



The Mediating Effect of Experiential Avoidance on the relationship between psychological resilience and psychological needs in the COVID-19 pandemic

Asiye Dursun¹ · Yılmaz Kaplan² · Tuğçe Altunbaş³ · Muhammed Bahtiyar⁴

Accepted: 4 April 2022

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract

The COVID-19 pandemic that has impinged upon the world affects individuals not only physically but also psychologically. Considering the effects of the pandemic that can be called a challenging life event, the concept of psychological resilience comes to mind. In this study, the effect of multidimensional avoidance on the relationship between psychological resilience and psychological need satisfaction-frustration of adults is discussed through structural equation modeling. The study data were collected online from 506 adults who participated voluntarily from 7 different geographical regions of Turkey. The study findings were obtained by using correlation analysis, structural equation modeling, and path analysis. As a result of the study, it is seen that all the variables of multidimensional avoidance except distraction/suppression and frustration directly affect psychological resilience in satisfaction and frustration of basic psychological needs. In addition, it shows that psychological resilience has a significant effect on satisfaction and frustration of basic psychological needs, both directly and indirectly through multidimensional avoidance.

Keywords COVID-19 pandemic · Psychological resilience · Psychological need satisfaction-frustration · Multidimensional avoidance · Structural equation modeling

Introduction

The COVID-19, which first appeared in Wuhan city of

China's Hubei province on 31 December 2019, led to the declaration of a pandemic by the World Health Organization (WHO) on 13 January 2020 (Huang & Zhao, 2020). It is stated that as of January 7, 2022, the COVID-19 affects 298,915,721 people in the world and 9,786,383 people in Turkey (World Health Organization, 2022). The COVID-19 pandemic, which has recently affected the whole world, has led to some changes in people's lifestyles. Due to these changes, the pandemic has become a challenging life event that brings along the adaptation process. The studies state that COVID-19 causes unprecedented physical, mental, societal and economic problems, both socially and individually, and support that it is a challenging life event (Applegate & Ouslander, 2020; Qiu et al., 2020; Tanhan et al., 2020). Although the psychosocial aspect of the COVID-19 pandemic which is stated to affect different areas has not been fully examined, it has been determined by various studies that it has serious effects on psychological health and causes psychological problems (Stankovska et al., 2020; Wang et al., 2020). On the other hand, it is stated that the COVID-19 pandemic may be a strong risk factor for mental

✉ Muhammed Bahtiyar
muhammedbahtiyar@duzce.edu.tr

Asiye Dursun
asiyedursun26@hotmail.com

Yılmaz Kaplan
yilmazkaplan@munzur.edu.tr

Tuğçe Altunbaş
tugce_altunbas@hotmail.com

¹ Department of Guidance and Counselling Psychology, Ministry of Education, Eskişehir, Turkey

² Department of Psychology, Munzur University, Tunceli, Turkey

³ Department of Guidance and Counselling Psychology, Ministry of Education, İstanbul, Turkey

⁴ Department of Psychological Counseling and Guidance, Duzce University, Duzce, Turkey

and behavioral disorders such as depression, post-traumatic stress disorder (PTSD), and alcohol use disorder (Adhanom, 2020). In addition, the COVID-19 pandemic, which causes people to experience intense anxiety at the international level, is seen as a risk factor for psychological resilience (Wang et al., 2020). In this respect, it is remembered that protective factors are crucial when dealing with the pandemic process which creates a serious risk factor on human life and psychological resilience. One of the elements that enable risk factors to successfully change into protective factors is yet again the level of psychological resilience of individuals (Almedom & Glandon, 2007). In the light of all these explanations, it can be said that psychological resilience plays a crucial role in effectively coping with the pandemic process (Kluge, 2020).

Psychological resilience, which enables the protective factors to work and facilitates a healthy adaptation in a risky and traumatic situation an individual encounters (Masten and Gewirtz, 2006), is generally defined as positive adjustment, maintaining or regaining mental health after difficult life events (Herrman et al., 2011). During the COVID-19 pandemic, the studies on psychological resilience and the interventions that have been conducted have gained importance, since psychological resilience is seen as one of the many possible outcomes of the pandemic process and the resilience level of individuals are stated to be a combination of factors such as exposure severity, individual differences, family context, and community characteristics (Chen & Bonanno, 2020). Also, the fact that the COVID-19 process is not certain, the end date is not known, and it seriously affects daily life create complicated stress and prevent individuals from reaching protective factors (Gruber et al., 2020) given that individuals with high levels of psychological resilience have characteristics such as recreating experiences, being open to positive emotion experiences, participating in physical activities, asking for social support, and being optimistic (Hefferon & Boniwell, 2014). With these, their strength to cope with this difficult process also increases. In fact, it is seen that the psychological resilience model that has been developed and applied during COVID-19 is effective in the coping skills of the applied target group (He et al., 2020). According to Pietrzak et al., (2009), when people are exposed to extreme stress or trauma, they can have difficulty adapting immediately. Although most people experience negative emotions at the beginning, they can gradually adapt to these stressful events and situations that change their lives. If people do not have the individual ability and competence to protect themselves from the effects of these negative experiences; when they face all these, anxiety level increases, they feel powerless and helpless, and their physical and mental state is imperiled. Therefore, the concept of “psychological resilience” is here needed. In

such cases, it is seen that some people can look for new and alternative options and solve problems effectively. The most fundamental factor in ensuring this harmony is the phenomenon of psychological resilience which requires the person to actively take action. To better understand the importance of the concept of “psychological resilience” and the protective factors in the COVID-19 process, studies on the nature of the concept and the related variables are needed (Chen & Bonanno, 2020) because the studies on COVID-19’s impact on mental health say that although psychological resilience can successfully respond to extreme stress, trauma or negative experiences, studies to determine its relationship with variables that will affect mental health are limited (Ran et al., 2020). On the other hand, a study on the reactions to COVID-19 in terms of psychological resilience states that people need to feel safe and know that events are under control instead of being uncertain. When the need to feel safe and control cannot be met during COVID-19, the organism goes into an alarm state and may develop stress reactions (Yazıcı-Çelebi, 2020). Consequently, the relationship between satisfaction of some psychological needs and psychological resilience can be stated to be important.

Şahin & Owen (2009) state that needs affect human life significantly. According to Morgan (1984), people have an unlimited number of physiological and acquired needs which are defined as deficiency. To meet these needs, people constantly make various demands and act to provide satisfaction (Dizen et al., 2005). The tension caused by deprivation ends when the needs are met, and the organism regains its balance. However, although some behaviors are of physiological origin, most of them are due to psychological needs. People need to be able to establish a relationship with their environment, be understood, share, and develop (Pietrzak et al., 2009). Behaviors arising from psychological needs differ from person to person, since the same needs gain meaning in different individuals with different perceptions. Thus, it is important to understand the nature of psychological needs which have a significant impact on individuals (Ryan & Deci, 2000). Also, satisfying needs is seen as important in terms of survival, growth, and attaining personal integrity (Ryan et al., 1996), and positively affects the adaptation to life, personality development, and even subjective well-being (Baard et al., 2004). Considering the importance of satisfying or frustrating psychological needs on people, it can be said that it would be useful to address its relationship with psychological resilience. Similarly, satisfying psychological needs is stated to increase psychological resilience (Naemi, 2018; Neufeld & Malin, 2019; Neufeld et al., 2020). There are many variables in the satisfaction of psychological needs (Williams et al., 2000). One of these variables is thought to be multidimensional experiential avoidance. Experiential avoidance is defined

as individuals' unwillingness to experience emotions, thoughts, memories, bodily sensations, and personal events that they evaluate negatively (Hayes et al., 1996). Experiential avoidance can emerge as strategies such as denial, suppression, and distraction used to control negative experiences in daily life. Although experiential avoidance strategies used in such ways seem to be effective in the short term, they cause the continuation of the experiences that people avoid and the increase of related problems in the long term (Hayes et al., 2012). According to Hayes (2004), experiential avoidance plays a crucial role in many psychological problems to emerge and continue. It can be thought that during COVID-19, people may exhibit behaviors similar to experiential avoidance. In order to increase psychological resilience in this process, developing social support, adaptive meaning, and direct pro-social behaviors is stated to be crucial (PeConga et al., 2020). When experiential avoidance behavior is exhibited, it can be said that individuals may face the risk of not being able to find the motivation to meet their psychological needs and of moving away from social support, meaning-making, and pro-social behaviors that are effective on psychological resilience.

The literature shows that there is no study on the mediating effect of experiential avoidance on the relationship between psychological resilience and psychological need satisfaction. According to the self-determination theory, the satisfaction of basic psychological needs affects the change and development of individuals in terms of psychological and social support, and contributes to them feeling well (Ryan & Brown, 2003) and their adaptation to life (Reis et al., 2000). From this aspect, it can be thought to be a protective factor for psychological resilience, too. On the other hand, experiential avoidance behavior can prevent individuals from behaving in a healthy way and lead to satisfaction with temporary relaxing solutions. Thus, it can be said that it is important to address the experiential avoidance variable in the relationship between psychological resilience and psychological need satisfaction. In fact, in a study on the mediating effect of experiential avoidance and psychological resilience during COVID-19, it was found that fear of COVID-19 negatively affects psychological adjustment; but psychological resilience has a protective function that limits this effect, and experiential avoidance is a risk factor that increases this effect (Seçer et al., 2020). It is observed in different studies that experiential avoidance has a mediating role in the relationship between variables such as self-attention and social anxiety (Glick & Orsillo, 2011); dysfunctional perfectionism and anxiety (Santanello & Gardner, 2007); eating disorders and suicide attempts (Skinner et al., 2016), and coping strategies and anxiety (Kashdan et al., 2006), which are risk factors for psychological resilience and which will prevent the satisfaction of psychological

needs in a healthy way or may arise if the needs are frustrated. In this context, researching how experiential avoidance that may emerge during the COVID-19 process will affect the relationship between the two variables can be said to be important both to understand the nature of the variables and to shed light on the preventive practices to be planned during COVID-19.

The purpose of the study

This study aims to examine the mediating role of multidimensional avoidance on the relationship between individuals' psychological resilience and psychological need satisfaction-frustration. In line with this main purpose of the study, the following hypotheses were tested.

H₁: Psychological resilience significantly predicts psychological need satisfaction/ frustration positively.

H₂: Psychological resilience significantly predicts multidimensional experiential avoidance negatively.

H₃: Multidimensional experiential avoidance significantly predicts psychological satisfaction/ frustration negatively.

H₄: Multidimensional experiential avoidance has a mediating role in the relationship between psychological resilience and psychological need satisfaction/frustration.

Method

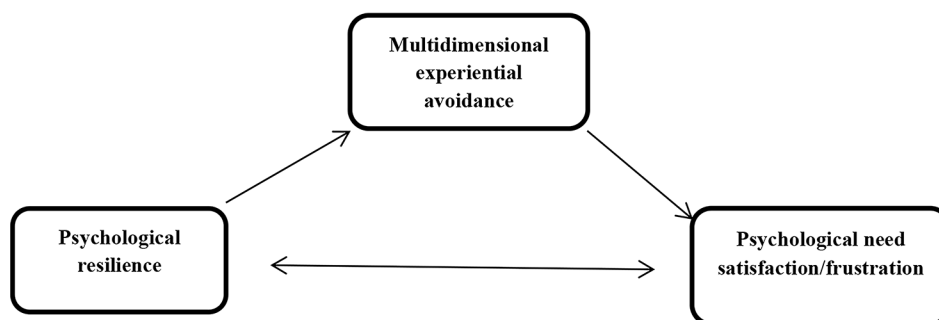
Research Design

This study was designed according to the correlational model to reveal the relationships among psychological resilience, multidimensional experiential avoidance, and satisfaction or frustration of basic psychological needs. SEM (Structural Equation Modeling) was utilized to achieve this goal. The following hypothetical model constitutes the main purpose of the study Fig. 1.

Study Group

Using the Convenience Sampling method (Etikan, Musa, & Alkassim, 2016), which includes taking the sample elements that the researcher can easily reach, the study group consists of 506 volunteer participants in total who voluntarily joined the study process and who filled the informative consent form: 368 (72.7%) women and 138 (27.3%) men. 232 (45.8%) of the participants are single, 274 (54.2%) are married. Also, 39 (7.7%) of the participants participate from the Mediterranean region, 28 (5.5%) from the Black Sea region, 25 (4.9%) from the Aegean region, 26 (5.1%) from the

Fig. 1 Hypothesis Model



Southeastern Anatolia region, 97 (19.2%) from the region the Marmara region, 123 (24.3%) from the Central Anatolia region, and 168 (7.7%) from the East Anatolia region. By reaching the participants from the 7 regions of Turkey, it was aimed to diversify the study group and to contribute to the generalizability of the results. Structural equation modeling requires less than 100 participants for the small sample, between 100 and 200 participants for the medium sample, and more than 300 participants for the large sample (Kline, 2005). Therefore, large sample size was reached in the study.

During the data collection, web pages, current reports via file transfer protocol, electronic articles, visual programs are accepted as an easily accessible electronic data source, data collection tool, document and data (Merriam, 2018). In this study, the data were collected online via google forms. The study's data collection process started in March 2020 and completed in June 2020.

Data Collection Tools

Demographic information form

This is a form created by the researchers in which information such as participants' gender, marital status, region of residence, and what they do most in their spare time are questioned.

Connor-Davidson Resilience Scale CD-RISC

The validity and reliability of this scale which was developed by Connor & Davidson (2003) and is used to measure psychological resilience were carried out by Karairmak (2010). Consisting of a total of 25 items, the scale includes a four-point Likert-type scoring. The scale has three factors called "Holding Closely to Personal Efficiency", "Tolerating Negative Emotions" and "Tendency to Spirituality", and these three factors explain 52% of the total variance. The three sub-dimensions obtained from the exploratory factor analysis were supported by the confirmatory factor analysis. The lowest score that can be obtained from the scale is 0

and the highest score is 100. (Karairmak, 2010). Consisting of the 25 items and 3 sub-dimensions, the scale is evaluated based on the total score and it is stated that high scores from the scale indicate high levels of psychological resilience. The Cronbach's alpha internal consistency coefficient of the scale is 0.92. In the reliability analysis for this study, the Cronbach's alpha coefficient was found to be 0.93.

Basic Psychological needs satisfaction and frustration scale

The Turkish adaptation of the scale developed by Chen et al. (2015) to measure basic psychological needs was carried out by Selvi & Bozo (2020). There are 24 items and 6 dimensions on the scale. Three of the dimensions in the scale are satisfaction of needs; satisfied autonomy, satisfied competence, and satisfied relatedness. The other three are the frustration of needs; frustrated autonomy, frustrated competence, and frustrated relatedness. In this sense, the scale allows for the evaluation of basic needs separately as frustrated and satisfied needs. The Cronbach's alpha coefficients of the dimensions of the adapted scale were found to be 0.82-0.75-0.88 and 0.74-0.79-0.84, respectively. In the reliability analysis for this study, the Cronbach's alpha coefficient was found to be 0.86 for the dimension of satisfaction of basic psychological needs and 0.80 for the dimension of frustration of basic psychological needs.

Shortened form of the Multidimensional Experiential Avoidance Questionnaire (MEAQ-30)

The questionnaire was developed as 62 items by Gámez et al. (2011) to measure multidimensional experiential avoidance, and Sahdra et al. (2016) created its short form of 30 items. It consists of six subscales that evaluate experiential avoidance in different dimensions: behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, and distress endurance. High scores indicate high levels of avoidance style in the relevant subscale. The Turkish validity and reliability of the 5-point Likert-type scale was conducted by Ekşi et al. (2018) and the Cronbach's alpha values regarding the subscales were

found between 0.76 and 0.87. In the reliability analysis for this study, the Cronbach's alpha coefficient of the scale was found to be 0.83.

Data Analysis

In this study which was carried out to determine the mediating effect of multidimensional avoidance on the relationship between psychological resilience and psychological need satisfaction-frustration of adults during the Covid 19 pandemic, first, the descriptive statistics of the variables and the relationships among the variables were revealed. Afterward, the Structural Equation Modeling (SEM) was used to examine the mediating role effect which is the main purpose of the study, and the study was finalized. Structural Equation Modeling (SEM) is considered as one of the advanced quantitative techniques to establish a statistical cause-effect connection in a network of theoretically supported relationships (Byrene, 2010). The Pearson Product-Moment Correlation analysis was used to analyze the data with the help of the SPSS 26 package program, and AMOS 26 package program was utilized to test the structural equation modeling. The analysis results were presented in the findings section. Structural equation modeling was used in the study. Structural equation modeling was carried out in two stages. First, the measurement model was tested, and then the structural model was examined. To evaluate the model, Tucker-Lewis index (TLI), Comparative fit index (CFI), and goodness of fit (GFI) for above 0.90; Standardized root mean square residual (SRMR) for below 0.08, and root mean square error of approximation (RMSEA) for below 0.80 (Hu and Bentler 1999) were used. Through the indirect effects, the bootstrapping confidence intervals were reported.

Findings

The relationships among satisfaction of basic psychological needs, frustration of basic psychological needs, experiential avoidance's dimensions (behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, and distress endurance), and psychological resilience, and the descriptive statistics are presented in Table 1.

As seen from the Table 1, satisfaction of basic psychological needs has a positive relationship with psychological resilience ($r = .64, p < .001$), behavioral avoidance ($r = .15, p < .001$), distraction/suppression ($r = .17, p < .001$), and distress endurance ($r = .44, p < .001$) while it has a negative relationship with procrastination ($r = -.32, p < .001$) and repression/denial ($r = -.28, p < .001$). Frustration of basic psychological needs has a negative relationship with psychological resilience ($r = -.40, p < .001$) and distress endurance ($r = -.30, p < .001$) while it has a positive relationship with repression/denial ($r = .44, p < .001$), procrastination ($r = .36, p < .001$), and distress aversion ($r = .27, p < .001$). As seen in the skewness and kurtosis values, the data are normally distributed.

Structural Equation Modeling

Measurement model

The measurement model was tested for 41 observed and 9 latent variables (satisfaction, frustration, behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, distress endurance, and psychological resilience). After the results obtained from the first analysis were below the acceptable values, items 15, 21, and 27 of the experiential avoidance items were removed from the model. Error covariance was applied between items

Table 1 Descriptives

Variable	1	2	3	4	5	6	7	8	9
1. Satisfaction	—								
2. Frustration	-0.58***	—							
3. Psychological resilience	0.64***	-0.40***	—						
4. Behavioral avoidance	0.15***	-0.06	0.11*	—					
5. Distress aversion	-0.07	0.27***	-0.09*	0.32***	—				
6. Distraction/suppression	0.17***	0.06	0.14***	0.25***	0.40***	—			
7. Repression/denial	-0.28***	0.44***	-0.22***	-0.01	0.30***	0.17***	—		
8. Distress endurance	0.44***	-0.30***	0.54***	0.06	-0.01	0.16***	-0.13**	—	
9. Procrastination	-0.32***	0.36***	-0.32***	0.12**	0.38***	0.15***	0.37***	-0.29***	—
Mean	44.57	21.80	75.48	24.55	20.74	24.47	14.08	26.56	18.91
Std. Deviation	6.75	6.76	15.10	5.83	7.56	6.97	6.85	5.96	6.52
Skewness	-0.53	0.53	-0.57	-0.27	-0.11	-0.49	0.71	-0.64	-0.11
Kurtosis	-0.24	-0.14	0.12	-0.20	-0.88	-0.27	-0.12	0.45	-0.70

* $p < .05$, ** $p < .01$, *** $p < .001$

22 and 23 in the dimension of denial and between items 16 and 17 in the dimension of suppression. After these adjustments, acceptable fit indices were obtained. Accordingly, the ratio of χ^2 and degrees of freedom is ($\chi^2/df=2.128$) and CFI=0.94, TLI=0.93, GFI=0.90, SRMR=0.05, RMSEA=0.047 (Hu and Bentler, 1999), and all are within the acceptable range. In order to ensure the validity and reliability of the measurement model, the combined reliability, explained mean-variance, and Heterotrait-Monotrait ratio were calculated and the results are given in Table 2.

As presented in Table 2, it is seen that the combined reliability values are greater than 0.70 and the average explained variance is 0.50 and above. Also, it is determined from the results of the Heterotrait-Monotrait ratio that the discriminant validity condition is met (Fornell and Larcker 1981).

Structural model

The effects of psychological resilience on satisfaction of basic psychological needs and frustration of basic psychological needs were tested through behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, and distress endurance which are the dimensions of experiential avoidance. After testing the general model, the direct and indirect effects of the dimensions of distress aversion and behavioral avoidance were seen to be not significant; they were thus removed from the model and the alternative model was tested. The fit values of this model are within the acceptable range ($\chi^2/df=3.2$, CFI=0.91, TLI=0.90, GFI=0.90, SRMR=0.07, RMSEA=0.07). The values regarding the coefficients of the model's standardized factor loadings are presented in Fig. 2.

Standardized factor loadings for the structural model. $N=506$; *** $p < .001$. Ppar, Psychological resilience parcels, TPar, Satisfaction parcels, Epar, Frustration parcels.

Bootstrapping results

To test the significance of the structural model, the bootstrapping procedure was employed and the model was tested

on a bootstrap sample of 5000. The details of the direct and indirect effects regarding the results are given in Table 3.

As seen in Table 3, all the direct effects among the variables in the model are significant, except the direct effects between distraction/suppression and frustration. When the indirect effects are examined, it is determined that psychological resilience meaningfully affects satisfaction of basic psychological needs through repression/denial 0.09 (95% CI=0.04, 0.165); psychological resilience meaningfully affects satisfaction of basic psychological needs through procrastination 0.041 (95% CI=0.013, 0.084); psychological resilience meaningfully affects satisfaction of basic psychological needs through distraction/suppression 0.377 (95% CI=0.28, 0.506); and psychological resilience meaningfully affects satisfaction of basic psychological needs through distress endurance 0.026 (95% CI=0.009, 0.057). As a result, while psychological resilience negatively affects repression/denial, repression/denial negatively affects satisfaction of basic psychological needs. Similarly, while psychological resilience negatively affects procrastination, procrastination negatively affects satisfaction of basic psychological needs. On the other hand, while psychological resilience positively affects distraction/suppression, distraction/suppression positively affects satisfaction of basic psychological needs. Finally, while psychological resilience positively affects distress endurance, distress endurance positively affects satisfaction of basic psychological needs.

When the indirect effects on frustration of basic psychological needs are examined, it is determined that psychological resilience meaningfully affects frustration of basic psychological needs through repression/denial -0.115 (95% CI = $-0.189, -0.066$); psychological resilience meaningfully affects frustration of basic psychological needs through procrastination -0.05 (95% CI = $-0.09, 0.024$); and psychological resilience meaningfully affects frustration of basic psychological needs through distress endurance -0.217 (95% CI = $-0.308, -0.148$). On the other hand, the indirect effects between psychological resilience and frustration of basic psychological needs through distraction/suppression are determined to be not significant. As a result, while psychological resilience negatively affects repression/

Table 2 Combined Reliability, Explained Mean-Variance, and Heterotrait-Monotrait Ratios

	CR	AVE	1	2	3	4	5	6	7	8	9
1. Behavioral avoidance	0,79	0,50									
2. Psychological resilience	0,93	0,74	0,06								
3. Distraction/suppression	0,89	0,64	0,33	0,166							
4. Procrastination	0,83	0,55	0,258	0,301	0,26						
5. Distress endurance	0,85	0,59	0,027	0,648	0,185	0,269					
6. Repression/denial	0,81	0,52	0,046	0,291	0,12	0,447	0,201				
7. Satisfaction	0,78	0,55	0,112	0,746	0,221	0,321	0,581	0,386			
8. Frustration	0,70	0,51	0,032	0,558	0,045	0,46	0,462	0,576	0,831		
9. Distress aversion	0,82	0,52	0,463	0,09	0,483	0,523	0,022	0,33	0,062	0,363	

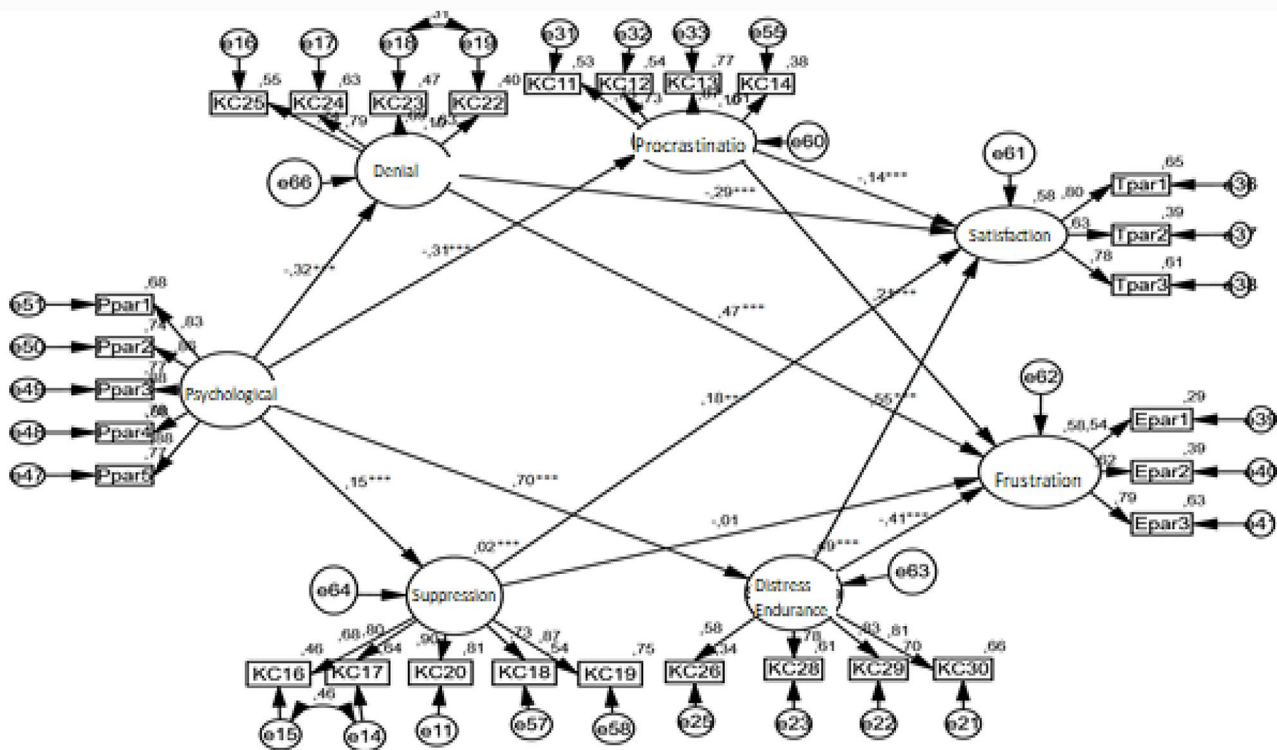


Fig. 2 The study’s SEM and β coefficients

denial, repression/denial positively affects frustration of basic psychological needs. Similarly, while psychological resilience negatively affects procrastination, procrastination positively affects frustration of basic psychological needs. Finally, while psychological resilience positively affects distress endurance, distress endurance negatively affects frustration of basic psychological needs.

Discussion and conclusion

In this study, how the psychological resilience levels of individuals living in seven different regions of Turkey during the COVID-19 pandemic affected satisfaction of basic psychological needs and frustration of basic psychological needs through the sub-dimensions of experiential avoidance “behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, distress endurance” were determined by using path analysis. The result shows that psychological resilience directly affects all variables in satisfaction and frustration of basic psychological needs, except multidimensional avoidance’s distraction/suppression and frustration. Also, it is seen that psychological resilience has a significant effect on satisfaction and frustration of basic psychological needs both directly and indirectly through multidimensional avoidance. Based on

this finding, when individuals’ psychological resilience levels are strong during the COVID-19 pandemic, their levels of basic psychological need satisfaction are high and their levels of frustration are low. In addition, when their psychological resilience levels are strong, their levels of behavioral avoidance, distraction/suppression, and distress endurance increase, while their levels of procrastination, repression/denial, and distress aversion decrease. In this respect, psychological resilience affects psychological need satisfaction or frustration through multidimensional avoidance.

As a result of the analyses that were made to test the first hypothesis of the study, it was revealed that psychological resilience positively predicts psychological need satisfaction/frustration. In the light of this finding, considering the importance of protective and risk factors for psychological resilience in difficult life events, the COVID-19 pandemic can be said to have different risk factors (Campos, Martins, Campos, Maroco, Saadiq, & Ruano, 2020; Lee, Jobe, Mathis, & Gibbons, 2020). The negative thoughts of individuals who have lost their families or immediate circles due to COVID-19 about their own future and their status to meet their basic needs negatively affect their psychological resilience (Çetin & Anuk, 2020), which is only one of these difficulties. Also, it is stated that psychological resilience has an effect on anxiety both directly and indirectly through intolerance to uncertainty (Kasapoğlu, 2020). Similarly, it is

Table 3 Direct and Indirect Effects of the Structural Model

Path analysis	Estimated	95% CI		
		Lower	Upper	p
Direct effects				
Psychological resilience → Procrastination	-0,31	-0,384	-0,225	0,001
Psychological resilience → Distress endurance	0,701	0,624	0,783	0,001
Psychological resilience → Repression/denial	-0,322	-0,427	-0,221	0,001
Psychological resilience → Distraction/suppression	0,151	0,064	0,238	0,001
Procrastination → Frustration	0,212	0,112	0,328	0,001
Distress endurance → Frustration	-0,407	-0,526	-0,297	0,001
Repression/denial → Frustration	0,471	0,357	0,592	0,001
Distraction/suppression → Frustration	-0,007	-0,09	0,079	0,869
Procrastination → Satisfaction	-0,137	-0,244	-0,048	0,011
Distress endurance → Satisfaction	0,552	0,442	0,672	0,001
Repression/denial → Satisfaction	-0,287	-0,411	-0,17	0,001
Distraction/suppression → Satisfaction	0,178	0,1	0,263	0,001
Indirect Effects				
Psychological resilience → Repression/denial → Satisfaction	0,09	0,04	0,165	0,001
Psychological resilience → Procrastination → Satisfaction	0,041	0,013	0,084	0,01
Psychological resilience → Distraction/suppression → Satisfaction	0,377	0,28	0,506	0,001
Psychological resilience → Distress Endurance → Satisfaction	0,026	0,009	0,057	0,005
Psychological resilience → Repression/denial → Frustration	-0,115	-0,189	-0,066	0,001
Psychological resilience → Procrastination → Frustration	-0,05	-0,09	-0,024	0,001
Psychological resilience → Distraction/suppression → Frustration	-0,001	-0,012	0,009	0,832
Psychological resilience → Distress Endurance → Frustration	-0,217	-0,308	-0,148	0,001

stated that anxiety symptoms are less common in individuals with good psychological resilience levels (Fredrickson, Tugade, Waugh & Larkin, 2003). In addition, in a study on psychological resilience and psychological need satisfaction, it is seen that as the level of psychological resilience increases, psychological need satisfaction increases, too (Toprak, 2014). In parallel to the study findings, a study conducted during the COVID-19 revealed that coronavirus-related stress is a significant predictor of optimism, pessimism, psychological rigidity, and some psychological problems (depression, somatization, and anxiety). Particularly, the effect of optimism - pessimism and psychological rigidity on depression, somatization, and anxiety in adults was found to be mediated by coronavirus-related stress (Arslan et al., 2020). Likewise, Davydov, Stewart, Ritchie, and Chaudieu (2010) state that undesirable experiences such as difficulty in solving problems or stress are associated with poor psychological resilience levels. In this study, it was similarly discovered that intolerance to uncertainty and anxiety decrease as psychological resilience increases, and concepts such as anxiety, stress, and intolerance to uncertainty during COVID-19 were found to be directly and indirectly related to psychological problems.

Another result of the study is that when psychological resilience levels are strong, behavioral avoidance, distraction/suppression, and distress endurance levels increase,

while procrastination, repression/denial, and distress aversion levels decrease. In this respect, psychological resilience has effects on psychological need satisfaction or frustration through multidimensional avoidance. In support of this finding of the study, Boyraz et al. (2020) has revealed in their study that the variables of anxiety and social isolation, which are traumatic stress reactions, are predictors of vulnerability perceived towards the COVID-19, and that social isolation mediates the relationship between anxiety and traumatic stress related to the COVID-19. In other words, there is a significant relationship between traumatic stress reactions such as avoidance or social isolation and psychological need satisfaction or frustration. In the current study, these are discussed through these avoidance behaviors' sub-factors. Also, supporting this finding of the study, in a study conducted with 3075 people during the COVID-19, anxiety, avoidance, and coping strategies were examined. According to the study results obtained by the network analysis, the individuals in the sample had anxiety during the COVID-19 mostly about 'the fact that the COVID-19 is dangerous', the second was the thoughts that 'the COVID-19 is exaggerated' which was developed to deal with anxiety, and as the third, avoidance behaviors (seeking safety, compulsive procrastination) associated with the COVID-19 were seen to take place (Taylor et al., 2020).

Another of the study hypotheses revealed that multidimensional experiential avoidance predicts psychological need satisfaction/frustration negatively. Likewise, in a multinational study, it was revealed that social ties are the most effective factor in individuals being able to adapt and cope with the COVID-19 process. (Matos et al., 2021). According to the study findings, being disconnected from social relationships poses a risk for individuals who become vulnerable to traumatic stress. In parallel to this, it is seen in the current study that particularly behavioral avoidance, procrastination, repression/denial dimensions of multidimensional experiential avoidance negatively predict the satisfaction of basic psychological needs. In other words, as negative avoidance behaviors increase, the satisfaction of psychological needs decreases.

Maintaining psychological well-being during COVID-19 is known to be crucial for individuals (Paolini et al., 2020). Moreover, psychological resilience is one of the most important protective personal characteristics in order to create a sense of well-being. (Ryan & Deci, 2000). Psychological resilience is thought to be the key to mental health during COVID-19 (Kluge, 2020). It can be said that in such periods, addressing the relationship between psychological resilience and basic psychological needs' satisfaction/frustration in terms of multidimensional avoidance behaviors is important in interpreting individuals' behaviors. This study examined whether multidimensional experiential avoidance mediates the relationship between psychological resilience and psychological need satisfaction/frustration. It is seen that psychological resilience indirectly affects psychological satisfaction through repression/denial, procrastination, distraction, and distress endurance. Similarly, it is shown that psychological resilience also affects psychological frustration through repression/denial, procrastination and distress endurance. In parallel with this finding, it was revealed in an experimental study that an intervention program based on the satisfaction of basic psychological needs is effective in reducing the stress observed during COVID-19 and in increasing psychological well-being and subjective vitality indirectly (Behzadnia & FatahModares, 2020).

Limitations

The first thing that should be emphasized in the context of the limitations regarding the study is that the measurement tools used in the current study (Connor-Davidson Resilience Scale, Multidimensional Experiential Avoidance Questionnaire, and Psychological Needs Satisfaction and Frustration Scale) were utilized based on the self-reports of the individuals participating in the study. This may have led the individuals to behave objectively enough while responding to the scale items. Therefore, this limitation assumption

can be considered as a factor that weakens the objectivity of the study. Secondly, the study was designed in the context of quantitative methods. Considering the psychological structures and processes of individuals, their perceptions and experiences of the events they have experienced are subjective and changeable. The fact that supportive qualitative methods or mixed methods to address these subjective perceptions and experiences were not used can be considered as a limitation.

Implications

Despite the limitations presented above, the study in its current form has many conclusions and suggestions that will contribute to the literature. First, the fact that the study was collected from the seven different geographical regions of Turkey shows that it is generalizable. Therefore, the results will shed light on the studies to be done to eliminate the negative effects of the COVID-19 pandemic in the country. In particular, it can contribute to preventive and remedial intervention programs that will be developed based on the current study's finding as revealing psychological resilience as a protective factor. In addition, it can be said that it will lead to new studies to be conducted based on the conclusion that the study should be supported by qualitative data, which is presented as a limitation above.

Authors' contributions This study was produced from the dissertation prepared by the first writer under the supervision of the second writer. All authors contributed to the conception and design of the study. The first writer performed the experimental applications and data collection, and wrote the paper. The second writer supervised all the research process and provided feedback, and reviewed the paper. All authors read and approved the final manuscript.

Funding The authors received no financial support for the research, authorship, and/or publication of this article.

Data Availability The datasets generated and analyzed during the current study are available from the corresponding author on request.

Declarations

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and its later amendments or comparable ethical standards. This study was approved by The University of Düzce Social and Humanitarian Sciences Scientific Research and Publication Ethics Committee on 21.04.2021 (Reference No: 2021/128).

Informed consent Informed consent was obtained from all individual participants included in the study.

Conflict of interest The authors declare that they have no conflict of interest.

References

- Adhanom, G. T. (2020). Addressing mental health needs: an integral part of COVID-19 response. *World Psychiatry*, 19(2), 129–130. <https://doi.org/10.1002/wps.20768>
- Almedom, A. M., & Glandon, D. (2007). Resilience is not the absence of PTSD any more than health is the absence of disease. *Journal of Loss and Trauma*, 12(2), 127–143. <https://doi.org/10.1080/15325020600945962>
- Applegate, W. B., & Ouslander, J. G. (2020). COVID-19 Presents High Risk to Older Persons. *Journal of the American Geriatrics Society*, 68(4), 681–681. <https://doi.org/10.1111/jgs.16426>
- Arslan, G., Yıldırım, M., Tanhan, A., Buluş, M., & Allen, K. A. (2020). Coronavirus Stress, Optimism-Pessimism, Psychological Inflexibility, and Psychological Health: Psychometric Properties of the Coronavirus Stress Measure. *International Journal of Mental Health and Addiction*, 1–17. <https://doi.org/10.1007/s11469-020-00337-6>
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic Need Satisfaction: A Motivational Basis of Performance and Well-Being in Two Work Settings. *Journal of Applied Social Psychology*, 34, 2045–2068. <https://doi.org/10.1111/j.1559-1816.2004.tb02690.x>
- Behzadnia, B., & FatahModares, S. (2020). Basic Psychological Need-Satisfying Activities during the COVID-19 Outbreak. *Applied Psychology Health and Well-Being*, 12, 1115–1139. <https://doi.org/10.1111/APHW.12228>
- Boyraz, G., Legros, D. N., & Tigersstrom, A. (2020). COVID-19 and traumatic stress: The role of perceived vulnerability, COVID-19-related worries, and social isolation. *Journal of Anxiety Disorders*, 76, 102307. <https://doi.org/10.1016/j.janxdis.2020.102307>
- Çetin, C., & Anuk, Ö. (2020). Covid-19 Pandemic Process and Psychological Resilience: Sample of Students From A Public University. *Eurasian Journal of Researches in Social and Economics (EJRSE)*, Special Issue (COVID-19), 170–189. <https://dergipark.org.tr/tr/pub/asead/issue/54658/733121>
- Campos, J. A. D. B., Martins, B. G., Campos, L. A., Maroco, J., Saadiq, R. A., & Ruano, R. (2020). Early Psychological Impact of the COVID-19 Pandemic in Brazil: A National Survey. *Journal of Clinical Medicine*, 9(9), 2976. <https://doi.org/10.3390/jcm9092976>
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., ... Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2), 216–236. <https://doi.org/10.1007/s11031-014-9450-1>
- 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(1), 51–54. <https://doi.org/10.1037/tra0000685>
- Connor, K. M., & Davidson, J. R. (2003). Development of a New Resilience Scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82. <https://doi.org/10.1002/da.10113>
- Davydov, D. M., Stewart, R., Ritchie, K., & Chaudieu, I. (2010). Resilience and mental health. *Clinical Psychology Review*, 30, 479–495. <https://doi.org/10.1016/j.cpr.2010.03.003>. [ffinserm00534325f](https://doi.org/10.1016/j.cpr.2010.03.003)
- Dizen, M., Berenbaum, H., & Kerns, J. G. (2005). Emotional Awareness and Psychological Needs. *Cognition and Emotion*, 19(8), 1140–1157. <https://doi.org/10.1080/02699930500260468>
- Ekşi, H., Kaya, Ç., & Kuşçu, B. (2018). *Multidimensional Experiential Avoidance Questionnaire-30: Adaptation and Psychometric Properties of the Turkish Version*. ULEAD 2018 Annual Congress, Manisa, Turkey
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365–376
- Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C., & Watson, D. (2011). Development of a Measure of Experiential Avoidance: The Multidimensional Experiential Avoidance Questionnaire. *Psychological Assessment*, 23(3), 692–713. <https://doi.org/10.1037/a0023242>
- Glick, D. M., & Orsillo, S. M. (2011). Relationships among social anxiety, self-focused attention, and experiential distress and avoidance. *Journal of Cognitive and Behavioral Psychotherapies*, 11(1), 1–12
- Gruber, J., Prinstein, M., Abramowitz, J. S., Albano, A. M., Aldao, A., Borelli, J., ... Weinstock, L. (2020). Clinical psychological science's call to action in the time of COVID-19. *PsyArXiv Preprint*. <https://doi.org/10.31234/osf.io/desg9>
- Hayes, A. M., & Feldman, G. (2004). Clarifying the construct of mindfulness in the context of emotion regulation and the process of change in therapy. *Clinical Psychology: Science and Practice*, 11, 255–262. <https://doi.org/10.1093/clipsy/bph080>
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change* (2nd ed.). Guilford Press
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, 64(6), 1152–1168. <https://doi.org/10.1037/0022-006X.64.6.1152>
- He, Z., Chen, J., Pan, K., Yue, Y., Cheung, T., Yuan, Y., ... Xiang, Y. T. (2020). The development of the 'COVID-19 Psychological Resilience Model' and its efficacy during the COVID-19 pandemic in China. *International Journal of Biological Sciences*, 16(15), 2828. <https://dx.doi.org/10.7150%2Fijbs.50127>
- Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry research*, 288, 112954. <https://doi.org/10.1016/j.psychres.2020.112954>
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *Canadian Journal of Psychiatry. Revue Canadienne De Psychiatrie*, 56(5), 258–265
- 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, 350–356. <https://doi.org/10.1016/j.psychres.2009.09.012>
- Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential avoidance as a generalized psychological vulnerability: Comparisons with coping and emotion regulation strategies. *Behaviour Research and Therapy*, 9, 1301–1320. <https://doi.org/10.1016/j.brat.2005.10.003>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). The Guilford Press
- Kluge, H. H. P. (2020, March 26). Physical and mental health key to resilience during COVID-19 pandemic. <http://www.euro.who.int/en/mediacentre/sections/statements/2020/statement-physical-and-mental-health-key-to-resilience-during-covid-19-pandemic>
- Lee, S. A., Jobe, M. C., Mathis, A. A., & Gibbons, J. A. (2020). Incremental validity of coronaphobia: Covid-19 anxiety explains depression, generalized anxiety, and death anxiety.

- Journal of Anxiety Disorders*, 74, 1–4. <https://doi.org/10.1016/j.janxdis.2020.102268>
- Masten, A. S., & Gewirtz, A. H. (2006). *Resilience in development: The importance of early childhood*. Centre of Excellence for Early Childhood Development. University of Minnesota Digital Conservancy. <https://hdl.handle.net/11299/53904>
- Matos, M., McEwan, K., Kanovský, M., Halamová, J., Steindl, S. R., Ferreira, N. ... Gilbert, M. I. (2021). P. The role of social connection on the experience of COVID-19 related post-traumatic growth and stress. *PLOS ONE*, 16(12), e0261384. <https://doi.org/10.1371/journal.pone.0261384>
- Merriam, S. B. *Qualitative Research: A Guide to Design and Implementation*. (Trans., & Turan, S. (2018). Nobel Academic Publishing. (Originally Published 2015)
- Naemi, A. M. (2018). Relationship between basic psychological needs satisfaction with resilience and marital satisfaction in teachers. *International Journal of Educational and Psychological Researches*, 4(2), 78–83
- Neufeld, A., Mossière, A., & Malin, G. (2020). Basic psychological needs, more than mindfulness and resilience, relate to medical student stress: A case for shifting the focus of wellness curricula. *Medical Teacher*, 42(12), 1401–1412. <https://doi.org/10.1080/0142159X.2020.1813876>
- Paolini, D., Maricchiolo, F., Pacilli, M. G., & Pagliaro, S. (2020). COVID-19 lockdown in Italy: The role of social identification and social and political trust on well-being and distress. *Current Psychology*. <https://doi.org/10.1007/s12144-020-01141-0>
- PeConga, E. K., Gauthier, G. M., Holloway, A., Walker, R. S., Rosencrans, P. L., Zoellner, L. A., & Bedard-Gilligan, M. (2020). Resilience is spreading: Mental health within the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(S1), 47–48. <https://doi.org/10.1037/tra0000874>
- Pietrzak, R. H., Johnson, D. C., Goldstein, M. B., Malle, J. C., & Southwick, S. M. (2009). Psychological Resilience and Post-deployment Social Support Protect Against Traumatic Stress and Depressive Symptoms in Soldiers Returning from Operations Enduring Freedom and Iraqi Freedom. *Journal of Special Operations Medicine*, 9(3), 67–73. <https://doi.org/10.1002/da.20558>
- Ran, L., Wang, W., Ai, M., Kong, Y., Chen, J., & Kuang, L. (2020). Psychological resilience, depression, anxiety, and somatization symptoms in response to COVID-19: A study of the general population in China at the peak of its epidemic. *Social Science & Medicine*, 262, 113261. <https://doi.org/10.1016/j.socscimed.2020.113261>
- Reis, H. R., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily Well-Being: The Role of Autonomy, Competence and Relatedness. *Personality and Social Psychology Bulletin*, 26(4), 419–435. <https://doi.org/10.1177/0146167200266002>
- Ryan, R. M., & Brown, K. W. (2003). Why we don't need self-esteem: Basic needs, mindfulness, and the authentic self. *Psychological Inquiry*, 14, 71–76
- Ryan, R. M., & Deci, E. L. (2000). Self Determination Theory and the Facilitation of Intrinsic Motivation, Social Development and Well-Being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., Sheldon, K. M., Kasser, T., & Deci, E. L. (1996). All goals are not created equal: An organismic perspective on the nature of goals and their regulation. In P. M. Gollwitzer, & J. A. Bargh (Eds.), *The Psychology of Action: Linking Cognition and Motivation to Behavior*. Guilford Press
- Sahdra, B. K., Ciarrochi, J., Parker, P., & Scrucca, L. (2016). Using Genetic Algorithms in a Large Nationally Representative American Sample to Abbreviate the Multidimensional Experiential Avoidance Questionnaire. *Frontiers in Psychology*, 24(7), 189. <https://doi.org/10.3389/fpsyg.2016.00189>
- Şahin, E., & Owen, F. (2009). Aggression levels of high school students with different psychological needs. *Turkish Journal of Psychological Counseling and Guidance*, 4(32), 64–74
- Santanello, A. W., & Gardner, F. L. (2007). The role of experiential avoidance in the relationship between maladaptive perfectionism and worry. *Cognitive Therapy and Research*, 30(3), 319–332. <https://doi.org/10.1007/s10608-006-9000-6>
- Seçer, İ., Ulaş, S., & Karaman-Özlü, Z. (2020). The effect of the fear of COVID-19 on healthcare professionals' psychological adjustment skills: mediating role of experiential avoidance and psychological resilience. *Frontiers in Psychology*, 11, <https://doi.org/10.3389/fpsyg.2020.561536>
- Selvi, K., & Bozo, Ö. (2020). The dark side of bodybuilding: the role of bodybuilding activities in compensation of frustrated basic psychological needs. *Motivation and Emotion*, 44(2), 190–208. <https://doi.org/10.1007/s11031-019-09805-6>
- Skinner, K. D., Rojas, S. M., & Veilleux, J. C. (2016). Connecting eating pathology with risk for engaging in suicidal behavior: The mediating role of experiential avoidance. *Suicide and Life-Threatening Behavior*, 47(1), 3–13. <https://doi.org/10.1111/sltb.12249>
- Stankovska, G., Memedi, I., & Dimitrovski, D. (2020). Coronavirus COVID-19 disease, mental health and psychosocial support. *Society Register*, 4(2), 33–48. <https://doi.org/10.14746/sr.2020.4.2.03>
- Tanhan, A., Yavuz, K. F., Young, J. S., Nalbant, A., Arslan, G., Yıldırım, M. ... Çiçek, İ. (2020). A Proposed Framework Based on Literature Review of Online Contextual Mental Health Services to Enhance Wellbeing and Address Psychopathology During COVID-19. *Electronic Journal of General Medicine*, 17(6), em254. <https://doi.org/10.29333/ejgm/8316>
- Taylor, S., Landry, C. A., Paluszek, M. M., Rachor, G. S., & Asmundson, G. J. G. (2020). Worry, avoidance, and coping during the COVID-19 pandemic: A comprehensive network analysis. *Journal of Anxiety Disorders*, 76, 102327. <https://doi.org/10.1016/j.janxdis.2020.102327>
- Toprak, H. (2014). *Psychological Resilience and Satisfaction of Psychological Needs as Predictors of Subjective Wellbeing And Life Satisfaction in the Adolescents* (Unpublished Master Thesis). Sakarya University Educational Sciences Institute
- 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 and Public Health*, 17(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- Williams, G., Frankel, B., Campbell, D., & Deci, E. (2000). Research on Relationship-Centered Care and Healthcare, Outcomes from the Rochester 160 Biopsychological Program: A Self-Determination Theory Integration. *The Journal of Collaborative Family Healthcare*, 18(1), 79–91
- World Health Organization (2021). *WHO Coronavirus disease (COVID-19) dashboard*. <https://covid19.who.int/>

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.