

Stress Sources and Behavioral Addiction Inclinations of Teachers in the Covid-19 Outbreak

Fuat Tanhan¹

Van Yüzüncü Yıl University

G. Ezgican Kızılok²

Van Yüzüncü Yıl University

Abstract

In the period of COVID-19, which has become the biggest epidemic disease of modern times, measures taken to avoid the spread of the virus, such as house restrictions or prolonged quarantine, cause insurmountable economic burdens at the social level and lead the masses to experience various negative emotional reactions, psychological difficulties and behavioral changes. The aim of this research is to determine stress sources of teachers during the COVID-19 and their behavioral addiction tendencies. For this purpose, 24 teachers from Van province İpekyolu, Tusba and Edremit districts participated in the study. The research was designed with a mixed pattern, and sequential exploratory design was used. First, the qualitative data is collected and analyzed by a semi-structured interview form, and then "Brief Symptom Inventory" was applied to the participants to collect the supportive quantitative data. While content analysis and descriptive analysis were used in the analysis of qualitative data, descriptive statistics were used for analysis of the data collected from the inventory, and t test was used for relationship analysis. In this study, it was found that (1) the biggest stress sources of teachers were restriction of social life and fear of getting infected, (2) they developed smartphone and social media addiction tendencies to cope with this stress, and (3) female teachers developed more depression and anxiety in this process compared to men.

Key Words

Covid-19 • Stress • Coping • Behavioral addictions

¹ Prof. Dr., Van Yüzüncü Yıl University, Educational Sciences Institution, Van, Turkey. E-mail: fuad65@gmail.com
ORCID: 0000-0002-1990-4988

² Correspondance to: Van Yüzüncü Yıl University, Educational Sciences Institution, Van, Turkey. E-mail: ezgicankizilok@gmail.com ORCID: 0000-0001-7627-1462

COVID-19 pandemic has created great changes and traumas in our lives. In this process where people use the internet and technology to the maximum level due to home restrictions, quarantine measures, space and excessive time caused by staying away from their jobs and schools, studies on compulsive purchasing, gambling addiction, sexual addiction and new forms of internet addiction such as online shopping, online gambling, pornography, smartphone, social media and digital game addictions (King et al., 2020; Király et al., 2020) These studies reveal a large increase and this increase is supported by statistics in the We are Social 2020 report. It is thought that the stress experienced by people in this process leads individuals to these behaviors as a coping strategy. Recent research has pointed out teachers are thought to be one of the professions who are affected by stress factors such as distancing from work, online education, future anxiety and uncertainty, and fear of being infected (Al Lily et al., 2020; Besser et al., 2020; Prado-Gascó et al., 2020). The problems experienced by teachers are not just themselves. It is known that it affects students, families and then a large part of the society (Adams, 1999).

Each factor that exceeds an individual's own resources is a source of stress (Lazarus and Folkman 1984). Accordingly, individuals face with many different stressors in COVID-19 pandemic. In the literature, studies reveal different stress factors, Individuals' stress level may increase depending on the fear of being infected, losing someone beloved, financial consequences, decreased ability to adopt setbacks, challenges, disappointments, and failures, being under quarantine (Khan et al., 2020; Khademian et al., 2021; Yıldırım & Solmaz, 2020). Teachers deal with a long list of stressors including sources of stress brought by the online education in addition to other sources being experienced by all the individuals (MacIntre et al., 2020). The stress experienced by teachers can be at a level that can affect not only themselves, but also the teaching process, their personal lives and even their students (Adams, 1999). Also, a teacher's use of coping responses to stressors is an important determinant of their psychological adjustment and wellbeing (Talbot & Mercer, 2019). Coping is the process of responding to a stressor using one or more available techniques or strategies (MacIntre, 2020). Lazarus and Folkman (1984) refer to two types of coping strategies: problem and emotion-focused coping strategies. Problem solving, decision making or direct-action methods are used to change the stressful situation in problem-focused coping, while the meaning of the stressful situation is changed cognitively without changing the real situation in the emotionally focused coping method (Kızılok & Özok, 2021). Drug and substance addiction can be a way of coping with stress (Arevalo et al., 2008). Moreover, studies show that behavioral addictions are coping strategies used to escape from stress (Ungless et al., 2010). Consequently, stress can lead to internet addiction, cyber addiction, sex addiction, job addiction and shopping addiction in individuals (Kızılok & Özok, 2021; MacLaren & Best, 2010; Okasaka et al., 2008, Semaille, 2009).

The term addiction is derived from a Latin word, 'addicere', which means 'to be attached' or 'to be a slave' (Potenza, 2006). Walker (1989: 185) defines addiction as: "a desire or need beyond voluntary control; the tendency to increase the frequency or amount of activity over time; psychological dependence on the pleasurable consequences of the activity and damaging effects on the individual and society". In other words, addictions are chronic disorders that have negative effects on both personal and social levels (Thege et al., 2015). Addiction causes some changes in the chemistry of the brain and it kind of seizes the neural circuits (Small & Vorgan, 2010) It has

been a problem that has existed almost since the early days of human beings (Brecher, 1972) and has always caused both psychological and financial problems (U.S. Department of Justice, 2011).

Since the 1980s, some researchers have started to consider such behaviors as addiction, with the idea that addiction may be not only the consumption of certain substances, but also the repetition of some problematic behaviors. This is a great advance in the world of psychology and psychiatry because behavioral addictions such as kleptomania, gambling, compulsive sexual behavior and compulsive buying are indicatives of major public health problems, and these behaviors have always been highly associated with psychiatric comorbidities and mortality rates (Grant et al., 2006). Behavioral addictions can be defined as "the impulse to carry out an action that harms the person or the people around him and the inability to resist the emerging motive" (Taş et al., 2014: 41). The phenomenological, genetic and neurobiological evidence between behavioral addictions and substance addictions is increasing day by day (Grant & Potenza, 2005). According to Grant et al. (2010), these similarities are natural history (high frequency and prevalence, chronic, repetitive course), phenomenology (subjective desire, drunkenness 'rise' and withdrawal), and tolerance, comorbidities, overlapping genetic contribution, neuro-biological mechanisms and treatment methods.

Rationale and Purpose of the Study

Considering the stress and distress experienced by individuals during the COVID-19 process, as well as the increased time spent on the internet during this period, more research should be conducted on problematic behavior addiction tendencies. There are some certain studies examining behavioral addiction trends during the COVID-19 outbreak that focused on a single type of addiction. Kadeswaran et al. (2020) have studied smartphone addiction, Király et al. (2020) have studied internet addiction, Mestre-Bach et al. (2020) and Orte et al. (2020) have investigated pornography behavior, Price (2020) have studied gambling behavior, Jaspal et al. (2020) have studied online shopping habits in COVID-19. Several studies have provided information about the increase in online game behavior during the pandemic process (Amin et al., 2020; Avena et al., 2021, King et al., 2020). Marsden et al. (2020) adhered to DSM classification, addressing only opioid, alcohol, tobacco and gambling in the COVID-19 outbreak. However, we could not find a study that explains the situation in a more holistic perspective, which examines different behavioral addiction tendencies in COVID-19 pandemic. This study will be the first among addiction studies conducted during the COVID-19 pandemic period, with its wide scope examining many types of addiction with regard to teaching profession. In this way, a starting point can be created about which behavioral addiction tendencies teachers are prone to develop in this process, and necessary prevention studies and interventions can be made. This study will contribute both theoretically and practically to the literature in terms of detecting some risky behaviors faced by teachers, who are one of the most important parts of the education world, in the pandemic.

The purpose of this research is to determine the stress sources and behavioral addiction tendencies experienced by teachers during the COVID-19 pandemic process. Accordingly the research questions to be answered in this study are as follows:

1. What types of stress sources have occurred in teachers during the epidemic process?
2. What have teachers done to cope with these sources of stress during the epidemic?

3. What behavioral addiction tendencies are seen in teachers during the epidemic process?
4. Which psychological symptoms were seen more in teachers during the epidemic process?

Method

Research Design

This research used mixed method model in order to analyze collect multiple data by using both qualitative and quantitative methods. In mixed methods research, both qualitative and quantitative data are collected and analyzed, and the obtained studies are presented by integrating (Creswell, 2009). In this study, sequential exploratory design, one of the mixed method designs, was used. In this design, firstly, qualitative data is collected and analyzed, followed by quantitative data. The purpose of quantitative data is to reproduce qualitative data, and the analysis of the data is combined in the interpretation and discussion sections (Çelik, 2019).

Research Sample/Study Group/Participants

The study group consists of primary and secondary school teachers working in three districts of Van (İpekyolu, Tusba and Edremit). While determining the study group of the study, some criteria were first set: (a) Being between 25-40 years old (b) not exceeding ten years in the profession, (c) equal numbers of men and women in the study. Volunteering was based on these criteria and they were randomly selected among the participants who wanted to take part in the study. In random sampling, also called simple random sampling, every possible combination of elements in the universe has an equal probability of being included in the sample (Kerlinger & Lee, 1999). In simple random sampling, a sampling frame containing all the elements of the universe should be made first (Mertens, 2015). In this study, this framework was made with the determined criteria.

Table 1

Socio-demographic aspects of the participants

Variables	Categories	n	%
1.Gender	Man	12	50
	Woman	12	50
2.Age	20-25	2	8
	26-31	12	50
	31+	10	42
3.Status	Single	18	75
	Married	6	25
	Total	24	100

According to the Table 1, 50% of the participants are man and 50% of the participants are woman. 8% of the participants are between the ages of 20-25; 50% of the participants are between the ages of 26-31; and 42% of the participants are over 31 years. 75% of the participants are single while 25% is married.

Research Instruments and Processes

2 data collection tools were used:

1. A semi-structured development form including demographic information, developed by the researchers to determine the stress sources and behavioral addiction tendencies of teachers during COVID-19.
2. Brief Symptom Inventory (BSI) to determine the psychological symptoms of teachers during the COVID-19 pandemic were used as the quantitative data collection tool.

Data were collected using a semi-structured interview form, which includes demographic information (gender, age, marital status, and whether or not there are children), which was developed by the researcher for the qualitative part of the study. While preparing the interview difference, it started with open-ended questions where teachers could best explain the sources of stress or anxiety during the COVID-19 pandemic and how they coped with this stress or anxiety. Subsequent questions focused on 6 types of addiction (online shopping, online gambling, pornography, smartphone, digital game and social media), and the phenomenological characteristics associated with each of them (attention withdrawal, mood change, tolerance, withdrawal, conflict and repetition) were asked to the individual participants.

Brief Symptom Inventory – or BSI which was created by [Derogatis and Melisaratos \(1983\)](#) is a shortened, 53-item version of the Symptom Checklist-90 (SCL-90; [Derogatis et al., 1973](#)) that measures emotional-behavioral functioning in nine dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The items in the BSI are a Likert-type scale graded between 0-4 values accompanying the statements "Nothing" and "Too much". The sub-dimensions of the UHI consisting of 53 items and 5 subscales; Anxiety (13 items), Depression (12 items), Negative Self Dimension (12 items), Somatization Dimension (9 items) and Hostility Dimension (7 items). The highest score that can be obtained from the scale is 212. Validity and reliability studies of the scale in our Turkey were conducted by [Şahin and Durak \(1994\)](#). In the factor analysis performed on the total scores of the subscales, there was a single and strong factor that could explain 66.2% of the total variance, while the Cronbach Alpha reliability coefficient of the scale was found to be .96.

Data Analysis

Descriptive and content analysis techniques were applied in the analysis of qualitative data. The sound recordings were transcribed one by one and analysis was made over this transcript. The data obtained by the descriptive analysis technique were summarized and interpreted according to predetermined themes. The data obtained in the descriptive analysis technique are summarized and interpreted under pre-determined titles ([Altunışık et al., 2010](#)). A conceptual framework was created from the semi-structured interview form questions in this study, and then the data obtained were placed in this framework to form a meaningful whole. After the descriptive analysis, the data in the conceptual framework were subjected to content analysis. The data organized under the main themes were analyzed and thus, codes with sub-themes were obtained. Theme, sub-theme and codes were revised and arranged. Percentage and

frequency tables for each theme were created by calculating how often the codes (teacher expressions) were repeated under which sub-theme. These tables are supplemented by direct quotations from teachers.

The quantitative part of the research consists of the data collected from the Brief Symptom Inventory. SPSS 22 (Statistical Package for Social Sciences) program was used to analyze these data. Descriptive statistics (Percentage, Average, Standard Deviation) were used while evaluating the study data. The Independent Sample T Test was used to check whether there is a significant difference between the gender factor and the total dimensions taken from the scale.

Results

In this study, analyzes were made to determine the stress sources of teachers during the COVID-19 pandemic, their methods of coping with this stress and their behavioral addiction tendencies in this process.

Findings on the Stress Sources of Teachers in the COVID-19

According to the interviews made with the teachers participating in the research, the information regarding the sub-themes, codes and frequency of the codes obtained under this theme is presented in Table 2.

Table 2

Teachers' sources of stress in the COVID-19

Sub-theme	f	%	Code	f	%
1.Restriction of social life	20	83	-being at home all time	14	59
			-not going places like cafes	7	29
			-not going gym	3	12
			-distance to friends	6	25
2.Aimlessness due to not going to work	9	7	-aimlessness	5	21
			-fear of rusting	2	9
			-staying away from students	2	9
3. Family related factors	8	33	-fear of infecting family	6	25
			-staying away from the family	2	9
4. Fear of being infected	13	54	-getting infected	12	50
			-infecting others	5	21
5. Uncertainty	8	33	-uncertainty about the future	8	33
			-being afraid of making plans	2	9
6. Wearing mask out of necessity	13	12	-being nervous when wearing a mask	3	12

In Table 2, it is seen that six sub-themes consist of restriction of social life, sense of aimlessness due to inability to go to work, familial factors, fear of being infected, uncertainty and wearing a mask out of necessity. 83% (n: 20) of the participants stated that the restriction of their social life caused stress on them. The second major stress factor is the fear of being infected with a rate of 54% (n: 13).

Restriction of social life

P1: "Social life has been restricted. Normally, I would go out every two or three days, hang out in crowded places, all of them disappeared. I can no longer meet people comfortably. I used to eat a lot from outside and now I cook at home and I am incredibly bored with it. "

P6: "Social life has changed. You can't go to a restaurant or a cafe. We were on vacation, we didn't even experience it like a vacation. Life turned into routine. I think it caused loss of color in life. "

As emphasized in the teacher statements above, 83% of the teachers stated that they experienced stress due to the restriction of their social life. Repeated codes in this theme; the stress of being at home all the time (59%); the stress of not being able to go to places such as cafes, bars, restaurants (29%); and the stress of intervening distance with friends (25%); stress caused by not being able to go to the gym (12%).

Fear of being infected.

P19: "I used to put my hand in my mouth with ease before. Now I panic whether my hand touched my mouth even though I haven't taken it. Are there any microbes in the things we buy from outside? Even when I order, I think the following; In case the delivery man talked with somebody while bringing this food, if he took the mask off, if he got sick... "

P4: "I avoid crowded places because people don't follow the rules. Even though I pay attention to the rules, I am constantly stressing when I see that the other person does not.

As emphasized in the teacher statements above, 54% of the teachers stated that they experienced stress due to the restriction of their social life. Repeated codes in this theme; stress caused by the fear of getting the disease (50%) and the stress caused by the fear of infecting others (21%).

Findings on Teachers' Methods of Coping with Stress in the COVID-19

According to the interviews made with the teachers participating in the research, the information regarding the sub-themes, codes and frequency of the codes obtained under this theme is presented in Table 3.

In Table 3, it is seen that eight sub-themes are composed of watching something on the internet, being interested in hobbies, alcohol and cigarettes, books and television, physical activity, work, housework, and orientation to loved ones. 75% of the participants (n: 18) turn to behavioral addiction tendencies to cope with stress, and the most intense among them is smartphone addiction with 66% (n: 16). Reading books and watching television (n: 16) is seen as the second coping strategy with a rate of 66%. This is followed by social media addiction with a rate of 54% (n: 13). It is seen that the most commonly used coping strategy among other themes is watching something on the internet with 58%.

Table 3

Teachers' methods of coping with stress in COVID-19

Sub-theme	f	%	Code	f	%
1. Watching something online	14	58	-Series	6	25
			-Movies	7	29
			-Videos	1	4
2. To be interested in a hobby	8	33	-Playing an instrument	5	20
			-Garden-plants	2	8
			-Painting	1	4
			-Dance	1	4
3. Alcohol and smoking	9	37	-Alcohol	5	21
			-Smoking	9	37
4. Book and Television	16	66	-Book	12	20
			-Television	7	29
5. Physical Activity	8	33	-Walking	1	4
			-Sports and Yoga	5	20
			-Going outdoors	3	12
6. Working	5	20	-Academical	4	17
			-Vocational Development	1	4
7. Chores	4	16	-Cleaning	3	12
			-Cooking	3	12
8. Turning to loved ones	10	41	-Spending Time with Family	3	12
			-Online Communication	7	29
9. Getting special support	2	8	-Psychological support and medication	2	8
10. Behavioral addiction tendencies	18	75	-shopping	5	20
			-gambling	3	12
			-pornography	3	12
			-smart phone	16	66
			-digital game	2	8
			-social media	13	54

Behavioral addiction tendencies

PI: "Now we can do everything by phone, I can control all my life-related work there. My relationship with the phone increased a lot during Covid. It increased a hundred percent. If there is a notification and I cannot look, my hand will shake. There is a feeling of obligation, a feeling that I have to look. It even makes me sleepy. My mind is constantly going off even when I am not in my hand. When I put the phone aside, I wonder if something is happening out of my control right now, I feel anxiety, in other words, the fear of missing something. Actually, it doesn't make me

feel happy or stressed, but I feel like my brain is getting very tired. When I look up and look at the outside world, I feel a perception problem. Actually, they have serious damages to me, but I can't let them go."

P17: "The time I spent on social media during Covid increased a lot. I started sharing the coffee I drank. I used to travel that much, I would go to Istanbul every two weeks, I see I don't have a single post. But now I want to share everything."

As emphasized in the teacher statements above, 75% of the teachers (n:18) stated that they turned to behavioral addictions as a method of escaping from stress. The codes repeated under this theme are online shopping addiction tendency (29%), online gambling addiction tendency (12%), pornography addiction tendency (12%), smartphone addiction tendency (66%), digital game addiction tendency (8%) and social media addiction tendencies (54%).

Books and Television

P5: "I read the book a lot, especially in March and April, I even only read books during that period, I enjoyed it very much, it also reduced my stress a lot. My reading time has increased 3-4 times. I've been reading since my childhood, but I can't read in busy times of my life. I read a lot at that time, and it was very good. "

P15: "My TV viewing time also increased. Survivor, Masterchef. We come together as a family in the evening. Since I spent more time with the family, I watched whatever they watched in the hall."

As emphasized in the teacher statements above, 66% of the teachers stated that they turned to books and television as a method of escaping from stress. Repeated codes under this theme are reading books (50%), and watching television (29%).

Watching something online.

P11: "I met what we call Netflix with Covid. I didn't need it before. "

P22: "I watched more videos, watched videos on the Internet to cope with it."

As emphasized in the teacher statements above, the interviewees 58% of the teachers stated that they watch something on the internet as a way of escaping from stress. The codes repeated under this theme are watching TV series (25%), watching movies (29%) and watching videos (4%).

Findings on Teachers' Behavioral Addiction Tendencies in the COVID-19

The phenomenological components of Griffiths (2005) were used to classify the six behavioral addiction tendencies (online shopping, online gambling, pornography, smart phone, digital gaming and social media) examined in this study as low, medium or high. These characteristics are (i) salience (ii) mood modification (iii) tolerance (iv) withdrawal, (v) conflict, and (vi) relapse. Table 4 shows the questions asked to measure each feature.

Table 4

Questions asked to measure the phenomenological components of behavioral addictions

Component	Description	Interview Questions
1.Salience	Behavior occupies a very large place in one's life, suppresses thought and causes cognitive impairment, and is constantly desired.	<ul style="list-style-type: none"> - Are there times when you feel like you have to do the behavior? - Do you constantly think about the behavior when you are not doing it?
2.Mood modification	As a result of behavioral addiction, shifts occur in the moments of revival and stagnation in the mood of the person.	<ul style="list-style-type: none"> - Does doing the behavior make you feel happy or relieve your stress? - Does the behavior sometimes depress you as much as it pleases you?
3. Tolerance	Longer/higher or intense behavioral sessions are required for a mood-altering effect.	<ul style="list-style-type: none"> - Do you need to increase the duration or intensity of the behavior to increase the satisfaction you receive?
4. Withdrawal	When the behavior is stopped or suspended, the individual experiences negative emotions (such as agitation, emotional outbursts, emotional exhaustion, physical discomfort, vomiting, headache, insomnia, loss of taste).	<ul style="list-style-type: none"> - Do you experience negative emotions when you do or fail to do the behavior? - What negative emotions do you experience?
5. Conflict	Addictive behavior is in conflict with other activities such as school, social life, hobbies, work, family responsibilities, and this conflict leads to negative consequences for the individual and/or others.	<ul style="list-style-type: none"> - Have you ever felt that the time you spend with behavior is holding you back from other areas of life? - Why did you feel like that?

6. Relapse	The individual repeatedly tries to reduce the addictive behavior or not to continue this behavior, but constantly returns to previously established behavioral patterns. All efforts to reduce the behavior fail, and even after a period of absence, it always comes back.	- What should you do to reduce it?
------------	---	------------------------------------

In this context, it was stated that participants who responded positively to 5 or 6 of the six phenomenological components had high addiction tendencies, participants who responded positively to 3 or 4 of them had moderate addiction tendencies, and participants who responded positively to 1 or 2 of the six phenomenological components had a low level of addiction tendencies. According to the interviews with the teachers participating in the research, the information about the sub-themes, codes and the frequency of the codes obtained under this theme are presented in Table 5.

Table 5

Frequency values according to the total scores of the participants

Sub-theme	f	%	Intensity	f	%
1. Online shopping	5	20	Low	4	16
			Medium	1	4
			High	-	-
2. Online gambling	3	12	Low	1	4
			Medium	1	4
			High	1	4
3. Online pornography	3	12	Low	1	4
			Medium	2	8
			High	-	-
4. Smartphone	16	66	Low	6	25
			Medium	6	25
			High	4	16
5. Digital game	8	8	Low	1	4
			Medium	1	4
			High	-	-
6. Social media	13	54	Low	4	16
			Medium	9	27
			High	-	-

Table 5 shows that there are six sub-themes: online shopping, online gambling, online pornography, smart phone, digital gaming and social media. It is seen that 66% of the participants have low (n:6), moderate (n:6) or high (n:4) smartphone addiction tendencies. It is seen that 54% of the participants have low (n:4) or moderate (n:9) social

media addiction tendencies. Online shopping addiction tendency (n:5) is in the third place with 20% (n:5), in the fourth and fifth place is online gambling (n:3) and online pornography (n:3) with 12%, and in the last place is digital game addiction with 8% (n:2) is located.

Smartphone addiction.

P13: "I use the phone for almost everything. During Covid, the relationship with the phone has increased a lot. Youtube, Twitch, Pornhub. There is Twitter. I don't use Facebook anyway, and there has been an increase in my use of Instagram. I also used Whatsapp a lot. Yes, I check notifications often. I also feel like I have to spend time with myself. My mind goes to the phone all the time when I can't help it. I also feel anxiety when I don't have the phone in my hand. I also think it makes me happy and reduces stress. I think it's definitely helpful in this process. If I go for a walk without a phone, I feel unsafe. I think I'm missing something. I don't want to spend more time on the phone, on the contrary, I want to reduce it. It depresses me as much as it delights me. Tolerance is developing. It's not something I do consciously though. I experience negative emotion when I don't spend time on the phone. I feel like something important will happen and I need to reflect it at that moment. I've also been unsuccessful when I wanted to reduce the time. I wanted to reduce the time because sometimes I feel nauseous from looking at the phone. It makes me suffocating, very depressing. To reduce this, I need to participate more in social activities.

From the statements of the above participant, it can be seen that it contains all six components. Therefore, this person is classified among those with a high tendency to smartphone addiction.

Findings on the Psychological Symptoms Experienced by Teachers in the COVID-19

The data collected with the BSI (Short Symptom Inventory) applied to determine the psychological symptoms of teachers in the COVID-19 period constitute the quantitative part of the research.

Table 6

Frequency values according to the total scores of the participants

Sub-dimensions	n	Lowest Score	Highest Score	Total Score	Skewness	Kurtosis
Anxiety	24	,00	40,00	379,00	,952	,330
Depression	24	2,00	38,00	366,00	,909	,279
Negative Self	24	,00	33,00	242,00	1,284	1,017
Somatization	24	,00	34,00	202,00	1,737	2,916
Hostility	24	,00	19,00	189,00	,716	-,144

Table 6 shows the statistical values of the scores obtained by the participants from the five sub-dimensions. While the minimum values obtained from the total anxiety, total negative self, total hostility, and total somatization dimensions were 0, the lowest value obtained from the total depression dimension was 2,00. When the highest scores

from each sub-dimension are ranked, it is seen that Anxiety is 40,0; Depression is 38,0; Somatization is 34,0; Negative Self is 33,0 and Hostility is 19,0. The total values taken from the sub-dimensions were 379,00 in Anxiety; 366,00 in depression; 242,00 in Negative Self; 202,00 in Somatization and finally 189,00 in Hostility. Skewness and kurtosis values were ,925 in Anxiety; ,909 in depression; 1,284 in negative self; It is seen that it is 1,737 in Somatization and ,716 in Hostility.

Table 7

Significant difference between gender and total scores – Independent sample t-test

Sub-dimensions	Gender	\bar{x}	ss	t	sd	p
Anxiety	Male	12,00	7,68	-1,889	19,111	0,74
	Female	19,58	11,58			
Depression	Male	10,91	6,55	-2,207	17,089	0,41
	Female	19,58	11,91			
Negative Self	Male	7,58	6,14	-1,352	17,026	,194
	Female	12,58	11,24			
Somatization	Male	5,166	4,58	-1,863	14,605	0,83
	Female	11,66	11,17			
Hostility	Male	6,00	3,35	-1,789	16,658	0,92
	Female	9,75	6,44			

When Table 7 is examined, the distribution of points according to gender according to the BSI scores of the 24 people who participated in the study was found to be significantly different only in depression ($p < 0.05$). The second sub-dimension, which is closest to the significant difference, is the anxiety dimension with ,074. It was seen that the difference between the other three dimensions was far from being significant.

Discussion, Conclusion & Suggestions

The data obtained in this study, which examines the stress sources and behavioral addiction tendencies of teachers during the COVID-19 process, is grouped into four themes. The conclusion and discussion are made for each theme.

The Stress Sources of Teachers in the COVID-19 pandemic

Learning something new, and a change is itself a source of stress because it requires the adaptation of new knowledge and behavior (Hoy & Woolfok, 1993). It is an indisputable fact that with the introduction of COVID-19 into our lives, we experience major changes and are exposed to new information and data every day through the media and the people around us. Therefore, it is an expected result that the masses experience stress due to many different factors during this period. In fact, any factor that exceeds an individual's own resources can be a source of stress (Lazarus and Folkman 1984). The stress experienced by teachers can affect not only themselves but also the teaching process, their personal lives and even their students. (Adams, 1999).

In this study, it was stated that the two biggest stress factors of teachers during the COVID-19 process are the restriction of their social lives and the fear of contracting COVID-19. [Dubey et al. \(2020\)](#) ranked the consequences of chronic social isolation, social distancing and home quarantine above the others, while listing the adverse health and well-being impacts of the COVID-19 disease. A large part of the world population is faced with psychosocial stress factors such as long-term home limitations, depression and panic due to the unknown nature of the disease, fear of being infected, vulnerability, working from home, concerns about income flow, and fear of losing a job ([Lima et al., 2020](#); [Rao & Andrade, 2020](#)). Staying constantly at home can be experienced by individuals as intolerable. It is a type of withdrawal and excessive social withdrawal is also considered as a psychotic symptom in some studies ([Tajan, 2015](#); [Lamblin et al., 2007](#)). Similarly, the majority of the working group of [Husky et al. \(2020\)](#)'s study indicated that they experienced moderate to severe stress during the process of closing home.

It is a well-known fact that the fear of getting sick is a great source of stress for the masses. COVID-19 can increase stress depend on the fear of infecting oneself or loved ones ([Khan et al., 2020](#)). [Barzilay et al. \(2020\)](#) study stress levels associated with COVID-19 (1) contact, (2) death from disease, (3) passing, (4) contact of family member, (5) unknowingly infecting others, and (6)) listed as experiencing financial problems. Accordingly, the restriction of social life and the fear of getting infected can be a significant stress source for teachers in COVID-19.

Teachers' Methods of Coping with Stress in the COVID-19

Combating the pandemic requires mental stamina as well as physical health ([Barzilay et al., 2020](#)). According to [Moos and Schaefer \(1993\)](#), individuals use two different ways to cope with stress. The first is the coping style that is characterized by logical analysis of the situation, positive re-evaluation and problem solving, while the second is the avoidant coping style, which is characterized by submission, emotional discharge, cognitive avoidance, and the search for new sources of satisfaction. [Lazarus and Folkman \(1984\)](#) likewise mentioned two different ways of coping as strategies, which are problem and emotion-focused coping strategies. While problem-solving, decision-making or direct action methods are used to replace the stressful situation in problem-focused coping, the meaning of the stressful situation is changed cognitively without changing the real situation in the emotionally focused coping method and sad emotions are tried to be regulated in this way. In this study, it is seen that the most common methods used by teachers to cope with the stress they experience during the COVID-19 process are behavioral addiction tendencies (smartphone and social media use), reading books and watching television, and watching things on the internet.

Examining the studies on teachers' strategies for coping with stress in daily life, [MacDonald \(1993\)](#) revealed that teachers have communication, adaptation, goal setting and relaxation techniques as strategies for coping with stress. It was stated by the participants of this study that the internet was also used for these social activities. Similarly, in this study, there are 13 teachers who stated that they turned to social media to avoid stress. Social media can become a good happiness tool with its rich content, unlimited information, visual satisfaction and ego-enhancing features. As a matter of fact, [Demirtepe-Saygili \(2020\)](#) revealed that the use of social media can also be a source of information, problem-focused coping, emotion-focused coping as a distraction, and social support.

In a quantitative study conducted by [Fu et al. \(2020\)](#) with 1242 individuals in Wuhan, almost 71% of the participants actively coped with stress by participating in different activities, sharing their concerns with others and looking from the busy side, while the other 29% reported that running away and smoking. It seems to use passive methods. In this study, it was found that the rate of teachers turning to alcohol and smoking to cope with stress is not at a high level (37%). In the light of these data and findings, it is possible to say that teachers want content that will draw more attention and focus from illness and isolation in order to get away from the tension and stress caused by COVID-19, therefore they turn to channels such as smartphones, social media, movies, TV series, television and books.

Behavioral Addiction Tendencies of Teachers in COVID-19

Scientific research and statistical data revealed in 2020 provide predictions that behavioral addictions may increase during the COVID-19 process ([Király et al., 2020](#)). In this period when the use of internet and technology reaches its maximum level, studies on the increase of compulsive purchasing, gambling addiction, sexual addiction and new forms of internet addiction, online shopping, online gambling, pornography, smartphone, social media and digital game addiction ([King et al., 2020](#); [Király et al., 2020](#)) show that the situation is at extremely significant levels. In this study, it is seen that the behavioral tendencies of teachers during the COVID-19 pandemic are at a high level (75%), but most of this is smartphone and social media addiction tendencies. Participants in this study found that online shopping, online gambling, pornography and digital game addiction tendencies were not common.

The findings in this study are in line with We are Social 2020 report. This report reveals that the time people spend with smartphones increased by 76% during the COVID-19 period. As stated in the previous title, although the smartphone has a unique strategy in dealing with stress and anxiety by providing unlimited opportunities for people to enjoy life and make life easier ([Kadeswaran et al., 2020](#)), it will become pathological when it exceeds a certain dose and becomes addictive components. As a matter of fact, all the participants having smartphone addiction stated that they experience the negative situations (insomnia, isolation from reality, withdrawal from other areas of life, etc.) because of spending so much time on the phone. It is common for these participants to have both nomophobia (fear of staying away from cell phones) and FOMO disorders (fear of missing out on developments) at the same time. There are also studies showing that if the smartphone exceeds the addiction dimension, it can turn into different dimensions such as neuroticism and psychoticism ([Park, 2005](#))

[Elhai et al. \(2020\)](#) used the Depression, Stress, Anxiety-21 and Smartphone Addiction scales in their quantitative study with 908 people from Eastern China cities. According to their findings, it was found that COVID-19 anxiety is associated with smartphone addiction, and smartphone addiction, which predisposes to general anxiety, is also associated with COVID-19 anxiety. When these are taken into consideration and combined with the data in this study, it is possible to say that teacher's turn to smart phones to get away from stress and anxiety, but they may also experience stress and anxiety with the contents there. As a matter of fact, teachers who participated in this study and who had a tendency to addiction to smartphones stated that spending time on the phone sometimes demoralized them or caused them to experience other negative emotions.

Social media companies have confirmed that there are huge increases in these platforms during the COVID-19 process. According to the We are Social 2020 report, during the COVID-19 period, people increased the time they spent on social media platforms by 23% and the time they spent by texting on these platforms by 24%. Similarly, according to a survey conducted by Web Index, approximately 25% of American and British social media users have increased their use of social media (Slisco, 2020). Almost all of the participants of this research (including those without social media addiction tendencies) stated that they increased their use of social media during the COVID-19 process. It is seen that the majority of the participants of this research use Instagram the most. Recently, it reveals that using Instagram too much can lead to psychological consequences (Mackson et al., 2019). In his study, Kircaburun (2017) stated that Instagram could not control the time people spend, dislike their own life due to Instagram, and feel lonely and depressed when they stay away from Instagram. As a matter of fact, most of the teachers who participated in this study admitted that they experienced feelings such as jealousy and envy of the lives of others because of Instagram. Quantitative study conducted by Kashan (2020) with 1092 people revealed that staying away from external activities makes most of people addicted to social media and when people cannot use social media during epidemic days, they experience stress and anxiety. Findings obtained from this research also support these data. Considering all these, it is possible to say that the strategies used to cope with stress during the COVID-19 period may lead to bigger problems.

Psychological Symptoms of Teachers in COVID-19

When the five dimensions of the Brief Symptom Inventory used in this study are examined (anxiety, depression, negative self, hostility and somatization), it is seen that the most common psychological symptoms experienced by the teachers participating in this study during the COVID-19 process are anxiety and depression.

In a quantitative study conducted by Liu et al. (2020) with 1090 healthcare workers, it was found that almost all sample experienced symptoms of depression and anxiety. In a large-scale quantitative study conducted by Li et al. (2020) with 88,611 teachers in China, it was stated that it was 14%. This rate is lower than the anxiety level in this study. Barzilay et al. (2020) revealed in their studies on COVID-19 that there is a general anxiety and depression problem in societies.

Another result obtained from the quantitative data in this study is the total score difference between the male and female teachers who participated in the study. When the female (12) and male participants (12), whose numbers are equal, were examined from the sub-dimensions of the scale, it was seen that there was a significant difference only in the depression dimension and the anxiety dimension was close to being significant. In light of these findings, it is possible to state that women experience more depression and anxiety than men during the COVID-19 process. There are different expressions in the related literature. Rodriguez-Hildago (2020) and others found that women are more afraid of contracting COVID-19 than men, but there are no significant differences in anxiety, stress and depression levels of women and men. There are also studies that express more anxiety and sleep disorders in women compared to men in this process (Fu et al., 2020).

Özdin and Bayrak Özdin (2020) worked with 318 people in their study to reveal the depression, anxiety and health anxiety levels in Turkish population in COVID-19 times. They found the levels of depression and anxiety in

women are higher than in men. Again, Liu et al. (2020) state that women have more tendencies to experience post-traumatic stress disorder symptoms after epidemics compared to men. Considering these, stress and even some negative coping methods (behavioral addictive tendencies) in the COVID-19 process increase the level of anxiety and depressive thoughts in individuals, but this is the result of somatization (transformation into physical symptoms), hostility (hostility towards others) or negative self (one's It is possible to say that it is not common to pass the negative thoughts about themselves) dimension.

In line with the findings above, our recommendations are:

1. Although smartphones and social media can be coping strategies with their rich content and the conveniences they provide, too much use of them can turn into addiction tendencies over time and cause more severe consequences for individuals. As in every behavior, we need to establish a good balance and place them in the first plan of our lives. Online trainings can be given to teachers by the Ministry of National Education regarding this issue.
2. Restricting their social life and staying at home seem to be a major source of stress for teachers. It is of great importance for societies to take preventive measures, as the stress experienced by teachers will affect not only themselves but also the education process and their students. By national education directorates, outdoors, social distance and educational activities can be organized with the participation of a limited number of people (such as a Mathematics exhibition, an English festival). Teachers can be assigned tasks in these activities.
3. It is seen that teachers choose screen-oriented activities (smartphone, TV series, computer, television) in order to cope with the stress they experience during COVID-19. The number of teachers who engage in physical activities such as meditation, yoga and sports is extremely low. Individuals should be more informed about the benefits of such activities for both physical and mental health. Online events related to these can be organized by the Ministry of National Education. More scientific research can be done on the subject and these can be delivered to schools and teachers.
4. The research shows that teachers have little awareness and knowledge about addiction. Although teachers spend hours on the phone, they are unaware of their addiction tendencies because they do not know the characteristics of this phenomenon and the consequences it may cause. In today's world, where the use of technology and internet is increasing, especially children and young people can become potential addicts. Teachers should be educated about both substance addictions and behavioral addictions in order to identify their own health and their students' addiction tendencies and guide them. In this context, courses focusing on addiction awareness prevention can be added to the curriculum of education faculties or in-service trainings can be given to teachers by the Ministry of National Education.
5. This research is limited only to the teachers participating in the research and the province of Van. The stress experienced by the teacher will reflect on both education and students. In order to prevent this and to take precautions, family, educational, relational and technology-based stress factors and coping strategies of teachers working in different provinces and regions should be investigated. It should be determined whether

these teachers have addiction tendencies and psychological support should be offered to the people who are in need.

Ethic

According to the decision of the social and human sciences editorial ethics committee, dated 07/10/2020 and numbered 2020/11-01, this study received ethical approval.

Author Contributions

This article was written with the joint contributions of two authors.

Conflict of Interest

The authors declare that they have no conflict of interest.

Funding

No scholarships or payments have been received from any institution for this article.

References

- Adams, E. (1999). Vocational teacher stress and internal characteristics. *Journal of Vocational and Technical Education*, 16, 7-22.
- Al Lily, A. E., Ismail, A. F., Abunasser, F. M., & Alhajhoj, R. H. (2020). Distance education as a response to pandemics: Coronavirus and Arab culture. *Technological Society*, 63, 101317. <https://doi.org/10.1016/j.techsoc.2020.101317>
- Altunışık, R., Coşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2010). *Research methods in social sciences with SPSS application*. Sakarya Yayıncılık
- Amin, K. P., Griffiths, M. D., & Dsouza, D. D. (2020). Online gaming during the COVID-19 pandemic in India: Strategies for work-life balance. *International Journal of Mental Health and Addiction*, 1-7. <https://doi.org/10.1007/s11469-020-00358-1>
- Arevalo, S., Prado, G. & Amaro, H. (2008). Spirituality, sense of coherence, and coping responses in women receiving treatment for alcohol and drug addiction. *Evaluation and Program Planning*, 31(1), 113-123.
- Avena, N. M., Simkus, J., Lewandowski, A., Gold, M. S., & Potenza, M. N. (2021). Substance use disorders and behavioral addictions during the covid-19 pandemic and covid-19-related restrictions. *Frontiers Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.653674>
- Barzilay, R., Moore, T.M., Greenberg, D.M... Gur, R. E. (2020). Resilience, COVID-19-related stress, anxiety and depression during the pandemic in a large population enriched for healthcare providers. *Translational Psychiatry*, 10, 291. <https://doi.org/10.1038/s41398-020-00982-4>
- Besser, A., Lotem, S., & Zeigler-Hill, V. (2020). Psychological stress and vocal symptoms among university professors in Israel: Implications of the shift to online synchronous teaching during the COVID-19 pandemic. *Journal of Voice*, S0892-1997(20)30190-9. Advance online publication. <https://doi.org/10.1016/j.jvoice.2020.05.028>
- Brecher, E. M. (1972). The consumers Union Report on licit and illicit drugs. Retrieved September 15 2021 from <https://www.druglibrary.org/schaffer/Library/studies/cu/blueline.gf>
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., Demirel, F. (2016). *Scientific reseach methods*. Pegem Academy.
- Çelik, Ş. N. (2019). *Evaluation of the English language teaching undergraduate education program implemented in Turkey in line with the opinions of students, instructors and English teachers*. [Unpublished Masters Thesis]. Van Yüzüncü Yıl University.
- Creswell, J. & Plano-Clark V. (2009). *Designing and conducting mixed methods research* (2nd ed.). Sage.
- Demirtepe-Saygılı, D. (2020). Stress, coping, and social media use. In: Desjarlais, M. (Eds.). *Psychology and Dynamics Behind Social Media Interactions* (pp. 241-267). <https://doi.org/10.4018/978-1-5225-9412-3.ch010>

- Derogatis, L. R., Lipman, R. S., Covi, L. (1973). SCL-90: an outpatient psychiatric rating scale--preliminary report. *Psychopharmacol Bull.* 9(1), 13-28.
- Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine*, 13(3), 595–605. <https://doi.org/10.1017/S0033291700048017>
- Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, et al. (2020). Psychosocial impact of COVID-19. *Diabetes Metabolic Syndrome*, 14(5), 779–788. <https://doi.org/10.1016/j.dsx.2020.05.035>
- Elhai, J. D., Yang, H., McKay, D., & Asmundson, G. J. G. (2020). COVID-19 anxiety symptoms associated with problematic smartphone use severity in Chinese adults. *Journal of Affective Disorders*, 274, 576–582. <https://doi.org/10.1016/j.jad.2020.05.080>
- Fu, W., Wang, C., Zou, L. et al. (2020). Psychological health, sleep quality, and coping styles to stress facing the COVID-19 in Wuhan, China. *Translational Psychiatry*, 10, 225. <https://doi.org/10.1038/s41398-020-00913-3>
- Grant, J. E. & Potenza, M. N. (2005) Pathological gambling and other behavioral addictions. In: Frances R, J., Miller S, I., & Mack, A. H. (Eds.). *Clinical Textbook of Addictive Disorders*. (3rd ed., pp. 303-320). Guildford Press.
- Grant, J. E., Brewer, J. A. & Potenza, M. N. (2006). The neurobiology of substance and behavioral addictions. *CNS Spectrums*, 11, 924–930. <https://doi.org/10.1017/s109285290001511x>
- Grant, J. E., Potenza, M. N., Weinstein, A. & Gorelick, D. A. (2010) Introduction to behavioral addictions. *The American Journal of Drug and Alcohol Abuse*, 36, 233-241. <https://doi.org/10.3109/00952990.2010.491884>
- Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal*, 93(4), 355–372. <https://doi.org/10.1086/461729>
- Husky, M. M., Kovess-Masfety, V., & Swendsen, J. D. (2020). Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Comprehensive Psychiatry*, 102, 152191. <https://doi.org/10.1016/j.comppsy.2020.152191>
- Jaspal, R., Lopes, B. & Lopes, P. (2020) Fear, social isolation and compulsive buying in response to COVID-19 in a religiously diverse UK sample. *Mental Health, Religion and Culture*, 23(5), 427-442. <https://doi.org/10.1080/13674676.2020.1784119>
- Kadeswaran, S. Bridha, D. & Jayaseelan, R. (2020). COVID-19 lockdown and smartphone usage, education or entertainment among medical, engineering and arts students. In: Shaik, Z. B. & Kumari, B. (Eds.). *Covid-19 and Its Impact on Lockdown*. (1st ed., pp. 15-34). ESN publications.
- Kashan, M. (2020). Social media addiction due to coronavirus. *International Journal of Medical Science in Clinical Research and Review*, 3(04), 331-336.
- Kerlinger, F. N. & Lee, H. B. (1999). *Foundations of behavioral research*. Harcourt College Publishers.
- Khan, S., Liu, J., & Xue, M. (2020). Transmission of SARS-CoV-2, Required Developments in Research and Associated Public Health Concerns. *Frontiers in Medicine*, 7, 310. <https://doi.org/10.3389/fmed.2020.00310>

- Khademian, F., Delavari, S., Koohjani, Z., & Khademian, Z. (2021). An investigation of depression, anxiety, and stress and its relating factors during COVID-19 pandemic in Iran. *BMC Public Health*, 21(275). <https://doi.org/10.1186/s12889-021-10329-3>
- King, D.L., Delfabbro, P., Billieux, J. & Potenza, M. (2020) Problematic online gaming and COVID-19 pandemic. *Journal of Behavioral Addictions*, 9(2), 184-186. <https://doi.org/10.1556/2006.2020.00016>
- Király, O., Potenza, M. N., Stein, D. J., King, D. L., Hodgins, D. C., Saunders, J. B...& Demetrovics, Z. (2020). Preventing problematic internet use during the COVID-19 pandemic: Consensus guidance. *Comprehensive Psychiatry*, 100. 152180. <https://doi.org/10.1016/j.comppsy.2020.152180>
- Kırcaburun, K. (2017). *Examination of the relationship between Instagram addiction, personality traits and self-love among university students*. [Unpublished Masters Thesis]. Sakarya University.
- Kızılok, G. E. & Özok, H. (2021). *Teachers' views on stress and internet addiction due to cultural differences*. *Participatory Educational Research*, 8(3), 441-467. <https://doi.org/10.17275/per.21.75.8.3>
- Kızılok, G. E. (2021). *Investigation of teachers' stress sources and behavioral addiction tendencies during the Covid-19 epidemic process*. [Unpublished Masters Thesis] Van Yüzüncü Yıl University.
- Lamblin M., Murawski C., Whittle S., Fornito A. (2007). Social connectedness, mental health and the adolescent brain. *Neuroscience and Biobehavioral Reviews*, 80, 57–68. <https://doi.org/10.1016/j.neubiorev.2017.05.010>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Li, Q., Miao, Y., Zeng, X., Tarimo, C. S., Wu, C., & Wu, J. (2020). Prevalence and Factors for Anxiety during the Coronavirus Disease 2019 (COVID-19) Epidemic among the Teachers in China. *Journal of Affective Disorders*. 11(7), 45386. <https://doi.org/10.1016/j.jad.2020.08.017>
- Lima, C. K. T, Carvalho, P. M. M., Lima, I. A. A., S, Nunes, J. V. A. O, Saraiva, J. S., ... Neto, M. L. R. (2020) The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). *Psychiatric Researches*, 287, 112915. <https://doi.org/10.1016/j.psychres.2020.112915>
- Liu, Y., Chen, H., Zhang, N., Wang, X., Fan, Q., Zhang, Y., ... Li, M. (2020). Anxiety and depression symptoms of medical staff under COVID-19 epidemic in China. *Journal of Affective Disorders*, 278, 144-148. <https://doi.org/10.1016/j.jad.2020.09.004>
- MacDonald, C. J. (1993). Coping with stress during the teaching practicum: The student teacher's perspective. *Alberta Journal of Educational Research*. 39(4), 407-418.
- MacIntre, P. D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during Covid-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System*, 94, 102352
- Mackson, S. B., Brochu, P. M. & Schneider, B. A. (2019). Instagram: Friend or foe?. *New Media & Society*, 21(10), 2160-2182. <https://doi.org/10.1177/1461444819840021>

- MacLaren V. V., Best L. A. (2010) Multiple addictive behaviors in young adults: Student norms for the Shorter PROMIS Questionnaire. *Addictive Behaviors*, 35, 252–255.
- Marsden, J., Darke, S., Hall, W., Hickman, M., Holmes, J., Humphreys, K., et al. (2020) Mitigating and learning from the impact of COVID-19 infection on addictive disorders. *Addiction* 2020, 115, 1007–1010. <https://doi.org/10.1111/add.15080>
- Mertens, D. M. (2015). Mixed methods and wicked problems. *Journal of Mixed Methods Research*, 9(1), 3-6. <https://doi.org/10.1177/1558689814562944>
- Mestre-Bach, G., Blycker, G.R. & Potenza, M. N. (2020). Pornography use in the setting of the COVID-19 pandemic. *Journal of Behavioral Addictions*, 9(2), 181-183. <https://doi.org/10.1556/2006.2020.00015>
- Moos, R. H., & Schaefer, J. A. (1993). Coping resources and processes: Current concepts and measures. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 234–257). Free Press.
- Okasaka, Y., Morita, N., Nakatani, Y., & Fujisawa, K. (2008). Correlation between addictive behaviors and mental health in university students. *Psychiatry and Clinical Neurosciences*, 62(1), 84–92.
- Orte, C., Brage, L., & Caldentey, L. (2020). *COVID-19 and pornography traffic in Spain: how to prevent the social effects of its consumption in families*. Retrieved 19 July 2021 from https://www.researchgate.net/publication/341496581_COVID19_and_Pornography_Traffic_in_Spain_How_to_Prevent_the_Social_Effects_of_its_Consumption_in_Families/link/5ec4bfc4458515626cb84aa7/download
- Özdin, S., & Bayrak-Özdin, Ş. (2020). Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish Society: The importance of society. *International Journal of Social Psychiatry*, 66(5), 504-511. <https://doi.org/10.1177/0020764020927051>
- Park, W.K. (2005) Mobile Phone Addiction. In: *Mobile Communications. Computer Supported Cooperative Work* (pp. 253-272). Springer. https://doi.org/10.1007/1-84628-248-9_17
- Potenza, M. N. (2006). Should addictive disorders include non-substance-related conditions? *Addiction*, 101, 142–151. <https://doi.org/10.1111/j.1360-0443.2006.01591.x>
- Prado-Gascó, V., Gómez-Domínguez, M. T., Soto-Rubio, A., Díaz-Rodríguez, L., & Navarro-Mateu, D. (2020). Stay at home and teach: A comparative study of psychosocial risks between Spain and Mexico during the pandemic. *Frontiers Psychology*. 11(566900). <https://doi.org/10.3389/fpsyg.2020.566900>
- Price, A. (2020). Online gambling in the midst of Covid-19: A nexus of mental health concerns, substance use and financial stress. *International Journal of Mental Health Addiction*. 1-18. <https://doi.org/10.1007/s11469-020-00366-1>
- Rao, T. S., & Andrade, C. (2020). Sexual behavior in the days of COVID-19. *Journal of Psychosexual Health*, 2(2), 242-246. <https://doi.org/10.1177/2631831820934987>

- Rodriguez-Hidalgo, A. J. Pantaleón, Y., Dios, I., & Falla, D. (2020) Fear of Covid-19, stress and anxiety in university graduate students: A predictive model for depression. *Frontiers in Psychology*, *11*, 591797. <https://doi.org/10.3389/fpsyg.2020.591797>
- Şahin, N. H., & Durak, A. (1994). Brief symptom inventory: Adaptation for Turkish youth. *Türk Psikoloji Dergisi*, *9*(31), 44-56.
- Semaille, P. (2009) The new types of addiction. *Revue Médicale de Bruxelles*, *30*(22), 335– 357.
- Slisco A. (2020). *Americans binged on video games, shrugged off social media as pandemic restrictions kicked in, Verizonsays*. Retrieved 15 May 2021 from <https://www.newsweek.com/instead-working-homemost-americans-are-using-self-isolation-catch-video-games-1493129>
- Small, G. & Vorgan, G. (2010). *The naked lady who stood on her head*. Harpers Collins, Inc
- Tajan, N. (2015). *Social withdrawal and psychiatry: A comprehensive review of Hikikomori*. Retrieved July 15 2021 from <https://www.em-consulte.com/en/article/991843>
- Talbot, K., & Mercer, S. (2018). Exploring university ESL/EFL teachers' emotional well-being and emotional regulation in the United States, Japan and Austria. *Chinese Journal of Applied Linguistics*, *41*, 410-432. <https://doi.org/10.1515/cjal-2018-0031>
- Taş, İ., Eker, H. ve Anlı, G. (2014) Investigation of internet and game addiction levels of secondary school students. *Online Journal of Technology Addiction & Cyberbullying*, *1*(2), 37-57.
- Thege, B., Woodin, E. M., Hodgins, D. C., & Williams, R. J. (2015). Natural course of behavioral addictions: a 5-year longitudinal study. *BMC Psychiatry*, *15*(1). <https://doi.org/10.1186/s12888-015-0383-3>
- U.S. Department of Justice. (2011). The economic impact of illicit drug use on American society. <https://www.justice.gov/archive/ndic/pubs44/44731/44731p.pdf#page=29&zoom=100,0,0>
- Ungless, M. A., Argilli, E., & Bonci, A. (2010). Effects of stress and aversion on dopamine neurons: Implications for addiction. *Neuroscience and Biobehavioral Reviews*, *35*(2), 151–156. <https://doi.org/10.1016/j.neubiorev.2010.04.006>
- Walker, M. B. (1989). Some problems with the concept of "Gambling Addiction": Should theories of addiction be generalized to include excessive gambling? *Journal of Gambling Behavior*, *5*(3), 179-200. <https://doi.org/10.1007/BF01024386>
- Yıldırım, M., & Solmaz, F. (2020) COVID-19 burnout, COVID-19 stress and resilience: Initial psychometric properties of COVID-19 Burnout Scale, *Death Studies*. <https://10.1080/07481187.2020.1818885>
- We are Social Report (2020). <https://wearesocial.com/blog/2020/04/digital-around-the-world-in-april-2020>.