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### An Investigation of Psychological Resilience and Core Belief Levels of Women During the COVID-19 Pandemic and Affecting Factors

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#### ABSTRACT

**Objective:** The aim of the study is to determine the psychological resilience and core belief levels of women during the COVID-19 pandemic period and examine the affecting factors. **Material and Methods:** The study is in a cross-sectional design. The data were collected from 792 women using the Descriptive Information Form, the Psychological Resilience Scale, and the Core Beliefs Inventory. Descriptive statistics and the Ordinary Least Square Regression analysis were used to analyze the data. **Results:** The mean score of the “psychological resilience scale” was 66.50±13.40 and “core beliefs inventory” was 27.87±10.76. The COVID-19 fear score of women was found to be 6.31±1.98 out of 10. The psychological resilience levels were higher in working women, older women, and those with higher education levels (p<0.05). A negative significant relationship was found between the fear of COVID-19 and psychological resilience (p<0.05), and a positive correlation was found between women’s age, working status, psychological resilience, and core belief levels (p<0.05). **Conclusion:** The mean score of psychological resilience and core beliefs of women in the COVID-19 pandemic was found to be moderately good. Some socio-demographic characteristics and factors can affect women’s resilience and core beliefs.

**Keywords:** COVID-19, Psychological Resilience, Core Belief, Women Health.

### COVID-19 Pandemi Sürecinde Kadınların Psikolojik Sağlamlık ve Temel İnanç Düzeyleri ve Etkileyen Faktörlerin İncelenmesi

#### ÖZ

**Amaç:** Çalışmada amaç; COVID-19 pandemi sürecinde kadınların psikolojik sağlamlık ve temel inanç düzeyini belirlemek ve etkileyen faktörleri incelemektir. **Gereç ve Yöntem:** Çalışma kesitsel tiptedir. Araştırmanın verileri Google anket aracılığı ile online olarak 792 kadından toplanılmıştır. Verilerin toplanılmasında tanıtıcı bilgi formu, Psikolojik Sağlamlık Ölçeği ve Temel İnançlar Ölçeği kullanılmıştır. Verilerin analizinde tanımlayıcı istatistikler (sayı, yüzde, toplam puan) ve the Ordinary Least Square Regression (OLSR) analizi kullanılmıştır. **Bulgular:** Kadınların “psikoloji sağlamlık ölçeği” puan ortalaması 66.50±13.40 “temel inançlar ölçeği” toplam puanı 27.87±10.76 bulunmuştur. Kadınların COVID-19 korku puanı 10 üzerinden 6.31±1.98 olarak saptanmıştır. Yaşı ve eğitim düzeyi yüksek olan ve çalışan kadınların psikolojik sağlamlık düzeyinin daha yüksek olduğu saptanmıştır (p<0.05). COVID-19 korkusu ile psikolojik sağlamlık arasında negatif yönde anlamlı ilişki bulunmuştur (p<0.05). Kadınların yaşı, çalışıyor olması ve psikolojik sağlamlık düzeyi ile temel inanç düzeyi arasında pozitif yönde bir ilişki bulunmuştur (p<0.05). **Sonuç:** COVID-19 pandemisinde kadınların psikolojik sağlamlık ve temel inançlar puan ortalamasının moderately good olduğu ortaya koyulmuştur. Bazı sosyo-demografik özellikler ve COVID-19 korkusu gibi durumlar kadınların psikolojik sağlamlık ve temel inançlarını etkileyebilmektedir.

**Anahtar kelime:** COVID-19, Psikolojik Sağlamlık, Temel İnanç, Kadın Sağlığı.

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## INTRODUCTION

The COVID-19 pandemic has caused many people to become ill and die worldwide, and people still suffer from its negative impacts such as social isolation, fear, anxiety (WHO, 2020). Countries all over the world have taken various restrictions and measures (stay at home/social isolation/quarantine, work from home, online education, restriction in public transportation, closure of workplaces and social areas, etc.) to prevent and reduce the transmission of Coronavirus 19 (COVID-19) (Brooks, Webster, Smith, Woodland, Wessely, Greenberg, & Rubin, 2020).

The COVID-19 pandemic has caused individuals to change their daily life activities, experience fear of death, and lose many people from their families or immediate circles (Riehm, Brenneke, Adams, Gilan, Lieb, Kunzler, Smail, Hologue, Stuart, & Kalb, 2021). This pandemic has adversely affected the health, economy, and socio-cultural life of the 8 billion world population (Li et al., 2020) and caused an unprecedented disaster in human history and a global trauma (Chen & Bonanno, 2020).

The COVID-19 pandemic has had negative economic and health impacts on people, including job loss, financial difficulties, inability to benefit from health services adequately, high levels of stress, anxiety, fear of virus transmission and death, and mental health problems like depression and post-traumatic stress disorder (Satici et al., 2020; Wang, Pan, Wan, Tan, Xu, Ho, & Ho, 2020). Women who have a more caring role in the family and who are going through other special processes such as pregnancy, childbirth, and breastfeeding have been influenced more intensely (Aydın & Aktaş, 2021). Worldwide, women mostly have the caregiver role in the family. Two out of every three women perform house cleaning, childcare, education, and cooking within the caregiver role of the family (CDC, 2021). The economic difficulties, spouse/partner violence, the increase in workload due to staying at home and gender roles, and the problems related to women-specific periods such as pregnancy and childbirth during the pandemic have caused women's psychosocial health to deteriorate more than men (Benassi, Vallone, Camia, & Scorza., 2020; CDC, 2021; Roberto, Sellon, Cherry, Hunter-Jones, & Winslow 2020). Deterioration of psycho-social health is associated with deterioration of psychological resilience and shaking of core beliefs.

Psychological resilience is defined as an individual's ability to adapt to challenges effectively and restore balance (Yıldırım et al., 2020). It includes the concepts of growing, developing, and getting better. Many factors such as gender, age, education level, type of trauma, exposure to trauma, economic situation, social support, current, and previous life stressors affect the level of resilience (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Machisa, Christofides, & Jewkes, 2018). Various studies reported the psychological resilience of women during the COVID-19 pandemic to be moderate (Kılınç & Sis Çelik, 2021) and low (Lai, Ma, Wang,

Cai, Hu, Wei, Wu, Du, Chen, & Li, 2020). The psychological resilience levels of individuals affect their reactions to the events during the pandemic and are very effective in coping with this difficult condition, protecting their mental health, and realizing their goals (Kılınç & Sis Çelik, 2021).

A national comprehensive study conducted in the early days of the pandemic in the United States showed that individuals with higher levels of education and middle-aged or adult individuals had higher resilience levels. Besides, those with high levels of psychological resilience had a low level of pandemic-related stress (Riehm et al., 2021). Psychological resilience is a protective factor in coping with the difficulties encountered in the COVID-19 pandemic (Coulombe, Pacheco, Cox, Khalil, Doucerain, Auger, & Meunier, 2020; Luu, 2021; Riehm et al., 2021), and affects the core beliefs of the individual.

Core beliefs are the individuals' perceptions of themselves, other people, and the world (Luu, 2021). For example, the belief "the world is a safe place, no harm will ever come to me, etc." is a core belief of the individual. Pandemic, war, disaster, accidents, etc. can have a shocking effect on individuals and cause them to question their core beliefs. The core beliefs like "the world is a safe place, no harm will ever come to me, etc." can be shaken by situations like "being diagnosed with cancer", "being at war" "mother losing her baby" and questioning/struggling against core beliefs may begin (Lianchao & Tingting, 2020). As a result of this questioning, there can be a constructive and positive interpretation and change as well as a negative change about the event (such as cancer, COVID-19 infection) in the core beliefs (Luu, 2021; Riehm et al., 2021). The fact that individuals struggle with core beliefs may be a sign that they can enter the process of making a positive meaning to events, gain new alternatives and perspectives, enter a positive path in their lives, and show post-traumatic development (Eze, Ifeagwazi, & Chukwuorji, 2020). The COVID-19 pandemic can affect women's core belief levels by creating a traumatic effect (Riehm et al., 2021). Therefore, all health professionals working in the field of women's health have significant responsibilities in identifying the factors that affect women's levels of psychological resilience and core beliefs and supporting them to gain positive coping methods with traumatic experiences in challenging periods such as the COVID-19 pandemic.

The aim of this study is to determine the psychological resilience and core belief levels of women during the COVID-19 pandemic and affecting factors. Much has been written about the effects of the COVID-19 pandemic on women's mental health problems (depression, anxiety, etc.) during the pandemic; however, there is a paucity in the literature in terms of factors affecting women's resilience and core belief levels during the pandemic (Kılınç & Sis Çelik, 2021; Lai et al., 2020). Studies on the core beliefs of women in the pandemic are quite limited. This study was carried out based on such a need, and it is believed to

fill the gap in the literature and contribute to the planning of new strategies for the protection and promotion of women's psychological health during the pandemic.

**The questions of this study are as follow**

What is the level of the psychological resilience of women during the COVID-19 pandemic?

What is the level of the core belief of women during the COVID-19 pandemic?

What are the factors affecting the level the psychological resilience and core belief levels of women during the COVID-19 pandemic?

**MATERIALS AND METHODS**

**Study type**

The study is cross-sectional and analytical type.

**Population and sample**

The population of the research consists of women living in Turkey. Inclusion criteria of the study were (1) being a volunteer, (2) knowing Turkish, (3) using one of the WhatsApp or social media accounts, (4) being literate, (5) not having a comprehension problem, and (6) not having a psychiatric disorder. The participants were reached by private messages and open posts from the researchers' WhatsApp and social media accounts, and they were asked to forward the questionnaire to the individuals in their family and social circle. The sample size was determined by performing the G-Power analysis. The sample calculation is based on the difference between the two averages in the G-Power analysis. In the calculation, the type I error rate was ( $\alpha$ )=0.05, and the power of the study ( $1 - \beta$ ) was 95%.

The sample size was calculated based on the Karairmak (2010) study. The analysis showed that the sample size should be at least 446 people to obtain the 95% power ratio at the 95% confidence interval. In this study, 792 people were reached, considering the possibility of missing and extreme values due to online data collection.

**Data collection**

The data were collected using the "Descriptive Information Form", the "Psychological Resilience Scale" and the "Core Beliefs Inventory" between June 2021 and August 2021 through "Google online Survey". The survey form was sent by the researchers to the "WhatsApp" line on the mobile phones of the women, and the researchers shared the survey form from social media accounts such as "Facebook, Twitter, Instagram".

**The Descriptive Information Form:** Created by the researchers in line with the literature, the form consists of nine questions about the socio-demographic characteristics of women like age, gender, marital status, and working status, and the fear of experiencing COVID-19.

**The Connor-Davidson Psychological Resilience Scale:** The scale was developed by Connor and Davidson (2003) and adapted into Turkish culture by Karairmak (2010). It consists of 25 items in a 5-point Likert type (0 "Not true at all" - 4 "Always true"). The scores to be obtained from the scale are between 0-100. High scores indicate high levels of psychological resilience. The total cronbach alpha of the scale is 0.92. In this study, the cronbach's alpha value was found to be 0.91.

**The "Core Beliefs Inventory":**The inventory was developed by Cann, Calhoun, Tedeschi, Kilmer, Gil-Rivas, Vishnevsky, & Danhauer, (2010) and adapted into Turkish by Haselden (2014). The scale consists of two factors, Core Beliefs About Other People and Core Beliefs About Self, and nine questions. The scale is a six-point Likert type (0=not at all, 6=a very great degree). High scores indicate a possible deterioration in assumptions about the world. The general Cronbach's alpha coefficient of the scale is 0.87, 0.90 for the core beliefs about the "other people" sub-factor, and 0.82 for the core beliefs about the "self" sub-factor. In this study, The Cronbach's alpha value was found to be 0.90.

**Data evaluation and analysis**

In the analysis of the data, the SPSS package program was used. Percentage and frequency were utilized to present participants' socio-demographic information. To understand the relationship between psychological resilience scale total score ( $P_{RS}$ ), core belief inventory total score ( $C_{BI}$ ), and personal characteristics, the Ordinary Least Square Regression (OLSR) was conducted.  $P_{RS}$  and core belief inventory total score  $C_{BI}$  were taken as dependent variables in the proposed two regression models. Additionally, age, education level, family type, marital status, working status, the status of having children, the status of obeying the 14 rules of COVID-19 pandemic, the status of losing a family member due to COVID-19, and COVID-19 fear status were taken as independent variables of both proposed models using the OLSR. The dependent and independent variables of the study can be summarized as given in Table 1.

**Table 1. Dependent and independent variables of psychological resilience scale total score ( $P_{RS}$ ) and core belief inventory total score ( $C_{BI}$ ) using OLS regression.**

$P_{RS}$	Psychological resilience scale total score
$C_{BI}$	Core belief inventory total score
<b>Covariates</b>	
$C_{19F}$	Status of COVID-19 fear

**Table 1. (Continue) Dependent and independent variables of Psychological Resilience Scale total score ( $P_{RS}$ ) and Core Belief Inventory total score ( $C_{BI}$ ) using OLS regression.**

Dummy Variables	
Age_2	(If the participant age is between 26-35 years:1, otherwise: 0)
Age_3	(If the participant age is higher than 35 years:1, otherwise: 0)
Education_2	(If the participant education level as high school: 1, otherwise: 0)
Education_3	(If the participant education level as university (undergraduate and graduate): 1, otherwise: 0)
Family type	(If family type is nuclear family:1, otherwise:0)
Marital status	(If the participant is married:1, otherwise:0)
Working status	(If the participant is working:1, otherwise:0)
Status of having children	(If the participant has child/children:1, otherwise:0)
Status of obeying the 14 rules_2	(If the participant does not obey the 14 COVID-19 pandemic rules:1, otherwise:0)
Status of obeying the 14 rules_3	(If the participant partially obeys the 14 COVID-19 pandemic rules:1, otherwise:0)
Status for losing family member	(If the participant loss a family member caused by COVID-19:1, otherwise:0)

\* $P_{RS}$  is also used independent variable as covariates in the second model.

To determine the most effective parameters on the psychological resilience scale total score ( $P_{RS}$ ) and core belief inventory total score ( $C_{BI}$ ), a regression analysis was conducted, and two models were proposed for each dependent variable. The developed models include qualitative and quantitative variables and named as Analysis of Covariance (ANCOVA) model. The equation of the proposed model for  $P_{RS}$  can be summarized in Eq. 1 and for  $C_{BI}$  in Eq. 2.

$$P_{RS} = \beta_0 + \beta_1 \text{Age}_2 + \beta_2 \text{Age}_3 + \beta_3 \text{Education}_2 + \beta_4 \text{Education}_3 + \beta_5 \text{Family Type} + \beta_6 \text{Marital Status} + \beta_7 \text{Working Status} + \beta_8 \text{Status of having Children} + \beta_9 \text{Status\_of\_obeying\_14\_rules\_2} + \beta_{10} \text{status\_of\_obeying\_14\_rules\_3} + \beta_{11} \text{Status for losing family member} + q_1 C_{19F} + u \quad (1)$$

$$C_{BI} = \beta_0 + \beta_1 \text{Age}_2 + \beta_2 \text{Age}_3 + \beta_3 \text{Education}_2 + \beta_4 \text{Education}_3 + \beta_5 \text{Family Type} + \beta_6 \text{Marital Status} + \beta_7 \text{Working Status} + \beta_8 \text{Status of having Children} + \beta_9 \text{Status\_of\_obeying\_14\_rules\_2} + \beta_{10} \text{Status\_of\_obeying\_14\_rules\_3} + \beta_{11} \text{Status for losing a family member} + q_1 C_{19F} + q_2 P_{RS} + u \quad (2)$$

where:

$\beta_0$ = A constant term,

$\beta_i$ = Dummy variables of the model ( $i \neq 0$ ),

$q_j$  = Obtained coefficients of the variables in the developed model ( $j=1, \dots, 2$ ),

$u$ =A disturbance term.

#### Ethical consideration

Approval for the research was obtained from the Rectorate of XXX University, Scientific Research and Publication Ethics Committee (No: XXX), and the COVID-19 Scientific Research Board of the Turkish Ministry of Health (No: XXX). Online informed consent was obtained from the participants in the study. The research was conducted in line with the Declaration of Helsinki.

#### RESULTS

The mean age of women was  $30.92 \pm 9.66$  years, and most of them had undergraduate and post-graduate education (69%). About half of the women were married (46%), had an income-generating job (52%), and had children (42%). In Table 2, 87% of women obeyed the COVID-19 14 rules, and 26% lost a family member due to COVID-19. The COVID-19 fear score was found to be 6.31 out of 10. As seen in Table 3, the total mean score of the "psychological resilience scale" was  $66.50 \pm 13.40$  and "core beliefs inventory" was  $27.87 \pm 10$ .

**Table 2. Descriptive characteristics of the women (n=792).**

Descriptive Characteristics	n	%
<b>Age</b>		
18-25 years	287	36
26-35 years	267	34
36+ years	Mean: $0.92 \pm 9.66$	238
238		30
<b>Education level</b>		
Primary school	76	10
High school	164	21
Bachelors' degree and post-graduate	552	69

**Table 2 (Continue) Descriptive characteristics of the women (n=792).**

Marital status	n	%
Married	365	46
Single	427	54
<b>Family type</b>		
Nuclear	716	90
Extended	76	10
<b>Working status</b>		
Yes	409	52
No	383	48
<b>Status of having children</b>		
Yes	335	42
No	457	58
<b>Status of obeying COVID-19 pandemic rules</b>		
Yes	688	87
No	27	3
Partly	77	10
<b>Losing a family member due to COVID-19</b>		
Yes	208	26
No	584	74
<b>The mean score of COVID-19 fear</b>	<b>Mean: 6.31±1.98</b>	

**Table 3 The total mean score of the women's resilience and core beliefs scale.**

Scales	Min	Max	Mean	SD
<b>Psychological Resilience Scale</b>	17	96	66.50	13.40
<b>Core Beliefs Inventory</b>	0	25	27.80	10.76

SD:Standard deviation.

According to the Ordinary Least Square Regression (OLSR) model multicollinearity, heteroscedasticity and model specification error problems were examined by using diagnostic tests, and results are given in Table 4 for the proposed model. After checking multicollinearity, heteroscedasticity, and model specification error problems, it was assumed that

disturbances are distributed normally because of the big sample size (792 participants) based on the Central Limit Theorem and Shapiro-Wilk W normality test. As seen in Table 4, the proposed model was found significant for  $P_{RS}$  ( $F=41.69$ ,  $p=0.000$ ) and  $C_{BI}$  ( $F=4.54$ ,  $p=0.000$ ).

**Table 4 Ordinary least square regression model results for Psychological Resilience Scale (PRS) and Core Beliefs Inventory (CBI).**

Variables	$P_{RS}$				$C_{BI}$			
	$\beta$	St. E.	t	p	$\beta$	St. E.	t	p
<b>Constant Term</b>	88.24	2.75	32.09	0.000*	17.54	3.91	4.48	0.000*
Age_2	2.25	1.10	2.05	0.041*	-0.50	1.08	-0.46	0.645
Age_3	3.21	0.79	2.16	0.031*	3.51	1.64	2.14	0.035*
Education_2	-1.33	1.51	-0.89	0.375	0.46	1.48	0.32	0.752
Education_3	3.14	1.39	2.27	0.024*	-1.54	1.36	-1.13	0.260
Family Type	-1.78	1.29	-1.38	0.168	-0.94	1.27	-0.75	0.456
Marital Status	1.83	1.30	1.41	0.158	1.62	1.28	1.27	0.204
Working Status	-2.32	0.87	-2.69	0.007*	2.15	0.98	0.64	0.010*
Status of having children	0.36	1.38	0.27	0.791	1.94	1.35	1.43	0.153
Status of obeying 14 rules 2	1.09	2.12	0.52	0.605	0.94	2.07	0.45	0.650
Status of obeying 14 rules 3	-0.71	1.30	-0.55	0.584	-1.47	1.27	-1.16	0.248
Status of losing a family member	0.75	1.02	0.74	0.458	-0.66	1.00	-0.66	0.508

**Table 4 (Continue) Ordinary least square regression model results for Psychological Resilience Scale (PRS) and Core Beliefs Inventory (CBI).**

Variables	P <sub>RS</sub>				C <sub>BI</sub>			
	$\beta$	St. E.	t	p	$\beta$	St. E.	t	p
Status of COVID-19 fear	-3.94	0.23	-17.42	0.000*	-0.15	0.26	-0.61	0.543
P <sub>RS</sub>				—	0.15	0.03	4.38	0.000*
<b>Prerequisite analysis results for regression analysis</b>								
Max. VIF	1.56 (no multicollinearity problem)				3.89 (no multicollinearity problem)			
White Test	p=0.156 (no heteroscedasticity problem)				p=0.112 (no heteroscedasticity problem)			
Shapiro-Wilk W Normality Test	p=0.189 (disturbances are normally distributed)				p=0.126 (disturbances are normally distributed)			
Ramsey Reset Test	p=0.356 (no model specification error problem)				p=0.287 (no model specification error problem)			

\*Significant at 0.05 level.

As a result of the Ordinary Least Square Regression (OLSR) model performed to examine the predictive effect of women's characteristics on resilience in Table 4, the effects of age, education level, working status, and fear of COVID-19 on resilience were found to be statistically significant ( $p=0.000 < 0.05$ ). However, the examination of the effect of each variable on psychological resilience revealed that age and education level had a positive ( $\beta=2.25$ ,  $p=0.041$  for age 2;  $\beta=3.21$ ,  $p=0.031$  for age 3 and  $\beta=3.14$ ,  $p=0.024$  Education 4) and working status and COVID-19 fear had a significantly negative predictive effect ( $\beta=-2.32$ ,  $p=0.007$  for working status;  $\beta=-3.94$ ,  $p=0.000$  for status of COVID-19 fear). In addition, family type ( $p=0.168$ ), marital status ( $p=0.158$ ), the status of having children ( $p=0.791$ ), the status of obeying the 14 rules of COVID-19 and losing a family member due to COVID-19 ( $p=0.458$ ) had no predictive effect on resilience ( $p>0.05$ ).

The regression coefficients ( $\beta$ ) in Table 4 show that among the 10 independent variables, age ( $\beta=3.51$ ) is the strongest predictor of core belief, followed by working status ( $\beta=2.15$ ) and psychological resilience (0.15), respectively. The  $\beta$  coefficients of the other independent variables ranged from -0.15 to 1.94. Age ( $p=0.035$  for age3), working status ( $p=0.010$ ), and resilience level ( $p=0.000$ ) were found to predict core beliefs statistically significantly ( $p\leq 0.05$ ).

## DISCUSSION

This study aimed to determine the psychological resilience and core belief levels of women in the COVID-19 pandemic and the affecting factors. Resilience is vital for coping with distress, uncertainty, and change effectively. The psychological resilience levels of individuals have decreased during the pandemic (Yıldırım et al., 2020).

In the study, the mean score of women's psychological resilience was moderately good with  $66.50\pm 13.40$  out of 100. A study conducted with nurses during the COVID-19 pandemic found that the mean score of psychological resilience of nurses was 64.28, which was similar to our study (Kılınç & Sis Çelik, 2021). In another study

conducted by Roberto et al (2020), the level of psychological resilience of women was found to be close to high with a score of 77.94. Lai et al. (2020). reported the psychological resilience of health workers to be poor. In the study in which the short form of the resilience scale was used by Karaşar and Yaşam (2020) in the COVID-19 pandemic, it was found that the psychological resilience score of women was moderately good with  $21.53\pm 3.79$  out of 30 points. It is thought that the difference in the levels of resilience in the COVID-19 pandemic may be due to the different scales, samples, culture, and time of the research.

In this study, as the age of women increased, their psychological resilience tended to increase. In a study conducted in America in the early days of the pandemic in which more than 6000 people participated, it was seen that middle-aged or adult individuals experienced higher psychological resilience (Riehm et al., 2021). In a study conducted during the COVID-19 pandemic in Turkey, psychological resilience increased as age increased (Kılınç & Sis Çelik, 2021), which is consistent with the study of Kimhi, Marciano, Eshel, & Adini, (2020), and Kimter (2020). However, there are some other studies showing that psychological resilience decreases with age (Kimhi & Eshel, 2019).

In this study, as the education level of women increased, the level of psychological resilience increased. Literature has citations that there is a positive relationship between education level and psychological resilience level (Kimter, 2020; Riehm et al., 2021). The reason for this is thought to be because individuals' education levels increase, their awareness of the situation increase, and they take the necessary precautions, and their skills to cope with the traumatic event improve (Kimter, 2020). In some studies, no relationship was found between education level and psychological resilience level (Deniz, Çimen, & Yüksel, 2020; Kılınç & Sis Çelik, 2021).

According to the results, there was no significant difference between psychological resilience levels based on marital status, family type, and having children in this study, which is supported by some studies (Benassi et al., 2020; Kılınç & Sis Çelik, 2021), while

contradicted by Kimter, 2020). In a study conducted in Italy, mothers experienced higher levels of stress than others during the COVID-19 pandemic and having a child does not make a difference in terms of psychological resilience (Benassi et al., 2020).

In this study, an inverse relationship was found between the working status of women and their level of resilience. This may be because households generally stay at home during the pandemic period, adding the burden of housework to the workload of working women (Roberto et al., 2020). To our knowledge, there is no study in the literature investigating the relationship between working status and resilience level. However, the results of the studies on the relationship between the perception of economic level and the level of resilience were found to differ (Kılınç & Sis Çelik, 2021).

Psychological resilience acts as a shield in finding the meaning of life, making sense of the event, gaining a positive perspective, and coping with the undesirable situation (Roberto et al., 2020). In this study, there is an inverse relationship between fear of COVID-19 and resilience. In other words, women with high psychological resilience have a lower fear of COVID-19. Kimhi et al. (2021) have showed a negative close relationship between the COVID-19 sense of danger and psychological resilience. Various studies have demonstrated that psychological resilience is a significant resource in coping with negative feelings (worry, anxiety, depression, etc.) caused by COVID-19 (Kasapoğlu, 2020; Kimhi et al., 2020; Riehm et al., 2021; Yıldırım et al., 2020).

Shaking of the core beliefs of the individual after traumatic or undesirable situations is the leading factor for positive changes (Cann et al., 2010). After the traumatic event, the individuals' questioning about the world and their position in the world can negatively affect their lives, but it can also contribute to their attempts to make sense of life and lead them on the way to recovery. In this study, the total score of the women's core beliefs scale was moderately good with  $27.87 \pm 10.76$ .

Limited studies have been conducted on core beliefs. Conflicting results were obtained between the struggle with core beliefs and socio-demographic (age, gender, education, etc.) variables in the relevant studies (Cann et al., 2010; Haspolat, 2019; Luu, 2021), which may be because shaking in core beliefs is a cognitive process and a personal experience. Milman, Lee, Neimeyer, Mathis, & Jobe, (2020) found a significant relationship between being diagnosed with COVID-19, losing someone due to COVID-19, and the level of shaking in core beliefs. In this study, a statistically significant difference was also found between the working status and the level of shaking in core beliefs, and it is thought that this result may be due to the higher exposure to the risks of the pandemic in working individuals.

There is a statistically significant difference in the same direction between the level of shaking in core beliefs and psychological resilience in our study, which is consistent with a study conducted in Australia (Luu,

2021). While an inverse relationship was expected between the level of resilience and shaking in core beliefs in studies, it was noteworthy that a positive relationship emerged during the pandemic period. On this result, both the ongoing pandemic/trauma and the process of making sense of the trauma and the effort to have psychological resilience and struggle to question core beliefs are believed to be effective. On the other hand, while evaluating women's core belief and psychological resilience levels, their religious and spiritual dimensions should also be taken into consideration. In a study in which 80.6% of the sample consisted of women, it was determined that there was a close correlation between spiritual cope and religiousness and also emotional distress during the COVID-19 pandemic (Margetić et al., 2022).

The limitation of this study is that the data were collected during the partial lockdown and gradual normalization process of the COVID-19 pandemic.

## CONCLUSION

This study showed that the mean scores of women's psychological resilience and core beliefs during the COVID-19 pandemic were moderately good. Some socio-demographic variables like age, education level, working status, and fear of COVID-19 affect women's resilience and core beliefs. It is suggested that all health professionals, especially women's health nurses, midwives, and physicians involved in the field of women's health should carry out more quantitative and qualitative research that "reveal the psychological resilience and coping level of women" in extraordinary situations such as pandemics and wars. These studies will contribute to "making the situation/problem visible". In addition, training on "education for developing emotion regulation strategies, psycho-education, developing problem-solving skills, making sense of life" should be organized by a multidisciplinary team during extraordinary times like pandemics and wars, which will help protect and improve women's mental health.

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## Author Contributions

**Plan, design:** RA, SA, DKB; **Material, methods and data collection:** RA, SA, DKB; **Data analysis and comments:** RA, SA; **Writing and corrections:** RA, SA, DKB.

## REFERENCES

- Aydın, R., & Aktaş, S. (2021). An investigation of women's pregnancy experiences during the covid-19 pandemic: A qualitative study. *International Journal of Clinical Practice*, e14418.

- Benassi, E., Vallone, M., Camia, M., & Scorza, M. (2020). Women during the COVID-19 lockdown: more anxiety symptoms in women with children than without children and role of the resilience. *Mediterranean journal of clinical psychology*, 8. <https://doi.org/10.6092/2282-1619/mjcp-2559>
- Bonanno, G. A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources, and life stress. *Journal of Consulting Clinical Psychology*, 75(5), 671. <https://doi.org/10.1037/0022-006X.75.5.671>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Cann, A., Calhoun, L. G., Tedeschi, R. G., Kilmer, R. P., Gil-Rivas, V., Vishnevsky, T., & Danhauer, S. C. (2010). The Core Beliefs Inventory: A brief measure of disruption in the assumptive world. *Anxiety, Stress Coping*, 23(1), 19-34. <https://doi.org/10.1080/10615800802573013>
- CDC. (2021). Centers for Disease Control (2020). <https://www.cdc.gov/women/caregivers-COVID-19/index.html> Accessed 07.11.2021
- Chen, S., & Bonanno, G. A. (2020). Psychological adjustment during the global outbreak of COVID-19: A resilience perspective. *Psychological Trauma: Theory, Research, Practice, and Policy* 12(S1), S51. <https://doi.org/10.1037/tra0000685>
- Connor, K., & Davidson, J. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82.
- Coulombe, S., Pacheco, T., Cox, E., Khalil, C., Doucerain, M. M., Auger, E., & Meunier, S. (2020). Risk and resilience factors during the COVID-19 pandemic: a snapshot of the experiences of Canadian workers early on in the crisis. *Frontiers in Psychology*, 11, 3225. <https://doi.org/10.3389/fpsyg.2020.580702>
- Deniz, S., Çimen, M., & Yüksel, O. (2020). Psikolojik sağlamlığın iş stresine etkisi: hastane çalışanlarına yönelik bir araştırma. *İşletme Bilimi Dergisi*, 8(2), 351-370. <https://doi.org/10.22139/jobs.741576>
- Eze, J. E., Ifeagwazi, C. M., & Chukwuorji, J. C. (2020). Core beliefs challenge and posttraumatic growth: Mediating role of rumination among internally displaced survivors of terror attacks. *Journal of Happiness Studies*, 21(2), 659-676. <https://doi.org/10.1007/s10902-019-00105-x>
- Haselden, M. (2014). Üniversite öğrencilerinde travma sonrası büyümeyi yordayan çeşitli değişkenlerin Türk ve Amerikan kültürlerinde incelenmesi: Bir model önerisi [Doctoral Thesis, Hacettepe Üniversitesi]. Ankara.
- Haspolat, A. (2019). Travma sonrası stres belirtileri ve travma sonrası büyüme: Temel inançlardaki değişim, ruminasyonlar ve bilgece farkındalığın rolü [Master's Thesis, Başkent Üniversitesi Sosyal Bilimler Enstitüsü]. Ankara.
- Kararımak, Ö. (2010). Establishing the psychometric qualities of the Connor-Davidson Resilience Scale (CD-RISC) using exploratory and confirmatory factor analysis in a trauma survivor sample. *Psychiatry Research*, 179(3), 350-356. <https://doi.org/10.1016/j.psychres.2009.09.012>
- Karaşar, B., & Canlı, D. (2020). Psychological resilience and depression during the COVID-19 pandemic in Turkey. *Psychiatria Danubina*, 32(2), 273-279. <https://doi.org/10.24869/psyd.2020.273>
- Kasapoğlu, F. (2020). COVID-19 Salgını Sürecinde Kaygı ile Maneviyat, Psikolojik Sağlık ve Belirsizliğe Tahammülsüzlük Arasındaki İlişkilerin İncelenmesi. *Electronic Turkish Studies*, 15(4). <https://doi.org/10.7827/TurkishStudies.44284>
- Kılınç, T., & Sis Çelik, A. (2021). Relationship between the social support and psychological resilience levels perceived by nurses during the COVID-19 pandemic: A study from Turkey. *Perspectives in Psychiatric Care*, 57(3), 1000-1008. <https://doi.org/10.1111/ppc.12648>
- Kimhi, S., & Eshel, Y. (2019). Measuring national resilience: A new short version of the scale (NR-13). *Journal of community psychology*, 47(3), 517-528. <https://doi.org/10.1002/jcop.22135>
- Kimhi, S., Marciano, H., Eshel, Y., & Adini, B. (2020). Resilience and demographic characteristics predicting distress during the COVID-19 crisis. *Social Science Medicine*, 265, 113389. <https://doi.org/10.1016/j.socscimed.2020.113389>
- Kımtır, N. (2020). COVID-19 günlerinde bireylerin psikolojik sağlamlık düzeylerinin bazı değişkenler açısından incelenmesi. *IBAD Sosyal Bilimler Dergisi*, 574-605. <https://doi.org/10.21733/ibad.805481>
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., & Li, R. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Network Open*, 3(3), e203976-e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- Lianchao, A., & Tingting, M. (2020). Mindfulness, rumination and post-traumatic growth in a Chinese cancer sample. *Psychology, Health Medicine*, 25(1), 37-44. <https://doi.org/10.1080/13548506.2019.1612079>
- Luu, T. T. (2021). Worker resilience during the COVID-19 crisis: The role of core beliefs challenge, emotion regulation, and family strain. *Personality Individual Differences*, 179, 110784. <https://doi.org/10.1016/j.paid.2021.110784>
- Margetić, B., Peraica, T., Stojanović, K., & Ivanec, D. (2022). Spirituality, personality, and emotional distress during covid-19 pandemic in Croatia. *Journal of Religion and Health*, 61, 644-656. 6 <https://doi.org/10.1007/s10943-021-01473-6>
- Machisa, M. T., Christofides, N., & Jewkes, R. (2018). Social support factors associated with psychological resilience among women survivors of intimate partner violence in Gauteng, South Africa. *Global Health Action*, 11(sup3), 1491114. <https://doi.org/10.1080/16549716.2018.1491114>
- Milman, E., Lee, S. A., Neimeyer, R. A., Mathis, A. A., & Jobe, M. C. (2020). Modeling pandemic depression and anxiety: The mediational role of core beliefs and meaning making. *Journal of Affective Disorders Reports*, 2, 100023. <https://doi.org/10.1016/j.jadr.2020.100023>
- Riehm, K. E., Brenneke, S. G., Adams, L. B., Gilan, D., Lieb, K., Kunzler, A. M., Smail, E. J., Hologue, C., Stuart, E. A., & Kalb, L. G. (2021). Association between psychological resilience and changes in mental distress during the COVID-19 pandemic. *Journal of Affective Disorders*, 282, 381-385. <https://doi.org/10.1016/j.jad.2020.12.071>



- Roberto, A., Sellon, A., Cherry, S. T., Hunter-Jones, J., & Winslow, H. (2020). Impact of spirituality on resilience and coping during the COVID-19 crisis: A mixed-method approach investigating the impact on women. *Health Care for Women International*, *41*(11-12),1313-1334.  
<https://doi.org/10.1080/07399332.2020.1832097>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research*, *17*(5), 1729.  
<https://doi.org/10.3390/ijerph17051729>
- WHO. (2020). *Coronavirus Disease (COVID-19) Dashboard*. World Health Organization Retrieved <https://www.who.int/emergencies/diseases/novel-coronavirus-2019> /Accessed 02.05.2021
- Yıldırım, M., Arslan, G., & Ahmad Aziz, I. (2020). Why do people high in COVID-19 worry have more mental health disorders? The roles of resilience and meaning in life. *Psychiatria Danubina*, *32*(3-4), 505-512.  
<https://doi.org/10.24869/psyd.2020.505>