should be encouraged to share their feelings with

family, friends, and experts during such crisis periods by creating environments where they can express themselves, socialize, and spend their energies in a real-life environment. The current study recommends conducting similar studies with larger sample groups examining the relationship between coronavirus phobia and technology addiction levels in university students to determine and prevent the negative impacts that the pandemic may have on young people and their families.

In the future, under difficult conditions such as pandemics or similar to a pandemic (war, earthquake, and flood), it should be investigated what young people experience and what they feel, and the negative consequences that these situations can create in young people, such as addiction. Having knowledge on this subject can help us both to inform young people and to take precautions against difficult situations that may develop in the future and to be prepared about how we can proceed in difficult conditions.

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