



Examining the Stress, Coping and Trust Levels of Turkish Healthcare Professionals During the COVID-19 Pandemic Process

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Abstract

This study was conducted to evaluate Turkish healthcare professionals' demographic characteristics and the effects of COVID-19 pandemic and stress, coping and trust levels, and to examine the correlation between them. The study has a descriptive and correlational design. The sample of the study included 529 healthcare professionals who volunteered to participate in the study between 01.06.2020 and 31.07.2020 in Turkey. Data were obtained using self-applied online questionnaires. The Perceived Stress Scale and the Trust in Relationships Scale were used to collect the data. The study found a significant correlation between the demographic characteristics of the healthcare professionals such as age, marital status and having children, and their perceived stress and coping level ($p < 0.05$). The study found significant correlations between the variables of having someone around them diagnosed with COVID-19, contacting with a COVID-19-suspected/positive patient, having a chronic disease, needing psychological support, questioning interpersonal relationships, quality of life and looking to the future with hope/enthusiasm, and healthcare professionals' perceived stress and coping levels ($p < 0.05$). There was a significant correlation between the variables of having a chronic health issue, abiding by the rule of stay at home/social isolation, quality of life and looking to the future with hope/enthusiasm and the Trust in Relationships Scale ($p < 0.05$). Determining the perceived stress, coping and trust levels of Turkish healthcare professionals should be regarded as an opportunity to provide necessary support not only in this pandemic period but after all this end.

Keywords Coping strategies · COVID-19 pandemic · Healthcare personnel · Perceived stress

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Introduction

Coronavirus (COVID-19) disease, which is characterized with severe acute respiratory failure, emerged in Wuhan, China, in December 2019 and has rapidly spread to many parts of the world and threatened human life (Huang et al., 2020a, 2020b). Not only infected people but also healthcare professionals are affected from this period both physically and psychosocially due to the fact that they are members of the society and work in the forefront at great risk (Puradollah & Ghasempour, 2020; Roelen et al., 2018; Santarone et al., 2020). Healthcare professionals are the leading profession members in preventing and alleviating suffering during and after the treatment of any disease including the COVID-19 pandemic in all countries (WHO, 2020). COVID-19 has put an unprecedented burden on all healthcare professionals in the world (Maben & Bridges, 2020). Healthcare professionals around the world have struggled and are still struggling against the effects of COVID-19 on them and their families as well as long working hours and worries about work place safety (Buheji & Buhaid, 2020). Evidences obtained from studies on epidemics show that healthcare professionals who are in direct contact with a potentially fatal virus experience great worry about their own health and their families' health. Healthcare professionals' efforts to maintain a balance between these worries and the responsibility to keep providing healthcare cause great stress (Khalid et al., 2016). The fact that new working manners are added to the nature of care and treatment requiring attention, diligence and effort, due to the pandemic, makes working in this environment extremely stressful (Hiçdurmaz and ÜzarÖzçetin 2020). Healthcare professionals, who provide care services 24 h a day, seven day a week, have the highest occupational stress and distress levels compared to other groups (Maben & Bridges, 2020). Working in disaster and crisis conditions such as epidemics is both satisfying for personnel due to the reasons like serving to humanity and also negatively affects their mental health or causes them experience a trauma due to the reasons like accompanying the illness/death process of the patients/relatives/colleagues for whom they provide care and witnessing their sufferings (Hiçdurmaz and ÜzarÖzçetin 2020).

Responses to stress situations are greatly affected by how individuals perceive potential stressors and the coping methods they use to cope with these stressful events (Bilge & Bilge, 2020). Additionally, the concepts of trust and dependability in the healthcare services sector are regarded as a factor that may help to eliminate or reduce negative effects such feeling of uncertainty, anxiety or worry. Sense of trust has a reducing effect on social chaos and uncertainty (Bozkurt & Tan, 2019). The psychosocial symptoms and needs of those who are actively struggling against such a global pandemic should be monitored, and they should be protected and supported. Thus, understanding the healthcare professionals' trust and dependability, perceived stress factors and coping methods and revealing the factors affecting these may help meeting the psychological needs of the healthcare professionals and guiding them.

This article addresses the following questions:

- Q1 What are the stress, coping and trust levels of Turkish healthcare professionals?
- Q2 What is the status of the relationship between the perceived stress and trust in relationships levels of Turkish healthcare professionals?

Methods

Design and Sample

This descriptive correlational study was conducted to evaluate the Turkish healthcare professionals' stress, coping and trust levels during the COVID-19 pandemic and sociodemographic variables and to examine the correlations between them.

The population of the study included a total of 1 million 61 thousand 635 healthcare professionals in Turkey. The following formula was used to calculate the required sample size: $n = (N \cdot p \cdot q \cdot Z^2) / [(N - 1) \cdot d^2 + p \cdot q \cdot Z^2]$. In the formula, n is the sample size, N is the population size, p is the probability of the measured characteristic to be present in the population, q is the probability of the measured characteristic to not be present in the population, Z is the Z test statistic in a 95% confidence interval (1.96), and d is the error rate (0.05) (Akbulut and Yıldız 2001). Using this formula, the required sample size was calculated as 384. However, the study included more than 384 individuals and was completed with 529 healthcare professionals. The post hoc power analysis of the study was conducted with G*Power 3.1.9.4. With the alpha value of 0.05 for the perceived stress levels of healthcare professionals and an effect size of 2.27 (Bastani et al., 2005), the power of the study was found as 0.99.

Data Collection

Data were obtained using the self-applied online questionnaires. The questionnaire was conveyed to the participants via online through message or mail. An “Information Form,” the “Perceived Stress Scale (PSS)” and the “Trust in Relationships Scale (TRS)” were used in this study.

Data Collection Tools

Information Form

The structured information form, which was used to collect data, was developed by the researchers in line with the literature (Bilge & Bilge, 2020; Hiçdurmaz and ÜzarÖzçetin 2020). This form, which questioned the descriptive characteristics of healthcare professionals, included 16 questions to determine the sociodemographic characteristics (age, sex, marital status, having a child, educational level) and the situation related to COVID-19 (whether they have a diagnosis/contact, whether they work in the COVID-19 unit, whether they received psychological support, etc.).

The Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) was developed by Cohen, Kamarck and Mermelstein in 1983, and its Cronbach's alpha value was found to be 0.86 in the reliability study. It was adapted to Turkish by Bilge et al. (2009) and its Cronbach's alpha value was found to be 0.81 in the reliability study (Sucan, 2019). The Cronbach's alpha value of the scale was 0.78 in this study.

It is a five-point Likert-type scale (0—never, 4—very often) with three reverse-scored items (items numbered 4, 5 and 6) and five normally scored items (items numbered 1, 2, 3, 7 and 8). Total score that can be obtained from the scale changes between 0 and 32. It has two subscales named perceived stress (items numbered 1, 2, 3, 7 and 8) and perceived coping (items numbered 4, 5 and 6). The scale is evaluated based on total score and the subscale scores. High total score indicates high level of perceived stress. High scores obtained from the subscales are a negative situation (Sucan, 2019). High scores on the subdimension of perceived stress indicate high level of stress, while high scores on the subdimension of perceived coping indicate low level of coping.

The Trust in Relationships Scale (TRS)

The Trust in Relationships Scale (TRS) was developed by Demirci (2017) to measure the trust experienced by individuals. The scale's Cronbach's alpha internal consistency coefficient was 0.88. The test–retest reliability coefficient which was obtained by reapplying the scale on 30 participants after three weeks was 0.89. The Cronbach's alpha value of the scale was 0.81 in this study.

It is a self-report scale with 10 items in a five-point Likert type, and the items were reported by choosing one of the following answers; (1) completely disagree, (2) disagree, (3) agree, (4) strongly agree, (5) completely agree. The scale has two subdimensions: trust (1, 2, 3, 4, 5) and dependability (6, 7, 8, 9, 10). The scale evaluates trust in relationships with the dimensions of trust and dependability. Each subdimension is scored within itself. The related characteristic increases as the scores increase (Demirci & Ekşi, 2018).

Ethical Approval

The ethics committee decision (Decision Number: 2011-KAEK-26/316) and scientific research permission from the ministry of health were obtained to conduct the study. Permissions from the owners of the scales used in the study were obtained. This study was conducted in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). All phases of the study were conducted in accordance with the ethical principles.

Statistical Analysis

The data were analyzed on the IBM SPSS Statistics, version 20, (SPSS) software. Kolmogorov–Smirnov test was used for the normality distribution analysis of the data. Parametric test techniques were used since the data showed normal distribution. Parametric (continuous) variables were evaluated using the independent sample *t* test and ANOVA test. Intergroup comparisons were made using Student's *t* test and one-way analysis of variance (post hoc: Bonferroni test). Pearson's correlation test was used to investigate the relationships between variables. Reliability analysis was carried out for the scales, and their Cronbach's alpha internal consistency coefficients were calculated. $p < 0.05$ was accepted as statistically significant.

Results

Demographic Characteristics of the Participants

The mean age of the participants was 31.33 ± 9.604 . Of them, 78.6% were females ($n=416$), 54.1% were single ($n=286$), 46.7% were high school graduates ($n=247$), and 56.3% had a child. Considering the professional distribution of the participants, 47.3% were nurses ($n=250$), 17.6% were paramedics ($n=93$), 11.7% were technicians ($n=62$), 10.6% were midwives ($n=56$), 7.2% were doctors ($n=38$), and 5.7% had other healthcare profession ($n=30$) (Table 1).

Participants' Answers Related to the Pandemic Period

The participants were asked 10 questions which were considered to be related to the COVID-19 pandemic period. Six of the participants (1.1%) stated that they were diagnosed with COVID-19. The number of healthcare professionals who had someone around them diagnosed with COVID-19 was 167 (31.6%). Of the participants, 132 (25%) worked in the COVID-19 polyclinic and 251 (47.4%) were in direct contact with a COVID-19-suspected/positive patient. Among them, 89 (16.8%) had no health problems. While 290 (54.8%) of the participants stated to have been abiding by the rule of stay at home/social isolation, 71 (13.4%) stated that they need psychological help due to the fear of being infected or sick. Majority of the participants (53.5%) answered the question "How do you find your quality of life?" as "neither good nor bad." Moreover, 230 of the participants (43.5%) answered the question "Do you think you are looking to the future with hope and enthusiasm?" as "I am not sure." Most of the participants (35.5%) stated that they questioned their relationships with other people due to the COVID-19 pandemic (Table 2).

Table 1 Descriptive characteristics of the participants ($N=529$)

Characteristics	Min–max <i>n</i>	Mean \pm SD %
Mean age	15–62	31.33 \pm 9.604
Sex		
Female	416	78.6
Male	113	21.4
Age groups		
30 years old and younger	284	53.7
31–39 years old	116	21.9
40 and older	129	24.4
Profession		
Doctor	38	7.2
Midwife	56	10.6
Nurse	250	47.3
Paramedic	93	17.6
Technician	62	11.7
Others ^a	30	5.7
Educational status		
High school	40	7.6
Associate degree	164	31.0
Undergraduate	247	46.7
Postgraduate and higher education	78	14.8
Marital status		
Married	243	45.9
Single	286	54.1
Presence of children		
Yes	231	43.7
No	298	56.3

^aOthers are physiotherapists, dieticians, pharmacists

Analysis of the Scores of PSS and TRS in Terms of Sociodemographic Characteristics

A significant difference was found between the total scores obtained from the Perceived Stress Scale during the pandemic and the variables of age, marital status and having variables ($p < 0.05$). There were significant differences in the variables specified in the perceived stress subdimension (age variable) and perceived coping subdimension (variables of age, marital status and having children) of the scale ($p < 0.05$) (Table 3). The study found no significant difference between the total score obtained from the Trust in Relationships Scale and its subdimensions, and the demographic characteristics of the participants.

The study found a significant difference between three groups of the subdimensions of the perceived stress ($p = 0.002$) and perceived coping ($p = 0.002$), and total

Table 2 Participants' answers related to COVID-19 ($N=529$)

Questions	<i>n</i>	%
Have you been diagnosed with COVID-19?		
Yes	6	1.1
No	523	98.9
Has anyone (family/friend/neighbor) around you been diagnosed with COVID-19?		
Yes	167	31.6
No	362	68.4
Have you worked at the COVID-19 polyclinic?		
Yes	132	25.0
No	397	75.0
Have you been in touch with a COVID-19-suspected or positive patient?		
Yes	251	47.4
No	278	52.6
Do you have any chronic health issue?		
Yes	89	16.8
No	440	83.2
Do you abide by the rule of stay at home/social isolation?		
Yes	290	54.8
No	94	17.8
Partially	145	27.4
Have you needed psychological support help due to the fear of getting infected or being sick?		
Yes	71	13.4
No	458	86.6
How do you find your quality of life?		
Very bad	21	4.0
Slightly bad	66	12.5
Neither bad nor good	283	53.5
Quite good	139	26.3
Very good	20	3.8
Do you think you are looking to the future with hope and enthusiasm?		
Yes	162	30.6
No	137	25.9
I am not sure	230	43.5
Have you questioned your beliefs about your relationships with other people due to the COVID-19 pandemic?		
Yes	188	35.5
No	165	31.2
Partially	176	33.3

score obtained from the Perceived Stress Scale ($p=0.000$) and age variable. Of the participants, 284 (53.7%) individuals aged 30 and younger had the highest score from the perceived stress subdimension (9.42 ± 3.557), while the highest score on the perceived coping subdimension belonged to 31–39 age group (4.96 ± 2.301). Married

Table 3 Comparison of the descriptive characteristics of the participants and the Perceived Stress Scale and trust in close relationships scale

Characteristics	Perceived stress dimension	Perceived coping dimension	The Perceived Stress Scale	Trust dimension	Dependability dimension	Trust in Relationships Scales
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Sex						
Female	8.98 ± 3.690	4.62 ± 2.153	13.60 ± 5.170	19.59 ± 3.622	22.17 ± 2.423	41.76 ± 5.151
Male	9.23 ± 3.801	5.03 ± 2.177	14.26 ± 5.003	19.88 ± 3.475	21.90 ± 2.629	41.78 ± 5.353
Test and <i>p</i>	<i>t</i> = .622 <i>p</i> = .535	<i>t</i> = 1.775 <i>p</i> = .077	<i>t</i> = 1.224 <i>p</i> = .229	<i>t</i> = .759 <i>p</i> = .449	<i>t</i> = .977 <i>p</i> = .330	<i>t</i> = .025 <i>p</i> = .980
Age						
30 years old and younger (1)	9.42 ± 3.557	4.87 ± 2.092	14.29 ± 4.917	19.53 ± 3.537	21.95 ± 2.486	41.48 ± 5.156
31–39 years old (2)	9.18 ± 3.997	4.96 ± 2.301	14.14 ± 5.567	19.57 ± 3.950	22.20 ± 2.527	41.77 ± 5.779
40 years old and older (3)	8.06 ± 3.633	4.12 ± 2.099	12.19 ± 4.932	20.01 ± 3.362	22.40 ± 2.363	42.40 ± 4.661
Test and <i>p</i>	<i>F</i> = 6.132 <i>p</i> = .002**	<i>F</i> = 6.393 <i>p</i> = .002**	<i>F</i> = 8.060 <i>p</i> = .000**	<i>F</i> = .833 <i>p</i> = .435	<i>F</i> = 1.530 <i>p</i> = .217	<i>F</i> = 1.409 <i>p</i> = .245
Post hoc ^a	(1–3)	(1–3); (2–3)	(1–3); (2–3)	–	–	–
Profession						
Doctor	8.45 ± 3.168	5.11 ± 1.928	13.55 ± 4.209	19.95 ± 3.571	21.71 ± 3.004	41.66 ± 5.920
Midwife	8.70 ± 4.040	4.43 ± 2.448	13.13 ± 5.702	19.45 ± 4.285	22.50 ± 2.199	41.95 ± 5.508
Nurse	9.02 ± 3.793	4.54 ± 2.147	13.56 ± 5.269	19.68 ± 3.519	22.18 ± 2.440	41.86 ± 5.088
Paramedic	9.66 ± 3.717	4.82 ± 2.064	14.47 ± 5.075	19.61 ± 3.557	21.95 ± 2.379	41.56 ± 4.907
Technician	9.27 ± 3.567	5.15 ± 2.253	14.42 ± 4.911	19.65 ± 3.563	22.34 ± 2.476	41.98 ± 5.196
Other	8.10 ± 3.155	4.87 ± 2.047	12.97 ± 4.582	19.57 ± 3.181	21.40 ± 2.647	40.97 ± 5.623
Test and <i>p</i>	<i>F</i> = 1.240 <i>p</i> = .289	<i>F</i> = 1.336 <i>p</i> = .248	<i>F</i> = .963 <i>p</i> = .440	<i>F</i> = .097 <i>p</i> = .993	<i>F</i> = 1.206 <i>p</i> = .305	<i>F</i> = .227 <i>p</i> = .951

Table 3 (continued)

Characteristics	Perceived stress dimension	Perceived coping dimension	The Perceived Stress Scale	Trust dimension	Dependability dimension	Trust in Relationships Scales
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Educational status						
High school	8.60 ± 3.470	4.50 ± 2.038	13.10 ± 5.012	19.30 ± 3.275	21.73 ± 2.522	41.03 ± 5.166
Associate degree	9.59 ± 3.712	4.82 ± 2.243	14.41 ± 5.207	19.53 ± 3.411	22.10 ± 2.389	41.63 ± 4.879
Undergraduate	8.89 ± 3.785	4.71 ± 2.176	13.60 ± 5.137	19.74 ± 3.775	22.19 ± 2.396	41.93 ± 5.248
Postgraduate	8.71 ± 3.383	4.52 ± 2.018	13.23 ± 4.847	19.36 ± 3.585	21.80 ± 2.981	41.16 ± 5.849
<i>T</i> -test and <i>p</i>	<i>F</i> = 1.566 <i>p</i> = .182	<i>F</i> = .316 <i>p</i> = .867	<i>F</i> = 1.212 <i>p</i> = .305	<i>F</i> = 1.051 <i>p</i> = .380	<i>F</i> = 1.038 <i>p</i> = .387	<i>F</i> = 1.388 <i>p</i> = .237
Marital status						
Married	8.71 ± 3.811	4.40 ± 2.163	13.11 ± 5.188	19.86 ± 3.590	22.28 ± 2.346	42.14 ± 5.091
Single	9.31 ± 3.609	4.97 ± 2.131	14.28 ± 5.040	19.48 ± 3.586	21.97 ± 2.563	41.45 ± 5.260
<i>T</i> -test and <i>p</i>	<i>t</i> = 1.859 <i>p</i> = .064	<i>t</i> = 3.041 <i>p</i> = .002**	<i>t</i> = 2.631 <i>p</i> = .009**	<i>t</i> = 1.217 <i>p</i> = .224	<i>t</i> = 1.477 <i>p</i> = .140	<i>t</i> = 1.544 <i>p</i> = .123
Presence of children						
Yes	8.68 ± 3.849	4.37 ± 2.179	13.05 ± 5.281	19.77 ± 3.611	22.29 ± 2.338	42.06 ± 5.111
No	9.31 ± 3.584	4.97 ± 2.117	14.28 ± 4.966	19.56 ± 3.577	21.98 ± 2.561	41.54 ± 5.247
<i>T</i> -test and <i>p</i>	<i>t</i> = 1.897 <i>p</i> = .058	<i>t</i> = 3.202 <i>p</i> = .001**	<i>t</i> = 2.733 <i>p</i> = .006**	<i>t</i> = .656 <i>p</i> = .512	<i>t</i> = 1.431 <i>p</i> = .153	<i>t</i> = 1.131 <i>p</i> = .259

SD standard deviation, *t*: Student's *t*-test, *F*: one-way analysis of variance

p* < 0.05; *p* < 0.01

^aBonferroni test was used for the multiple comparisons

individuals (4.40 ± 2.163) got lower scores from the perceived coping subdimension of the Perceived Stress Scale compared to single individuals (4.97 ± 2.131), and the difference between these two groups was significant ($p = .002$). Single individuals (14.28 ± 5.040) got higher scores from the Perceived Stress Scale than married individuals (13.11 ± 5.188), and the difference between these two groups was statistically significant ($p = 0.009$). The participants who answered yes to the question “Do you have a child?” had lower scores from the perceived coping subdimension (4.37 ± 2.179) compared to those who answered no (4.97 ± 2.117), and there was a significant difference between these two groups ($p = 0.001$). Those who answered no (14.28 ± 4.966) also got higher scores on the Perceived Stress Scale compared to those who answered yes (13.05 ± 5.281), and the difference between these two groups was significant ($p = 0.006$) (Table 3).

Analysis of the Scores of PSS and TRS Based on the Participants’ Answers Related to the Pandemic Period

The study examined the participants’ answers related to the pandemic period, and their scores obtained from the PSS and its subdimensions. The mean scores on the perceived stress subdimension and total mean scores on the Perceived Stress Scale of those who had someone around them diagnosed with COVID-19, who contacted with a COVID-19-suspected/positive patient, who needed psychological help, who questioned their relationships with other people due to the pandemic, who regarded their quality of life as bad and who did not look to the future with hope and enthusiasm, were higher, and there was a significant difference between them ($p < 0.05$). The study found a negative correlation between the perceived coping subdimension and needing psychological help and questioning relationships with other people due to COVID-19 ($p < 0.05$). A positive correlation was found between the perceived coping subdimension and the variables of quality of life and looking to the future with hope and enthusiasm ($p = 0.000$) (Table 4).

Considering the participants’ answers related to the pandemic period and scores on the Trust in Relationships Scale and its subdimensions, those with a chronic health problem and who do not abide by the rule of stay at home/social isolation had higher scores on the Trust in Relationships Scale. A significant difference was found between the groups in terms of the dependability subdimension of the Trust in Relationships Scale ($p < 0.05$). The study found a positively significant difference between the variables of quality of life and looking to the future with hope/enthusiasm and total Trust in Relationships Scale and its subdimensions ($p < 0.01$) (Table 4).

The study found no significant difference between the variables of diagnosed with COVID-19 and working at the COVID-19 polyclinic, and total scores and subdimension scores on the PSS and TRS ($p < 0.05$) (Table 4).

Relationship Between PSS and TRS

Table 5 presents the relationship between the scores of the participants in the scales that were utilized in the study. A negative significant relationship was identified

Table 4 Comparison of the questions related to the pandemic period and the Perceived Stress Scale and trust in close relationships scale

Questions	Perceived stress dimension		The Perceived Stress Scale		Trust dimension		Dependability dimension		Trust in Relationships Scales	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Diagnosed with COVID-19										
Yes	9.00 ± 1.789	4.33 ± 1.862	13.33 ± 3.077	18.50 ± 3.271	21.00 ± 3.033	39.50 ± 5.541				
No	9.03 ± 3.729	4.71 ± 2.167	13.75 ± 5.158	19.67 ± 3.594	22.13 ± 2.462	41.79 ± 5.185				
Test and <i>p</i>	<i>t</i> = .046 <i>p</i> = .965	<i>t</i> = .425 <i>p</i> = .671	<i>t</i> = .195 <i>p</i> = .845	<i>t</i> = .868 <i>p</i> = .424	<i>t</i> = .906 <i>p</i> = .406	<i>t</i> = 1.009 <i>p</i> = .358				
Someone around you diagnosed with COVID-19										
Yes	9.63 ± 3.583	4.80 ± 2.109	14.43 ± 5.075	19.65 ± 3.713	22.01 ± 2.399	41.65 ± 4.942				
No	8.76 ± 3.742	4.66 ± 2.188	13.42 ± 5.141	19.66 ± 3.537	22.16 ± 2.502	41.82 ± 5.306				
Test and <i>p</i>	<i>t</i> = 2.557 <i>p</i> = .011*	<i>t</i> = .689 <i>p</i> = .491	<i>t</i> = 2.105 <i>p</i> = .036*	<i>t</i> = .031 <i>p</i> = .975	<i>t</i> = .690 <i>p</i> = .491	<i>t</i> = .354 <i>p</i> = .723				
Working at the COVID-19 polyclinic										
Yes	9.59 ± 4.011	4.87 ± 2.116	14.46 ± 5.555	19.29 ± 3.779	22.02 ± 2.565	41.30 ± 5.485				
No	8.85 ± 3.593	4.65 ± 2.178	13.50 ± 4.974	19.78 ± 3.521	22.15 ± 2.438	41.92 ± 5.085				
Test and <i>p</i>	<i>t</i> = 1.888 <i>p</i> = .060	<i>t</i> = 1.007 <i>p</i> = .314	<i>t</i> = 1.866 <i>p</i> = .063	<i>t</i> = 1.307 <i>p</i> = .193	<i>t</i> = .514 <i>p</i> = .608	<i>t</i> = 1.143 <i>p</i> = .254				
Contact with a COVID-19-suspected/positive patient										
Yes	9.45 ± 3.923	4.79 ± 2.257	14.24 ± 5.437	19.51 ± 3.636	21.94 ± 2.512	41.45 ± 5.304				
No	8.66 ± 3.475	4.63 ± 2.075	13.29 ± 4.817	19.78 ± 3.549	22.27 ± 2.422	42.06 ± 5.076				
Test and <i>p</i>	<i>t</i> = 2.423 <i>p</i> = .016*	<i>t</i> = .827 <i>p</i> = .409	<i>t</i> = 2.109 <i>p</i> = .035*	<i>t</i> = .876 <i>p</i> = .381	<i>t</i> = 1.568 <i>p</i> = .118	<i>t</i> = 1.351 <i>p</i> = .177				
Having a chronic health issue										
Yes	10.21 ± 3.743	4.72 ± 2.523	14.93 ± 5.567	19.66 ± 3.778	22.56 ± 2.089	42.22 ± 5.156				
No	8.80 ± 3.663	4.70 ± 2.086	13.50 ± 5.018	19.65 ± 3.555	22.02 ± 2.531	41.68 ± 5.197				

Table 4 (continued)

Questions	Perceived stress dimension		Perceived coping dimension		The Perceived Stress Scale		Trust dimension		Dependability dimension		Trust in Relationships Scales	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Abiding by the rule of stay at home/social isolation												
Yes (1)	9.16 ± 3.744	4.74 ± 2.248	13.89 ± 5.224	19.46 ± 3.717	22.28 ± 2.346	41.74 ± 5.117						
No (2)	8.68 ± 3.602	4.52 ± 1.865	13.20 ± 4.809	20.47 ± 3.311	22.33 ± 2.311	42.80 ± 4.898						
Partially (3)	9.02 ± 3.728	4.77 ± 2.176	13.79 ± 5.179	19.52 ± 3.450	21.63 ± 2.743	41.16 ± 5.444						
Test and <i>p</i>	<i>F</i> = .580 <i>p</i> = .560	<i>F</i> = .428 <i>p</i> = .652	<i>F</i> = .649 <i>p</i> = .523	<i>F</i> = 2.979 <i>p</i> = .052	<i>F</i> = 3.813 <i>p</i> = .023*	<i>F</i> = 2.876 <i>p</i> = .057						
Post hoc ^a	–	–	–	–	(1–3)	–						
Getting psychological help												
Yes	11.28 ± 3.803	5.76 ± 2.399	17.04 ± 5.564	19.10 ± 3.715	22.30 ± 2.087	41.39 ± 4.655						
No	8.69 ± 3.577	4.54 ± 2.079	13.23 ± 4.878	19.74 ± 3.566	22.09 ± 2.523	41.83 ± 5.270						
Test and <i>p</i>	<i>t</i> = 5.394 <i>p</i> = .000**	<i>t</i> = 4.491 <i>p</i> = .000**	<i>t</i> = 6.010 <i>p</i> = .000**	<i>t</i> = 1.361 <i>p</i> = .177	<i>t</i> = .768 <i>p</i> = .444	<i>t</i> = .712 <i>p</i> = .478						
Quality of life												
Very bad (1)	14.19 ± 3.530	6.71 ± 2.171	20.90 ± 4.571	17.90 ± 5.522	22.71 ± 2.053	40.62 ± 6.391						
Slightly bad (2)	10.45 ± 3.604	5.62 ± 2.196	16.08 ± 5.139	19.11 ± 3.487	21.61 ± 2.756	40.71 ± 5.191						
Neither bad nor good (3)	9.21 ± 3.410	4.95 ± 2.032	14.16 ± 4.634	19.38 ± 3.423	21.96 ± 2.523	41.34 ± 5.181						
Quite good (4)	7.73 ± 3.329	3.57 ± 1.834	11.29 ± 4.555	20.49 ± 3.380	22.45 ± 2.107	42.94 ± 4.515						
Very good (5)	5.55 ± 3.170	4.10 ± 2.174	9.65 ± 3.468	21.35 ± 3.717	23.00 ± 2.974	44.35 ± 6.450						
Test and <i>p</i>	<i>F</i> = 25.382 <i>p</i> = .000**	<i>F</i> = 21.177 <i>p</i> = .000**	<i>F</i> = 30.802 <i>p</i> = .000**	<i>F</i> = 5.196 <i>p</i> = .000**	<i>F</i> = 2.626 <i>p</i> = .034*	<i>F</i> = 4.560 <i>p</i> = .001**						

Table 4 (continued)

Questions	Perceived stress dimension		Perceived coping dimension		The Perceived Stress Scale		Trust dimension		Dependability dimension		Trust in Relationships Scales	
	Mean ± SD	(1-2); (1-3); (1-4); (1-5); (2-4); (2-5); (3-4); (3-5)	Mean ± SD	(1-3); (1-4); (1-5); (2-4); (2-5); (3-4)	Mean ± SD	(1-2); (1-3); (1-4); (1-5); (2-3); (2-4); (2-5); (3-4); (3-5)	Mean ± SD	(1-4); (1-5); (3-4)	Mean ± SD	(2-5)	Mean ± SD	(2-4); (3-4)
Looking to the future with hope and enthusiasm												
Yes (1)	7.41 ± 3.214		3.64 ± 1.939		11.04 ± 4.250		20.93 ± 3.297		22.70 ± 2.293		43.63 ± 4.821	
No (2)	10.94 ± 4.031		5.92 ± 2.159		16.86 ± 5.370		18.42 ± 3.918		21.65 ± 2.759		40.07 ± 5.628	
I am not sure (3)	9.04 ± 3.287		4.74 ± 1.918		13.78 ± 4.477		19.49 ± 3.294		21.98 ± 2.333		41.47 ± 4.761	
Test and <i>p</i>	<i>F</i> = 38.424		<i>F</i> = 48.963		<i>F</i> = 57.880		<i>F</i> = 19.993		<i>F</i> = 7.478		<i>F</i> = 19.443	
	<i>p</i> = .000**		<i>p</i> = .000**		<i>p</i> = .000**		<i>p</i> = .000**		<i>p</i> = .001**		<i>p</i> = .000**	
Post hoc ^a	(1-2); (1-3); (2-3)		(1-2); (1-3); (2-3)		(1-2); (1-3); (2-3)		(1-2); (1-3); (2-3)		(1-2); (1-3)		(1-2); (1-3); (2-3)	
Questioning the relationships with other people due to COVID-19												
Yes (1)	10.20 ± 3.846		5.15 ± 2.277		15.35 ± 5.410		19.39 ± 3.645		22.24 ± 2.445		41.63 ± 5.063	
No (2)	7.90 ± 3.872		4.45 ± 2.145		12.35 ± 5.208		19.99 ± 3.744		22.08 ± 2.656		42.08 ± 5.572	
Partially (3)	8.85 ± 3.000		4.48 ± 1.983		13.32 ± 4.260		19.61 ± 3.370		22.01 ± 2.314		41.62 ± 4.964	
Test and <i>p</i>	<i>F</i> = 18.324		<i>F</i> = 6.217		<i>F</i> = 16.798		<i>F</i> = 1.247		<i>F</i> = .422		<i>F</i> = .431	
Post hoc ^a	<i>p</i> = .000**		<i>p</i> = .002**		<i>p</i> = .000**		<i>p</i> = .288		<i>p</i> = .656		<i>p</i> = .650	
	(1-2); (1-3); (2-3)		(1-2); (1-3)		(1-2); (1-3)		–		–		–	

SD standard deviation, *t*: Student's *t* test, *F*: one-way analysis of variance

p* < 0.05; *p* < 0.01

^aBonferroni test was used for the multiple comparisons

between the total Perceived Stress Scale and Its Dimensions and the total Trust in Relationships Scale and Its Dimensions ($p < 0.01$). In other words, as perceived stress increased, trust in relationships decreased.

Discussion

The study found a significant difference between the healthcare professionals' perceived stress and perceived coping subdimensions and age variable. The healthcare professionals aged 30 and younger had the highest score on the perceived stress subdimension, while those aged 40 and older had the lowest score on the perceived coping subdimension. These results reflect that stress levels of those under the age 30 and the perceived coping levels of those aged 40 and older were high. Similarly, Altuntaş and Tekeci (2020) conducted a study to determine the perceived stress and methods of coping with stress and found that the perceived stress levels of the participants aged between 18 and 30 were higher than older people. Similarly, studies in the literature also found a correlation between age variable and stress and coping variables (Bilge & Bilge, 2020). The results obtained in this study are significant in terms of revealing the difference in perceived stress levels based on the variable of age.

Considering the marital status of the participants, married individuals had lower scores on the perceived coping subdimension of the PSS and had better perception of coping than single individuals. Another study where stress levels in the COVID-19 pandemic period were studied, similarly, married individuals had lower stress levels than single individuals (Kowal et al., 2020). Odriozola-González et al. (2020) also found that single individuals (in comparison with married individuals) had higher anxiety, depression and stress scores. The finding that married participants had more positive coping levels is similar to the literature. The obtained results are significant in terms of revealing the relationships of the marital statuses of individuals with their psychosocial health.

The perceived coping subdimensions of the healthcare professionals with a child were better. It is reported that age, sex, marital status, number of children and educational status support perceived social support (Özbayır et al., 2019). It is thought that the fact that the participants with children had to take on their own and their children's responsibilities reflected on their coping behaviors.

The perceived stress subdimension and Perceived Stress Scale total mean scores of healthcare professionals who had someone around them diagnosed with COVID-19 and who contacted with a COVID-19-suspected/positive patient were higher, and there was a significant correlation between them. It is stated that healthcare professionals experience high levels of biopsychosocial stress during epidemic periods even when these are not traumatic (Suwantararat & Apisarntharak, 2015). During the pandemic, the uncertainty experienced by healthcare professionals about their own health and the possibility of infecting their loved ones as conductor increase their stress levels (Cai et al., 2020; Huang et al., 2020a, 2020b). These results are similar to the results obtained in this study. Considering the effects and mortality

Table 5 Relationship between the total Perceived Stress Scale and its dimensions and the total Trust in Relationships Scale and its dimensions

	Perceived stress dimension		Perceived coping dimension		The Perceived Stress Scale		Trust dimension		Dependability dimension		Trust in Relationships Scales	
Perceived stress dimension	<i>r</i>	1										
	<i>p</i>											
Perceived coping dimension	<i>r</i>	.494**	1									
	<i>p</i>	.000										
The Perceived Stress Scale	<i>r</i>	.931**	.778**	1								
	<i>p</i>	.000	.000									
Trust dimension	<i>r</i>	-.271**	-.344**		1							
	<i>p</i>	.000	.000									
Dependability dimension	<i>r</i>	-.099*	-.190**			.449**	1					
	<i>p</i>	.022	.000			.000						
Trust in Relationships Scales	<i>r</i>	-.235**	-.328**			-.308**	.905**	.786**	1			
	<i>p</i>	.000	.000			.000	.000	.000				

r: Pearson's correlation coefficient

p* < 0.05; *p* < 0.01

rates of COVID-19, it was thought that it was normal for healthcare professionals to have high levels of stress in this period.

The study found that the perceived stress levels of healthcare professionals who had a chronic health issue were higher. It is known that previous chronic diseases of the individuals negatively affect the severity of COVID-19 disease and the need for intensive care is higher among these individuals (Liu et al., 2020). This situation explains the reason why the individuals with a chronic condition had high perceived stress. While the perceived stress levels of healthcare professionals who stated to need psychological help were higher, the perceived coping levels of those who stated that they did not need psychological help were better. Lack of social support and incompatible coping levels in the healthcare professionals during the pandemic were determined to be significant risk factors in the occurrence of negative psychological consequences (Si et al., 2020). Similarly, the study found that healthcare professionals who stated to need psychological help due to the pandemic had high levels of stress and low coping behaviors.

The study also found that the perceived stress levels of healthcare professionals who stated that they questioned their relationships with other people due to the COVID-19 pandemic period more were higher. It was observed that healthcare professionals who had good levels of coping did not question their relationships with other people due to the COVID-19 pandemic. Trust refers to certain positive expectations about the actions of others. Coping is defined as managing stress and adapting oneself to stressful conditions (Bilge & Bilge, 2020). The pandemic period has caused healthcare professionals as well as all people to experience different emotions such as worry, trust, despair and hope. The study found that stress due to negative emotions experienced causes individuals to question their relationships with other people.

The perceived stress levels of healthcare professionals who stated to have very bad quality of life and who did not look to the future with hope/enthusiasm were higher. The biggest effect of the COVID-19 pandemic is stated to be generally on the quality of life (Repišti et al., 2020). Liang et al. (2020) reported that especially nurses and physicians who worked at intensive care units during the pandemic had depressive symptoms. It was observed that healthcare professionals, who struggled against the COVID-19 infection at the forefront, worried about the safety of themselves and their families (Cai et al., 2020). The results obtained in this study support these findings. The study found that the coping levels of healthcare professionals who had good quality of life and who look to the future with hope/enthusiasm were good. The perceived stress levels of healthcare professionals are effective on their psychosocial responses to stress and coping strategies they use (Cai et al., 2020). Similar to the literature, the study found that the coping levels of healthcare professionals who had positive emotions about life and future were high (Çam & Büyükbayram, 2017).

Considering the trust in relationship scale and its subdimensions and answers related to the pandemic period, a significant correlation was found between having a chronic health issue and abiding by the rule of stay at home/social isolation, and dependability subdimension. Personality characteristics such as consciousness, responsibility and compliance include the characteristic of dependability (Tosun

and Taskiran 2017). Chronic conditions may last for a long time and greatly affect the individual's life. Illness perception, coping process, social support and personality characteristics in chronic conditions affect mental state of individuals in long term (Petrie & Jones, 2019). The fact that the group who had a chronic condition and the characteristics like consciousness, responsibility and compliance included healthcare professionals made us think that they described themselves as dependable. Healthcare professionals who defined themselves as dependable, honest and sincere did not abide by the rule of stay at home/social isolation. Since the reasons for abiding by the rules do not affect all individuals in the same direction and at the same rate, the reasons for individuals to abide or not to abide by the rules may differ from each other (Demirkasımoğlu, 2015). The behaviors of abiding by the rules may differ according to some demographic variables (Güngör and Gülova 2020). The fact that healthcare professionals who defined them as dependable had low perceived stress and high level of coping indicates might be effective on the state of not abiding by the rule of staying at home/social isolation.

The study found a positive correlation between the variables of quality of life and looking to the future with hope /enthusiasm and trusting and being dependable. Individuals with positive thought about life were thought to reflect this situation on their relationships. Optimism as a protective factor in terms of personality development is useful in increasing psychological well-being. Optimism enables developing a positive perspective and expectations even in the worst conditions (Parmaksız 2020). Psychological durability is stated to be directly related to personal protective factors such as hope, self-sufficiency, coping skills, the ability to be aware of, express and manage emotions (Çam & Büyükbayram, 2017). The perceptions of trust in relationships and being dependable of the healthcare professionals who had positive feelings about life and future support these results.

In this study, it was determined that there was a negative relationship between perceived stress and trust in relationships, and as perceived stress increased, trust in relationships decreased. Likewise, Yaşar et al. (2021) observed that the fear of COVID-19 was effective on trust in colleagues. In their study investigating the potential effects of the COVID-19 pandemic on generalized trust, Thoresen et al. (2021) associated pandemic-related concerns and high perceived health threat levels with lower levels of generalized trust. This result obtained this study suggested that different anxieties and fears in the pandemic process affected the stress levels of professionals, and as perceived stress increased, trust in relationships decreased.

Limitations

The following limitations are noted.

Limitations in our study, such as the limited number of some healthcare professionals, should be taken into account. Some health professions were physiotherapists, dieticians, pharmacists. As the participation rate of these profession groups in the study was lower in comparison with other profession groups, this was considered to be a limitation of this study in terms of its effect on the representative power of this study regarding these profession groups.

Conclusion and Recommendations

The study found significant correlations between some variables of healthcare professionals' age, marital status, having children, chronic disease, quality of life, etcetera, and their levels of stress/coping and perception of trust. Healthcare professionals who are working at the forefront can be expected to show strong emotional responses to the COVID-19 pandemic and its effects on one's life (fear, anger, disappointment, anxiety). Strength and support are needed to "overcome" this unprecedented crisis situation. Therefore, further studies should be conducted to better understand the reasons affecting the perceived stress, coping and trust levels of healthcare professionals.

These results of the study provided basic data to plan necessary approaches by revealing the levels of stress, coping and trust experienced by healthcare professionals during the pandemic period and the factors affecting these levels. Fully recognizing the internal stress and emotional tension carried by healthcare professionals on behalf of society should be regarded as an opportunity to provide necessary support not only in this pandemic period but after all this end. Healthcare professionals need the government, employers, team mates and society to support their actions and resources. Developing support programs that reduce stress, increase coping and confidence levels, providing healthcare services with a multidisciplinary team approach to facilitate the management of the pandemic and conducting new studies with bigger groups are recommended.

Author Contributions SC and EA helped in study design, data collection, data analysis, manuscript writing.

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Data Availability The data that support the findings of this study are available from the corresponding author, SC, upon reasonable request.

Declarations

Conflict of interest All of the authors declare that they have all participated in the design, execution and analysis of the paper, and that they have approved the final version. Additionally, there are no conflicts of interest in connection with this paper, and the material described is not under publication or consideration for publication elsewhere.

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