ORIGINAL ARTICLE

The transformative power of pain and posttraumatic growth in nurses with Covid-19 PCR positive

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Abstract

Purpose: This study aims to examine the relationship between the transformative power of pain and posttraumatic growth in nurses with positive Covid-19 polymerase chain reaction (PCR) test.

Design and Method: "Sociodemographics Form," "Transformative Power of Pain Scale," and "Post-Traumatic Growth Scale" were used to collect the data of the study.

Findings: In the study, posttraumatic growth increased as the level of the transformative power of pain increased for nurses. Furthermore, some variables were found to have an effect on the transformative power of pain and the posttraumatic growth mean score in nurses who had positive Covid-19 PCR test.

Practice Implications: Nurses should be provided with social and professional psychological support to improve their transformative power of pain and posttraumatic growth levels.

KEYWORDS
Covid-19, growth, nurse, pain, strength, trauma

1 | INTRODUCTION

Traumatic events such as war, natural disasters, accidents, violence, and lethal diseases cause bodily harm as well as a loss of control and confidence. In literature, studies mainly focus on maladaptive behaviors and negative experiences as a result of traumas (Ezerbolat & Yılmaz-Özpolat, 2016; Park & Blake, 2020). It is stated that pandemics such as Covid-19 cause great trauma in people, leads to an increased level of anxiety, and affects physical, psychological, and social well-being. Aside from its many negative consequences, the Covid-19 pandemic, which has affected the whole world and resulted in mass deaths, also has the potential for positive outcomes such as change, empowerment, and posttraumatic growth (W.-R. Zhang et al., 2020). posttraumatic growth is common following highly stressful and traumatic events, including the COVID-19 pandemic (Ikizer et al., 2021; Park et al., 2022). Suffering is viewed as a human condition that must be avoided or mitigated and is negatively valued in terms of somatic or physical dimensions. Furthermore, suffering, painful and traumatic events experienced for many reasons such as psychological, physiological, mental, social, economic, problems, and so forth, have the potential to develop and transform the person (Coulehan, 2012).

Some findings of studies in the literature suggest that people perceive some positive changes in themselves, notably in their self-perceptions, interpersonal relationships, and life philosophies after the traumas they have experienced (Y. Li et al., 2015; Triplett et al., 2012; Vishnevsky et al., 2010). The transforming potential of pain is epitomized by Nietzsche's phrase, "What doesn't kill me makes me stronger." In terms of the transformative power of pain, it is believed that pain has a beneficial transformative power at the end of traumatic or painful experiences (Joshanloo, 2014).

The phenomenon conceptualized as posttraumatic growth in the literature is described as a positive experience of change and an increase in functionality after a major crisis in life. In terms of the empowerment approach, the concept of posttraumatic growth is preferred over posttraumatic empowerment since it highlights that individuals and communities have resources and possibilities to cope with difficulties (Thompson, 2016). Posttraumatic empowerment

covers reordering priorities, making sense of life, improving relationships, increasing individual awareness, recognizing new possibilities, and experiencing psychosocial and spiritual changes. Empowerment arises as a protective factor following the risk of death as a result of the pandemic and contributes to change in matters such as spiritual growth, life perspective, and restructuring the future by altering beliefs and interactions of individuals (Üzar-Özçetin & Hiçdurmaz, 2017).

Posttraumatic growth is explained by changes in five different areas of life: increased appreciation of life, revaluation of priorities, developing stronger relations, greater understanding of one's own strength, awareness about new possibilities in life, and spiritual growth. The level of posttraumatic growth is affected by individual characteristics (coping strategies, self-confidence), environmental resources (social support, financial resources) and variables related to the traumatic event (Tedeschi & Calhoun, 2004).

Traumatic events (experienced pain) affect the exposed person, their family, relatives, acquaintances, health personnel who treat the individual, health workers who witnessed the event in the hospital, and indirectly exposed persons (Yılmaz & Hisli, 2007). Although there are review studies that reveal the theoretical relationships between the transformative power of pain and the perception of posttraumatic growth, comparative studies are still insufficient (Bolat et al., 2020). This study aims to examine the relationship between the transformative power of pain and posttraumatic growth in nurses who are inevitably exposed to the pain of patients by providing health services.

1.1 | Research questions

- What is the level of the transformative power of pain in nurses with a positive Covid-19 polymerase chain reaction (PCR) test?
- What is the posttraumatic growth level in nurses with a positive Covid-19 PCR test?
- What are the factors affecting the level of the transformative power of pain and posttraumatic growth in nurses with positive Covid-19 PCR test?
- Is there a relationship between the level of the transformative power of pain and posttraumatic growth in nurses with positive Covid-19 PCR test?

2 | METHODS

2.1 | Type of research

This study was descriptive and cross-sectional.

2.2 | The location and date of the research

The research was carried out with nurses who tested first positive in Covid-19 PCR and reached via electronic media between April–August 2021 in Turkey.

2.3 | The population of the research and sample selection

The population of the research consisted of nurses living in Turkey at the time of the research and with a positive Covid-19 PCR test. The research was completed using the snowball sampling method with 175 nurses who had positive Covid-19 PCR test, had internet access, and volunteered to participate in the research at the time of the study. With the snowball sampling method, every participant added the Covid-positive nurses they knew to the group until 256 people were reached. Twenty-eight nurses in the group were excluded since they were Covid negative. Forty-one nurses left the group because they did not want to participate in the study. In addition, due to the incomplete information provided by 12 nurses, the research was completed with data from 175 participants. In the power analysis performed by using the G.Power 3.1.9.2 software to evaluate the sufficiency of the sample size, it was determined that the confidence interval of the research was 95% and the significance level was 0.05 with the effect size at 0.331 and the power at 0.99. These values indicate that the sample size of 175 is at the desired level (Çapık, 2014).

Inclusion criteria of the research

- Being over the age of 18
- Positive Covid-19 PCR test
- Being willing to participate in the research
- Having a smartphone.

Exclusion criteria of the research

- Being under the age of 18
- Not willing to participate in the research
- Negative Covid-19 PCR test
- Not having a smartphone.

2.4 | Data collection tools and features

To achieve the objectives of the study, a structured questionnaire was developed, consisting of two standardized tools and a proprietary tool. In the instructions for each of the scales listed, the respondents were asked to provide ratings taking into account the current epidemiological situation. The data of the study were collected using the "Sociodemographics Form," "The Transformative Power of Pain Scale," and the "Post-Traumatic Growth Scale."

2.5 | Sociodemographics Form

This form consists of 12 questions (age, gender, education status, marital status, number of children, income status, working year, service, way of working, covid-19 positive patients in the family or relatives, caring for patients with suspected or positive, feeling the

need for psychiatric or psychological help after coronavirus) to obtain information about the sociodemographic features of nurses.

2.6 | The Transformative Power of Pain Scale

The scale developed by Joshanloo (2014) was designed to develop beliefs about whether suffering serves positive psychological development and maturation. The scale, which was adapted into Turkish by Dinçer et al. (2015), is a 7-point Likert-type scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*). 5 is the lowest score that can be obtained from the Transformative Power of Pain Scale, which consists of 5 items, and the highest score is 35. Some items in the scale are as follows: "Sorrow and pain sometimes lead us to happiness," "Nobody can be perfect without sadness and pain," and "It is necessary to endure sorrows, difficulties, and misfortunes to achieve happiness." High scores obtained from the scale indicate that the belief in the positive transformative power of pain is strong. The internal consistency coefficient of the scale is 0.84 (Dinçer et al., 2015). In this study, the Cronbach alpha value of the scale was found to be 0.85.

2.7 | Post-Traumatic Growth Scale

The Post-Traumatic Growth Scale was developed by Tedeschi and Calhoun (1996) and adapted to Turkish by Dürü (2006). The 6-point Likert-type scale consists of 21 items and a five-factor structure and is scored between 0 and 5. It consists of three sub-dimensions: change in self-perception, change in the philosophy of life, and change in relationships with others. Some items in the scale are as follows; "The order of priority of the things I care about in life has changed," "Now I know better that I can cope with difficulties," "I try harder now to change the things that need to change," and "There was an increase in self-confidence." It consists of items to determine the positive changes that occur in individuals after trauma. The total score that can be obtained from the scale varies between 0 and 105. A high score indicates that the person has experienced a high level of posttraumatic growth. The internal consistency coefficient of the scale was determined to be 0.93 (Dürü, 2006). In this study, the Cronbach α value of the scale was found to be 0.96.

2.8 | Data collection

Due to the pandemic, data were collected online to observe social distancing, not to occupy health facilities, and not to keep nurses busy while working. The resulting epidemiological consequences of covid-19 influenced our decision to use computer-assisted web interviewing (CAWI). The Google Forms section from the Google docs system was used to collect the data online. The method was practical and provided simplicity of questionnaire distribution in a situation of social isolation. The survey was conducted among nurses

using via the Whatsapp platform. The completion of online questionnaires is an established method in healthcare research (Buchanan & Hvizdak, 2009). Participants were allowed to complete the survey only once. The survey took an average of 10–15 min to complete.

The study included the following stages as part of the research project: (1) Electronic version was created of the questionnaire on google.com. (2) The survey link, which includes the "Sociodemographics Form," "Transformative Power of Pain Scale," and "Post-Traumatic Growth Scale" used in the research, was created through Google docs. (3) A Whatsapp group of 256 people was created for the research. The survey link was sent to the WhatsApp groups and the participants were asked to fill in the survey. (4) Participants were also asked to share the survey link with other nurses using the snowball method. (5) Statistical analysis was made and preparationed to publication.

2.9 | Evaluation of data

SPSS 20.0 package software was used for statistical analysis of the data. In the evaluation of the data, percentages, mean, and compliance of the data to the normal distribution were determined by the Skewness and Kurtosis coefficients. In normal distributions, t test and ANOVA tests were used in independent groups, and the Kruskal–Wallis test was used in non-normal distributions. Pearson correlation and multiple regression analysis were used. The reliability of each questionnaire and its dimensions were assessed using Cronbach's α coefficients of internal consistency. Statistical significance level was taken as 0.05 in all tests.

2.10 | Ethical principles

Ethics committee permission was obtained from the Clinical Research Ethics Committee (dated 15/04/2021 numbered 03-34) and written permission from the Ministry of Health to conduct the study. The research was conducted following the ethical principles contained in Recommendations from the Association of Internet Researchers (Markham & Buchanan, 2022) Participation in the study was voluntary and anonymous. Furthermore, informed consent was obtained from the participants electronically before the start of the survey, using the principles of "Respect for Autonomy" by stating that they were free to participate in the research or not, and "Confidentiality and Protection of Confidentiality" by stating that the information would be kept confidential to the participants of the research. The informed consent form preceding the questionnaire's questions contained an explanation of the purpose, subject of the research, the approximate duration of the study, and the method of filling out the questionnaire. The respondent could resign from participation in the study at any time by closing the website with the questionnaire. The Helsinki Declaration on Human Rights was observed throughout the study to protect individual rights.

3 | RESULTS

It was found that 47.4% of the nurses were between the ages of 19-29, 80% were female, 52% had a bachelor's degree, 56.6% were married, 47.4% had no children, and 58.9% had equal income-expenditure status. It was determined that 43.4% of the nurses had been working for 11 or more years, 73.2% worked in the special service units, 66.9% worked in shifts. It was also determined that 74.9% of the nurses had a Covid-19 positive individual in their family or relatives, and 82.9% of them cared for patients with suspected or positive Covid-19 cases. It was determined that 53.7% of the nurses did not feel the need for psychiatric or psychological help after the pandemic (Table 1).

The total mean score of the "Transformative Power of Pain Scale" was found to be 4.40 ± 1.49. The mean score of the "Post-Traumatic Growth Scale" was 50.98 ± 25.30, and its subdimension mean scores were found to be 15.01 ± 8.77 for "Relationships with others," 11.66 ± 6.28 for "New possibilities," 10.57 ± 5.43 for "Personal strength," 5.61 ± 2.99 for "Spiritual change," 8.10 ± 3.94 for "Appreciating life" (Table 2).

The mean scores of nurses from transformative power of pain scale (TPPS) and post-traumatic growth scale (PTGS) were compared in Table 3 by their sociodemographic features. When the TPPS was examined, it was seen that the total mean score of the nurses in the "19–29 age range" was higher than the group in the "40 and over age range," and the difference between them was statistically significant. It was determined that the average score of those who did not feel the need for psychiatric or psychological help after the pandemic was higher and the difference was statistically significant. When the PTGS was examined, it was found that the mean total score of the female was higher and the difference between them was statistically significant ($p < 0.05$).

Table 4 examines whether there is a relationship between the transformative power of pain and posttraumatic growth in nurses with a positive Covid-19 PCR test. A statistically significant relationship was found between the TPPS total score and the PTGS total score ($p < 0.01$).

When the significance level corresponding to the F value is analyzed, it is evident that the model constructed is statistically significant, according to the regression analysis results in Table 5 ($F = 4.661$; $p < 0.05$). When the beta coefficient value, t value, and significance level of the independent variable were examined, it was determined that age, gender, need for psychiatric or psychological help after the pandemic and the TPPS total score had a statistically significant effect on the PTGS total score ($t = -1.934$, $p < 0.05$; $t = -2.810$, $p = 0.05$; $t = 1.966$, $p = 0.05$; $t = 5.146$, $p = 0.05$). Age, gender, need for psychiatric or psychological help after the pandemic and TPPS total score explains 19.5% of the change in the PTGS total score (adjusted $R^2 = 0.195$). A 1-unit increase in the age variable resulted in an 8.287 decrease in the PTGS total score ($\beta = -8.287$), a 1-unit increase in the gender variable resulted in a 12.678 decrease ($\beta = -12.678$) and a 1-unit increase in the variable of feeling the need

TABLE 1 Distribution of sociodemographic features of nurses

Specifications	n	%
Age		
19–29	83	47.4
30–39	35	20.0
40 and above	57	32.6
Gender		
Female	140	80.0
Male	35	20.0
Education status		
Health vocational high school	7	4.0
Associate degree	30	17.1
Undergraduate	91	52.0
Postgraduate	47	26.9
Marital status		
Single	76	43.4
Married	99	56.6
Number of children		
0	83	47.4
1	33	18.9
2	59	33.7
Income status		
Less than income	47	26.9
Income is equivalent to expenses	103	58.9
More than income	25	14.2
Working year		
0–2	40	22.9
3–10	59	33.7
11 and above	76	43.4
Service		
Internal medicine	27	15.4
Surgical	20	11.4
Special	128	73.2
Way of working		
Day	41	23.4
Night	17	9.7
Shift	117	66.9
Covid-19 positive patients in the family or relatives		
Yes	131	74.9
No	44	25.1
Caring for patients with suspected or positive Covid-19		
Yes	145	82.9

TABLE 1 (Continued)

Specifications	n	%
No	30	17.1
Feeling the need for psychiatric or psychological help after coronavirus		
Yes	81	46.3
No	94	53.7

TABLE 2 Transformative Power of Pain Scale, Post-Traumatic Growth Scale and its subdimensions total score averages

Scales	Min	Max	$\overline{X} \pm SD$
Transformative Power of Pain Scale	1	7	4.40 ± 1.49
Post-Traumatic Growth Scale			
Relationships with others	0	33	15.01 ± 8.77
New possibilities	0	25	11.66 ± 6.28
Personal strength	0	20	10.57 ± 5.43
Spiritual change	0	10	5.61 ± 2.99
Appreciating life	0	15	8.10 ± 3.94
Total	0	101	50.98 ± 25.30

for psychiatric or psychological help after the pandemic resulted in an increase of 1.012 (β = 1.012), and 1-unit increase in the TPPS total score variable resulted in an increase of 6.526 (β = 6.526). There is no autocorrelation problem in the established model. Durbin W value was between 1.5 and 2.5 (DW = 2.038).

4 | DISCUSSION

Nurses are frequently exposed to traumatic events due to their profession. Moreover; Nurses, who have experienced painful/traumatic experiences in their own lives, provide care to patients suffering from the disease during the Covid-19 pandemic. Nurses' exposure to pain/trauma can affect their perceptions of pain positively/negatively and change the consequences of the pain they experience. In the results of this study, it is seen that the average of the transformative power of the nurse's pain is high. This finding indicates that nurses believe that the traumatic experiences they encounter in their daily lives and in patient care will create positive results and contribute to their personal development. It suggests that such traumatic experiences will eventually lead to nurses becoming more compassionate. In their study, İzgüden and Erdem (2017) determined the transformative power of pain in hospital workers as high. Aksu et al. (2022) determined the transformative power of pain in nurses as high. The higher results of this study may be due to the nurses' care both from people who suffer from the coronavirus and to the effects of the virus during the pandemic process.

TABLE 3 Comparison of the sociodemographic features of nurses with mean scores of TPPS and PTGS

	TPPS	PTGS
Age		
19–29[a]	4.67 ± 1.42	51.20 ± 22.93
30–39[b]	4.48 ± 1.40	58.00 ± 22.63
40 and above[c]	3.95 ± 1.55	46.35 ± 29.24
Test, p	F: 4.080, p: 0.019, a > c[a]	F: 2.340 p: 0.099
Gender		
Female	4.34 ± 1.54	53.35 ± 24.80
Male	4.63 ± 123	41.48 ± 25.39
Test, p	t: −1.184, p: 0.241	t: 2.521, p: 0.013
Education status		
Health vocational high school	4.25 ± 1.01	33.71 ± 21.95
Associate degree	4.76 ± 1.67	50.50 ± 23.79
Undergraduate	4.24 ± 1.53	50.31 ± 25.96
Postgraduate	4.48 ± 1.33	55.14 ± 24.86
Test, p	KW: 2.121, p: 0.548	KW: 4.619, p: 0.202
Marital status		
Single	4.62 ± 1.48	50.85 ± 23.49
Married	4.22 ± 1.47	51.08 ± 26.72
Test, p	t: 1.782, p: 0.076	t: −0.058, p: 0.954
Number of children		
0	4.56 ± 1.46	50.74 ± 23.83
1	4.47 ± 1.48	49.12 ± 24.38
2	4.13 ± 1.51	52.35 ± 28.02
Test, p	F: 1.493, p: 0.228	F: 0.178, p: 0.837
Income status		
Less than income	4.11 ± 1.58	47.53 ± 27.14
Income is equivalent to expenses	4.39 ± 1.46	51.94 ± 23.57
More than income	4.98 ± 1.29	53.52 ± 28.86
Test, p	KW: 6.147, p: 0.056	KW: 0.902, p: 0.637
Working year		
0–2	4.82 ± 1.30	47.57 ± 24.43
3–10	4.45 ± 1.52	53.18 ± 21.81
11 and above	4.13 ± 1.52	51.06 ± 28.22
Test, p	F: 2.846, p: 0.061	F: 0.584, p: 0.559
Service		

TABLE 3 (Continued)

	TPPS	PTGS
Internal medicine	4.72 ± 1.52	47.03 ± 28.31
Surgical	4.70 ± 1.43	53.20 ± 26.27
Special	4.28 ± 1.48	51.46 ± 24.60
Test, p	KW: 2.847, p: 0.241	KW: 0.470, p: 0.790
Way of working		
Day	4.64 ± 1.38	54.51 ± 26.07
Night	4.67 ± 1.29	55.41 ± 24.55
Shift	4.27 ± 1.54	49.10 ± 25.13
Test, p	KW: 2.418, p: 0.299	KW: 2.105, p: 0.349
Covid-19 positive patients in the family or relatives		
Yes	4.38 ± 1.49	50.66 ± 25.47
No	4.45 ± 1.49	51.93 ± 25.04
Test, p	t: −0.297, p: 0.767	t: −0.287, p: 0.775
Caring for patients with suspected or positive		
Yes	4.36 ± 1.53	49.70 ± 25.59
No	4.58 ± 1.23	57.16 ± 23.24
Test, p	t: −0.748, p: 0.456	t: −1.476, p: 0.142
Feeling the need for psychiatric or psychological help after coronavirus		
Yes	4.15 ± 1.64	48.30 ± 24.77
No	4.61 ± 1.31	53.28 ± 25.65
Test, p	t: −2.020, p: 0.045	t: −1.304, p: 0.194

[a]Tukey HSD test.

TABLE 4 Correlation evaluation of nurses' TPPS and PTGS scores

TPPS total score	PTGS total score
Pearson correlation	0.474
Sig. (2-tailed)	0.000
n	175

In this study, it was determined that age was inversely proportional to the transformative power of pain. In other words, according to this study, the transformative power of pain has a positive effect on younger nurses compared to older nurses. İzgüden and Erdem (2017) also found similar results in their study. Aksu et al. (2022) found a significant relationship between age and the transformative power of pain. Studies reveal that older nurses experience higher levels of burnout (Y. C. Chen et al., 2019; Yang et al., 2018). This may be due to the high life energies of young nurses and the higher burnout levels of middle-aged nurses.

Posttraumatic growth is defined as positive changes that occur as a result of overcoming painful life events (Tedeschi et al., 2018). After experiencing traumatic events such as the Covid-19 pandemic, positive psychological changes can be observed in individuals in terms of subjectively reported self-perception, interpersonal relationships, and attitude on life (Cui et al., 2020). There are studies examining the posttraumatic growth levels of nurses during the pandemics. (R. Chen et al., 2021; Cui et al., 2020; L. Li et al., 2022; Nowicki et al., 2020; Peng et al., 2021; Yeung et al., 2022; Yıldız, 2021; X. T. Zhang et al., 2021). In this study, nurses' posttraumatic growth level was a lower result compared to other studies. This finding implies that the subjects' subjective self-perception, interpersonal connections, and life perspectives all deteriorated during the Covid-19 pandemic. In the literature, the main factors affecting posttraumatic growth include social support, time/degree of illness, and coping style (Inan & Üstün, 2019). According to Tedeschi and Calhoun (2004), social support is a direct indicator of posttraumatic growth. Tedeschi and Moore (2021) and Şakiroğlu (2019) stated that those who have more social support from their family members, friends, social groups, and colleagues can cope better after trauma. Curfews have been imposed at specific times during the pandemic to restrict social contact throughout Turkey. Nurses may have had lower growth results after trauma due to decreased social support as a result of the nurses staying away from their homes and working continuously without resting.

This study showed that female had higher posttraumatic growth levels than male. As a result of this finding, female nurses had a higher level of positive psychology than male nurses. Yıldız's (2021) study on posttraumatic growth found that female had higher levels of posttraumatic growth than male. Wu et al. (2019) found that the posttraumatic growth level of female was higher. On the other hand, L. Li et al. (2022) found that the posttraumatic growth level of male was higher. This may be due to the higher capacity of female in Turkish society to accept difficulties in a short time. Male nurses may have had lower posttraumatic growth levels as a result of the need for more time to adapt to the environment during the Covid-19 pandemic.

Nurses who need psychiatric or psychological assistance following exposure to the coronavirus had a lower transformative power of pain score than those who did not. Dinçer et al. (2015), in their study on students, found that there was a statistically significant positive relationship between the transformative power of suffering and life satisfaction. In their study, Linley and Joseph (2011) found a relationship between the meaning of life and osttraumatic growth. This finding indicates that there is a relationship between the transformative power of suffering and the positive development of the individual after trauma. This may be due to the fact that nurses, who have a high transformative power of pain, can motivate themselves when they experience pain.

TABLE 5 Multiple regression results on the effect of sociodemographic features on the PTGS total score

Model	β	Std. error	β	t	p	Partial	Part	Tolerance	VIF
Age	−8.287	4.285	−0.290	−1.934	0.045	−0.151	−0.132	0.206	4.850
Gender	−12.678	4.512	−0.201	−2.810	0.006	−0.216	−0.191	0.904	1.106
Education status	5.184	2.376	0.159	1.182	0.061	0.169	−0.148	0.869	1.150
Marital status	−5.492	5.066	−0.108	−1.084	0.280	−0.085	−0.074	0.467	2.141
Number of children	4.779	3.769	0.169	1.268	0.207	0.099	0.086	0.262	3.824
Income status	1.304	3.046	0.033	0.428	0.669	0.034	0.029	0.802	1.247
Working year	8.361	4.003	0.261	1.088	0.068	0.162	0.142	0.296	3.378
Service	3.473	2.398	0.102	1.448	0.150	0.113	0.098	0.927	1.079
Way of working	−0.821	2.263	−0.027	−0.363	0.717	−0.029	−0.025	0.805	1.242
Covid-19 positive patients in the family or relatives	2.837	4.101	0.049	0.692	0.490	0.054	0.047	0.930	1.075
Caring for patients with suspected or positive Covid-19	2.001	4.984	0.030	0.401	0.689	0.032	0.027	0.835	1.198
Feeling the need for psychiatric or psychological help after coronavirus	1.012	3.796	0.020	1.966	0.039	0.021	0.018	0.822	1.217
TPPS total	6.526	1.268	0.385	5.146	0.000	0.376	0.350	0.829	1.207

Note: R: 0.505, R^2: 0.195, F: 4.244, $p < 0.05$, Durbin Watson: 2.038.

The correlation between the transformative power of pain and posttraumatic growth at the level of indicates that the interaction between these two cases is moderate. There are studies suggesting that there are some positive changes and positive spiritual transformations in individuals and their self-perceptions, interpersonal relationships, and life philosophies after traumatic experiences (Dinçer et al., 2015; İzgüden & Erdem, 2017; Joshanloo, 2014; Joshanloo, 2015). The findings of these studies support the assumptions that those who perceive the transformative power of pain more strongly may show higher levels of posttraumatic growth (Vishnevsky et al., 2010). Furthermore, study findings on the transformative power of pain reveal that this idea is linked to an individual's degree of well-being and happiness (Joshanloo, 2014), social identity perception (Joshanloo, 2015), and life satisfaction (Dinçer et al., 2015). As a result of the research conducted on hospital workers in Turkey by İzgüden and Erdem (2017), it was revealed that individuals had beliefs about the transformative power of pain and this has a positive effect on their life satisfaction. From this point of view, the effect of the transformative power of pain on posttraumatic growth is supported by this study. Moreover, the transformative power of pain adds to the significance of the findings on posttraumatic growth relationships. Individuals can perceive pain as a source of inspiration for their development thanks to the psychological pain-relieving function of posttraumatic growth.

the transformative power of pain. It was determined that age was inversely proportional to the transformative power of pain. This study showed that female had higher posttraumatic growth levels than male. Nurses who need psychiatric or psychological assistance following exposure to the coronavirus had a lower transformative power of pain score than those who did not.

6 | IMPLICATIONS FOR PSYCHIATRIC NURSING PRACTICE

Suffering is interpreted differently by different people, professions, and cultures. Islam is the religion of the majority of Turkish people. In Islam, tragedies, unfortunate events, and diseases are thought to be the result of Allah's will, and if a person endures this burden patiently, the will of Allah will be fulfilled. The individual believes that pain will lead to peace and happiness in the end. This makes the findings of the relationships between the transformative power of pain and posttraumatic growth even more meaningful. It can be suggested to carry out studies in different occupational groups and different cultures. Larger sample sizes and qualitative studies are needed to explore more potential impact factors. Social support and professional psychological support should be provided to increase the transformative power of pain and posttraumatic growth levels of nurses.

5 | CONCLUSIONS

As a result of the study, it was found that nurses' belief in the transformative power of suffering was effective on posttraumatic growth. posttraumatic growth levels also increased with the belief in

7 | LIMITATIONS

The study's findings are confined to the nurses who were reached by using the snowball sampling method within the designated time period. In this study, sociodemographic features such as

social support and coping style, which could possibly affect the results, were not taken into account. One of the limitations of the study is that the measurements were not repeated after the nurses switched to negative after PCR positivite too.

AUTHOR CONTRIBUTIONS

Study design: Arzu Sarıalioğlu, Bahar Çiftçi, and Naci Yıldırım. *Data collection*: Arzu Sarıalioğlu, Bahar Çiftçi, and Naci Yıldırım. *Data analysis*: Arzu Sarıalioğlu. *Study supervision*: Arzu Sarıalioğlu, Bahar Çiftçi, and Naci Yıldırım. *Manuscript writing*: Arzu Sarıalioğlu, Bahar Çiftçi, and Naci Yıldırım. *Critical revisions for important intellectual content*: Arzu Sarıalioğlu, Bahar Çiftçi, and Naci Yıldırım.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

This study received 15/04/2021 dated and 03-34 numbered approval was taken from Erzurum Atatürk University Faculty of Clinical Research Ethics Committee.

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