

# Koronavirüs (COVID-19) Salgını Sürecinde Travma Sonrası Büyüme Ve Hayatın Anlamı Arasındaki İlişki

The Relationship Between Posttraumatic Growth And The Meaning And Purpose Of Life During The Coronavirus (COVID-19) Pandemic

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## ÖZET

**Amaç:** Bu çalışmada, Coronavirüs (COVID-19) pandemisi sürecinde travma sonrası büyüme ile yaşamın anlamı ve amacı arasındaki ilişki belirlenmiştir.

**Yöntem:** İlişkisel tarama modelinin kullanıldığı betimsel bir çalışmadır. Kartopu örnekleme yöntemiyle seçilen 18-65 yaş arası 1264 katılımcı çalışmanın örneklemini oluşturmaktadır. Veriler, Travma Sonrası Büyüme Envanteri ve Yaşamın Anlamı ve Amacı Ölçeği kullanılarak çevrimiçi anket ile toplanmıştır.

**Bulgular:** Travma sonrası büyüme ile yaşamın anlamı ve amacı puan ortalamaları arasında pozitif bir ilişki bulunmuştur. Travma sonrası büyüme, yaşamın anlamı ve amacına ilişkin toplam varyansın %12,2'sini açıklayan yordayıcı bir değişken olduğu saptanmıştır.

**Sonuç:** Sağlık profesyonelleri, COVID-19 salgını gibi salgınlar sırasında ve sonrasında toplum ruh sağlığının korunmasından, risk gruplarının belirlenmesinden ve buna göre müdahalelerin planlanmasından sorumludur.

**Anahtar Kelimeler:** COVID-19, Hayatın Anlamı, Ruh Sağlığı, Posttravmatik Büyüme, Yaşamın Amacı

## ABSTRACT

**Aim:** The relationship between posttraumatic growth and meaning and purpose of life during the Coronavirus (COVID-19) pandemic was determined in this study.

**Methods:** This was a descriptive study using a correlational survey model. The sample consisted of 1264 participants aged 18-65 years of age recruited using snowballing sampling. Data were collected online using the Posttraumatic Growth Inventory and the Meaning and Purpose of Life Scale.

**Results:** There was a positive correlation between posttraumatic growth and meaning and purpose life scores. Posttraumatic growth was a predictor variable that explained 12.2% of the total variance of the meaning and purpose of life.

**Conclusion:** Health professionals are responsible for protecting public mental health, identifying risk groups, and planning interventions accordingly during and after such outbreaks as COVID-19.

**Keywords:** COVID-19, Meaning of Life, Mental Health, Posttraumatic Growth, Purpose of Life

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## INTRODUCTION

The novel Coronavirus disease 2019 (COVID-19) that broke out in Wuhan, China, at the end of 2019 has taken hold worldwide (Xiang et al., 2020) and has therefore, been declared as a pandemic by the World Health Organization (WHO, 2020). The COVID-19 pandemic has spread across the whole world rapidly and has become a global health issue, infecting millions of people and causing tens of thousands of deaths (CDC, 2020; Wu & McGoogan, 2020). Therefore, governments have taken several preventive measures, such as social distancing, quarantine, curfew, travel restrictions, and school closures. However, those preventive measures have resulted in physical and mental problems (Huang & Zhao 2020; Karataş, 2020; Shakespeare-Finch et al. 2020).

The COVID-19 pandemic and strict preventive measures have led to uncertainty, a fear of becoming sick or contracting the virus, traumatic experiences due to mass media coverage, and a low quality of life and impairment in social functions due to changes in behaviors, lifestyles, and habits (Bo et al., 2021; Hamam et al., 2021; Liu et al., 2021). The COVID-19 pandemic has brought many psychosocial problems in daily life. In particular, the pandemic process negatively affects the quality of life by causing mental health problems, such as anxiety, depression, acute stress, and post-traumatic stress disorder (Li et al., 2020; Wang et al., 2020; Zhu et al., 2020). Some studies explore the impact of the COVID-19 pandemic on mental health but focus less on how to manifest positive outcomes. Traumatic experiences result not only in negative but also in positive outcomes, such as posttraumatic growth, empowerment, making sense of life, and appreciation (Hamam et al., 2021; Karataş, 2020; Yu et al., 2020).

Posttraumatic growth is a positive adaptation process in which one reevaluates one's traumatic experiences and the meaning and purpose of life. Negative or difficult life experiences may provide to turn crisis into opportunities for meaning making (Bakker, 2018; Venuleo et al., 2020). Tedeschi & Calhoun, (1996) define posttraumatic growth as a positive change resulting from the struggle with challenging life events. People with posttraumatic growth can improve reality by better understanding and reconstructing their selves, others, and the world (Tedeschi & Calhoun, 1996; Tedeschi & Calhoun, 2004). Those who achieve cognitive reconstruction are likely to become more empowered to create more profound relationships and an appreciation for life (Tominaga et al., 2020). During the SARS (severe acute respiratory syndrome) pandemic, most people experienced numerous mental problems, such as anxiety, helplessness, isolation, and sleep disorders; however, others bonded with family and friends, received more support from them and spoke freely to them about their feelings. They also put more effort into coping with their physical and mental problems and reevaluated their priorities, becoming more thankful for their health, family, and friends (Lau et al., 2006). During the COVID-19 pandemic, studies conducted in different groups revealed that the pandemic situation had an impact on post-traumatic

growth and that there were significant positive changes in interpersonal relationships, life perspective, the perceived meaning of life, and life satisfaction (Chen et al., 2021; Cui et al., 2021; Tomaszek & Muchacka-Cymerman 2020). In times of COVID-19 pandemic, meaning of life has been shown to be a essential factor for mental wellbeing, resilience and coping (Schnell & Krampe, 2020). As a result of the crisis and traumatic experiences caused by the COVID-19 pandemic process, individuals have experienced illness, death, financial and spiritual losses, moving away from their daily routine. With COVID-19, changing daily routines in life, loss of economic and social support, illness and death of loved ones, uncertainties about the process can cause feelings of emptiness, meaninglessness and bereavement in people. However, the pandemic process has contributed to people to confront uncertainties, reconsider their sense of value, identify what is important to them, interrogate their meaning and purpose of life, and direct their energy effectively (De Jong et al., 2020; Trzebiński et al., 2020).

Pandemic-related diseases affect public mental health. However, uncertainties still remain about what the long-term mental health effects of the COVID-19 pandemic will be. To our knowledge, there are no studies examining the relationship between post-traumatic growth and the perceived meaning of life in the general population during the COVID-19 pandemic. For this reason, determining the relationship between post-traumatic growth and the perceived meaning of life in the general population will be critical for establishing community-oriented interventions following the COVID-19 pandemic. Therefore, health professionals should determine how the public perceives the COVID-19 pandemic from the perspective of posttraumatic growth and the meaning of life, and they should analyze the factors affecting its perception. It will be important for mental health professional to identify groups at risk during and after the pandemic, to determine what the mental health needs of these groups are, and to develop interventions that will allow them to cope and strengthen in accordance with their needs.

## Aim and Questions

In this study, it was aimed to determine the relationship between posttraumatic growth and meaning of life during the COVID-19 pandemic. The results of this study may help authorities develop preventive mental health interventions for possible pandemics and traumatic experiences in the future. Research questions:

- 1- What is the posttraumatic growth and the meaning and purpose of life level of general population during the COVID-19 pandemic?
- 2- Do the participants' posttraumatic growth and the meaning and purpose of life differ according to sociodemographic characteristics?
- 3- Is there any relationship between posttraumatic growth and the meaning and purpose of life?



- 4- Does posttraumatic growth predict the meaning and purpose of life?

## MATERIALS AND METHODS

### Design

This study was conducted to determine the relationship between post-traumatic growth and the perceived meaning and purpose of life in individuals aged 18–65 during the COVID-19 pandemic. This present study was a descriptive study that employed a correlational survey model. The large scale survey study was conducted using self-report questionnaires completed online by general population.

### Sample

The study population consisted entirely of Turkish people, aged 18–65 years of age, who experienced the COVID-19 pandemic. Participants were recruited using snowballing sampling, a nonprobability sampling method. Participation was voluntary and consisted of 1264 literate individuals. The criterion for being 18–65 years of age was determined to ensure that participants represented the general population in this study. The mean age of the participants was  $29.62 \pm 9.23$  years (min=18, max=65). When the descriptive characteristics of the participants were examined, 69.6% were women, 65.7% were single, 79.4% had a bachelor's degree or higher, 55.2% had received neutral income (income=expenses), 55.3% were employed, 75.5% were living in a city where a partial lockdown was enforced, 85.1% were at home with their families throughout the lockdown.

### Data Collection

Data were collected online using Google Docs online surveys between June and July 2020, six months after the first case of COVID-19 in the world and three months after the first case of COVID-19 in Turkey. The participants were informed about the purpose and procedure of the study before participation, and an informed consent was obtained from those who agreed to participate. Data were exported to an Excel file in Google Drive. The data collection lasted approximately 20 minutes.

### Sociodemographic Characteristics Questionnaire

The Sociodemographic Characteristics Questionnaire consisted of nine items on sociodemographic characteristics (age, gender, educational background, etc.) and participants were asked an open-ended question about the impact of the COVID-19 pandemic on their daily lives. The answers were categorized by the researchers.

### Posttraumatic Growth Inventory (PTGI)

The 21-item Posttraumatic Growth Inventory (PTGI) was developed by Tedeschi and Calhoun (1996) to assess psychological growth after traumatic events. The PTGI was adapted to Turkish by Kağan, et al. (2012). The PTGI consists of three subscales: (1) changes in self perception (CSP), (2) changes in philosophy of life (CPL), and (3) a changes in relationships with others (CRO). The items are scored on a 6-point Likert-type scale (“0 = I did not experience this change as a result of my crisis” to “5 = I experienced this change to a very great degree as a result of my crisis”). The total score ranges from 0–105, with higher scores indicating higher levels of posttraumatic growth. The original version of the PTGI has a Cronbach's alpha ( $\alpha$ ) of 0.90, while its subscales have a Cronbach's alpha of 0.67 to 0.85 (Tedeschi & Calhoun 1996). The Turkish version of the PTGI has a Cronbach's alpha of 0.92, while its subscales have a Cronbach's alpha of 0.77 to 0.88 (Kağan et al., 2012). In this study, the PTGI has a Cronbach's alpha of 0.92, while its subscales have a Cronbach's alpha of 0.79 to 0.90.

### Meaning and Purpose of Life Scale (MPLS)

Aydın et al. (2015) developed the 17-item Meaning and Purpose of Life Scale (MPLS) to determine how much meaning and purpose one finds in life. The MPLS consists of two subscales: (1) the meaning and purpose of life (MPL) and (2) the lack of meaning and purpose in life (LMPL). The items are scored on a 5-point Likert-type scale (“1 = Strongly Disagree” to “5 = Strongly Agree”). The total score ranges from 17–85, with higher scores indicating more meaning and purpose in life. The MPLS has a Cronbach's alpha of 0.91 (Aydın et al., 2015). In this study, the MPLS has a Cronbach's alpha of 0.88, while its subscales have a Cronbach's alpha of 0.84 to 0.87.

### Data Analysis

Data were analyzed using the Statistical Package for Social Sciences v. 23 software package (SPSS – IBM Corporation, New York, NY, USA) at a significance level of 0.05. Numbers and percentages were used for descriptive statistics, and the Kolmogorov-Smirnov test was used for normality. An independent sample t-test and one-way analysis of variance (ANOVA) were used to determine between-group differences by sociodemographic characteristics. A Tukey test was used for pairwise group comparisons to determine the source of difference. The Pearson correlation coefficient was used to determine the correlation between posttraumatic growth and the meaning and purpose of life. A simple linear regression analysis was used to assess the effect of posttraumatic growth on the meaning and purpose of life.

### Ethical consideration



The study was approved by a Non-Interventional Human Research Ethics Committee (Date: 24.05.2020; No: 2413) and was conducted according to the ethical principles outlined by the Declaration of Helsinki. Permission was obtained from the Ministry of Health of the Republic of Turkey. All participants gave informed consent for the research, and that their anonymity was preserved.

## RESULTS

When the descriptive data of the study were examined, the participants, the challenges of the COVID-19 pandemic were emotional and mental stress (fear, anxiety, uncertainty, etc.) (73.67%, n=932), negative experiences in their own or their children's education (42.60%, n=539), postponing plans (32.25%, n=408), financial loss (20.47%, n=259), separation from family (15.41%, n=195), marital or family problems (8.61%, n=109), physical or mental illness (3.87%, n=49), job loss (3.16%, n=40), and physical inactivity, including the inability to access health services and the onset of sleep and eating disorders (2.45%, n=31). Five participants (0.39%) reported no problems during the COVID-19 pandemic.

The participants had a mean PTGI, CSP, CPL, and CRO score of  $48.78 \pm 19.80$ ,  $26.91 \pm 10.71$ ,  $13.25 \pm 6.01$ , and  $8.62 \pm 5.44$ , respectively. The PTGI does not have a cut-off point. In this study, the PTGI mean scores of the participants were less than half of the total score of the scale. They had a mean MPLS, MPL, and LMPL score of  $63.73 \pm 10.31$ ,  $43.53 \pm 6.59$ , and  $20.20 \pm 5.33$ , respectively. The MPLS does not have cut-off point. In this study, the MPLS mean scores of the participants were more than half of the total score of the scale.

The participants' PTGI scores differed significantly by sex, educational background, and economic status ( $p < 0.05$ ). Female participants had a higher mean PTGI score than males. Those with a postgraduate had a lower mean PTGI score than others. Middle-income participants had a higher mean PTGI score than low-income participants. For MPLS, the participants' scores differed significantly by age, marital status, educational background, economic status, and employment status ( $p < 0.05$ ). The participants' mean MPLS scores increased with age. Married participants had a higher mean MPLS score than singles. Those with a postgraduate had a higher mean MPLS score than others. Employed participants had a higher mean MPLS score than unemployed ones (Table 1).

**Table 1.** Demographic characteristics of participants' who examined the differences of PTGI and MLPS Scores (n=1264)

Demographic Characteristics		PTGI Mean±SD	Analysis Results	MPLS Mean±SD	Analysis Results
Age	18-22 <sup>a</sup>	50.04±18.58	F=2.214 p= 0.085	61.72±10.82	F=10.425 p= <b>0.000*</b> Tukey HSD test c>a, d>a, d>b
	22-31 <sup>b</sup>	49.65±19.36		63.44±9.96	
	32-40 <sup>c</sup>	47.14±21.06		65.02±9.74	
	41 and above <sup>d</sup>	46.33±21.11		66.73±10.31	
Sex	Male	44.84±20.00	t=-4.705	63.38±10.53	t= -0.784
	Female	50.50±19.48	p= <b>0.000*</b>	63.88±10.21	p=0.433
Marital Status	Married	48.74±20.36	t= -0.055	65.13±9.78	t=3.518
	Single	48.81±19.52	p= 0.956	63.00±10.50	p= <b>0.000*</b>
Educational Level	Under High School <sup>a</sup>	53.00±15.34	F=3.700 p= <b>0.005*</b> Tukey HSD test a>d	62.41±10.52	F=6.712 p= <b>0.000*</b> Tukey HSD test d>b, d>c,
	High School <sup>b</sup>	48.87±20.86		62.29±8.78	
	University <sup>c</sup>	48.99±19.49		63.10±10.58	
	Postgraduate <sup>d</sup>	44.94±21.04		66.95±9.31	
Economic Level	Low <sup>a</sup>	46.56±19.00	F=3.336 p= <b>0.036</b> Tukey HSD test b>a	61.35±11.15	F=12.172 p= <b>0.000</b> Tukey HSD test b>a, c>a
	Middle <sup>b</sup>	49.96±19.82		64.41±9.91	
	High <sup>c</sup>	48.40±20.61		64.98±9.75	
Working Status	Yes	47.99±20.75	t=-1.607	64.60±9.61	t= 3.320
	No	49.77±18.54	p= 0.108	62.65±11.02	p= <b>0.001</b>

PTGI: Posttraumatic Growth Inventory, MPLS: Meaning and Purpose of Life Scale; S.D. Standard Deviation; \*:  $p < 0.05$

The MPL and MPLS total scores were positively correlated with PTGI, CSP, CPL, and CRO scores. Meanwhile, the

mean LMPL score was negatively correlated with PTGI, CSP, CPL, and CRO scores (Table 2).

**Table 2.** Investigation of the relationships between PTGI and MPLS (n=1264)

		Changes in Self Perception	Changes in Philosophy of Life	Changes in Relationship with Other	Posttraumatic Growth Inventory
Meaning and Purpose of Life	r	<b>.396**</b>	<b>.341**</b>	<b>.297**</b>	<b>.399**</b>
	p	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
The Lack of Meaning and Purpose in Life	r	<b>-.197**</b>	<b>-.142**</b>	<b>-.126**</b>	<b>-.185**</b>
	p	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
Meaning and Purpose of Life Scale Total Score	r	<b>.355**</b>	<b>.292**</b>	<b>.255**</b>	<b>.351**</b>
	p	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

\*\*: $p < 0.001$ 

The simple linear regression analysis results showed that the model fit the data well ( $F=177.358$ ;  $p < 0.001$ ). The model predicted that for a one-unit increase in the PTGI score, the

MPLS score increased by 0.183 units. Posttraumatic growth accounted for 12.2% of a change in the meaning and purpose of life (Table 3).

**Table 3.** The effect of PTGI scores on MPLS scores (n=1264)

	Unstandardized Coefficients B	S.E.	Standardized Coefficients Beta	t	Sig	95.0% Confidence Interval for B	
						Lower	Upper
Constant	54.818	0.722		75.911	0.000	53.401	56.235
PTGI	0.183	0.014	0.351	13.318	<b>0.000*</b>	0.156	0.210

Model Summary:  
 $R=0.351$ ;  $R^2=0.123$ ; Adjusted.  $R^2=0.122$ ;  $F=177.358$ ;  $p=0.000^*$

PTSGI: Posttraumatic Growth Inventory S.E.: Standard Error \* $p < 0.001$ 

## DISCUSSION

We believe that the results of this study will help health professionals evaluate the mental status of general populations and determine their needs during outbreaks. The participants noted that they experienced emotional, mental, educational, economic, marital, and family problems that forced them to postpone their plans during the COVID-19 pandemic. Research also shows that the COVID-19 pandemic and the preventive measures cause fear, uncertainty, and anxiety, which have a profound effect on mental and social aspects of health (Karataş, 2020; Shakespeare-Finch *et al.* 2020).

The participants' PTGI and MPLS scores differed significantly by sociodemographic characteristics. Those with higher PTGI scores included female participants, those with a postgraduate and middle-income participants. The fact that female participants had a higher mean PTGI score than males may be due to gender roles. Men may find it difficult to talk about their fears and anxieties because they are supposed to be strong, emotionless, and the primary breadwinners in patriarchal societies like Turkey. This can lead to less posttraumatic growth in face of economic stressors from the COVID-19 pandemic. Low-income participants had less posttraumatic growth than middle and high-income participants because they suffered more from financial problems, and thus, stress during the COVID-19 pandemic. Karataş (2020) focused on the effects of the

COVID-19 pandemic on social posttraumatic growth and found that women had higher PTGI scores than men and that people with a high school degree had higher PTGI scores than those with a postgraduate degree. However, there was no difference in PTGI scores across age and income groups. Research also shows that women, married people, young people, those with a high level of education and income, and those with social support have more posttraumatic growth after devastating natural disasters and other traumatic experiences (Jeon *et al.*, 2017; Jin, *et al.*, 2014; Măirean, 2016; Seo & Lee, 2020).

The participants' mean MPLS scores increased with age. Those with higher MPLS scores included married participants, those with a postgraduate degree, and employed participants. Age-related diseases, as well as COVID-19, financial hardships associated with unemployment, resulting in a reduced sense of meaning and purpose in life during the COVID-19 pandemic. Some studies report that sex, age, marital status, social support and loneliness have effect on the meaning of life among adults (Krause, 2007; Schnell, 2009; Steger *et al.*, 2009).

More posttraumatic growth resulted in more meaning and purpose in life. Karataş (2020) concluded that posttraumatic growth came when people questioned the meaning of life more, became more concerned about the future, and set new goals during the COVID-19 pandemic. The COVID-19 pandemic has made people reevaluate the meaning of life,



their relationships, priorities, and expectations from the future. Yu et al., (2020) found that people who became more aware of themselves were less likely to suffer mental problems and more likely to have more posttraumatic growth, allowing them to make more sense of life during the COVID-19 pandemic. In a study conducted with university students by Tomaszek & Muchacka-Cymerman (2020), was found a positive significant relationship between post-traumatic growth and life satisfaction during the COVID-19 pandemic. Further, research shows that people who experience traumatic events tend to have posttraumatic growth and make several positive changes in their lives, such as bonding more with others than before, realizing their potential and skills, making more sense of life, setting new goals, and possessing higher life satisfaction, better mental well-being, and more meaning in life (Dursun et al., 2014; Hamam et al. 2021; Kim et al., 2016; Linley, & Joseph, 2011; Triplett, et al., 2012).

### Limitations

This study had three limitations. First, the survey was conducted online through a snowball sample of people with a similar socioeconomic status who were eligible for an online survey. Second, the results are sample-specific and not generalizable to the whole population. Third, this was a descriptive correlational study, and therefore, longitudinal studies are warranted to evaluate the impact of the COVID-19 pandemic.

### CONCLUSION

The COVID-19 pandemic has had a significant impact globally. The COVID-19 pandemic adversely affects not only physical health but also mental health, personal and professional life. However, people who experience traumatic events may end up developing more positive relationships, become more empowered, discover their potential, set new goals, and change their philosophy of life. In this study, it was found that the increased mean scores of the post-traumatic growth scale increased the mean scores of the perceived meaning and purpose of life scale. Therefore, it was found that post-traumatic growth had a positive significant effect on the perception of the meaning and purpose of life. Health professionals play an active role by executing clinical practice, protecting public mental health, identifying at-risk groups, planning interventions for them, and empowering people during outbreaks. Interventions for both the general population and the at-risk groups can minimize the impact of potentially traumatic events and allow people to experience posttraumatic growth and, thereby, find meaning and purpose in life. Therefore, mental health professionals should determine the mental status and needs of people who have experienced traumatic events and help them develop coping skills.

### Acknowledgments

We are thankful the all participants who agreed to contribute to the study.

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