

RESEARCH ARTICLE / ARAŞTIRMA YAZISI

# COVID-19 Anxiety and Death Anxiety: The Predicting Role of Death Anxiety

## COVID-19 Kaygısı ve Ölüm Kaygısı: Ölüm Kaygısının Yordayıcı Rolü

Zeynep Demirtaş<sup>1</sup>, Nihan Arslan<sup>2</sup>, Serhat Arslan<sup>3</sup>, Aslı Kartol<sup>4</sup>, Salih Sarışık<sup>5</sup>

### Abstract:

The primary aim of this study is to examine the relationship between COVID-19 anxiety and death anxiety among adults in the post-pandemic period. Additionally, the study aims to adapt the COVID-19 Anxiety Scale into Turkish and evaluate its psychometric properties. This research was conducted within the framework of the relational screening model. The COVID-19 Anxiety Scale was adapted into Turkish, and validity and reliability analyses were performed. Data were collected using the COVID-19 Anxiety Scale and the Death Anxiety Scale. The participants consisted of 307 adults from Turkey. The relationship between COVID-19 anxiety and death anxiety was examined using correlation and stepwise regression analyses. Factor analyses were conducted for the scale adaptation process. According to the findings, there were positive relationships between the subdimensions of death anxiety—namely Fear of the Unknown About Death, Thought and Witnessing of Death, and Fear of Pain—and COVID-19 anxiety. Furthermore, the results indicated that the COVID-19 Anxiety Scale is a valid and reliable instrument for use in the Turkish cultural context. In this regard, it can be concluded that death anxiety plays a significant role in understanding anxiety levels among adults during and after pandemic periods. This study strengthens the theoretical understanding of the relationship between death anxiety and pandemic-related anxiety and demonstrates that the subdimensions fear of the unknown, thought and witnessing of death, and fear of pain significantly predict COVID-19 anxiety in adults. The findings show the psychological effects of death-related fears during the pandemic and their potential long-term impacts on mental health. In addition, the results emphasize that managing death anxiety is important for mental health professionals and policymakers in reducing COVID-19-related psychological distress.

**Keywords:** COVID-19, Anxiety, Death, Death Anxiety.

<sup>1</sup>Sakarya University, Faculty of Education, Department of Educational Sciences, Sakarya, Türkiye.

<sup>2</sup>Necmettin Erbakan University, Faculty of Education, Department of Educational Sciences, Konya, Türkiye.

<sup>3</sup>Gazi University, Faculty of Education, Department of Educational Sciences, Ankara, Türkiye.

<sup>4</sup>Trakya University, Faculty of Education, Department of Educational Sciences, Edirne, Türkiye.

<sup>5</sup>Sakarya University, Institute of Education Sciences, Sakarya, Türkiye

**Address of Correspondence/Yazışma Adresi:** Zeynep Demirtaş, Sakarya University, Faculty of Education, Department of Educational Sciences, E Block, Muammer Sencer Street No: 44/1, Kemaliye Neighborhood, 54300 Hendek, Sakarya, Türkiye, E-mail: zeynept@sakarya.edu.tr.

**Date of Received/Geliş Tarihi:** 25.05.2025, **Date of Revision/Düzeltilme Tarihi:** 21.10.2025, **Date of Acceptance/Kabul Tarihi:** 26.10.2025, **Date of Online Publication/Çevrimiçi Yayın Tarihi:** 25.03.2026

**Citing/Referans Gösterimi:** Demirtaş, Z., Arslan, N., Arslan, S., Kartol, A. & Sarışık, S. (2026). COVID-19 Anxiety and Death Anxiety: The Predicting Role of Death Anxiety. *Cyprus Turkish Journal of Psychiatry & Psychology*, 8(1), 11-18, Doi: 10.35365/ctjpp.26.1.02.

© 2026 The Author(s). Published by Cyprus Mental Health Institute / Cyprus Turkish Journal of Psychiatry and Psychology (www.ktpjppdergisi.com). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 license which permits use, sharing, adaptation, distribution and reproduction in any medium or format, provided the original work is properly cited and is not used for commercial purposes. <http://creativecommons.org/licenses/by/4.0/>

**Öz:**

Bu çalışmanın temel amacı, pandemi sonrasında yetişkinlerde COVID-19 kaygısı ile ölüm kaygısı arasındaki ilişkiyi incelemektir. Ayrıca çalışmada COVID-19 Anksiyetesi Ölçeği'nin Türkçeye uyarlanması ve psikometrik özelliklerinin değerlendirilmesi de amaçlanmıştır. Bu araştırma, ilişkisel tarama modeli kapsamında gerçekleştirilmiştir ve COVID-19 Anksiyetesi Ölçeği, Türkçeye uyarlanarak geçerlik ve güvenilirlik analizleri yapılmıştır. Veri toplama aracı olarak COVID-19 Anksiyetesi Ölçeği ile Ölüm Anksiyetesi Ölçeği kullanılmıştır. Katılımcılar, Türkiye'den 307 yetişkinden oluşmaktadır. COVID-19 Anksiyetesi ile Ölüm Anksiyetesi arasındaki ilişkiler korelasyon analizi ve aşamalı regresyon analizi kullanılarak incelenmiştir. Ölçek uyarlama çalışmasında faktör analizleri yapılmıştır. Araştırmanın sonuçlarına göre yetişkinlerde Ölüm Anksiyetesi Ölçeğinin Ölümün Belirsizliği, Ölümü Düşünme ve Tanıklık Etme ve Acı Çekme Korkusu alt boyutları ile COVID-19 Anksiyetesi arasında pozitif ilişkiler olduğu bulunmuştur. Bununla birlikte COVID-19 Anksiyetesi Ölçeğinin Türk kültüründe uygulanabilir, geçerli ve güvenilir bir ölçek olduğu belirlenmiştir. Bu bağlamda salgın dönemlerinde ve sonrasında yetişkinlerin kaygı düzeylerinin anlaşılmasında ölüm anksiyetesinin önemli bir rol oynadığı söylenebilir. Bu çalışma, ölüm kaygısı ile pandemiyle ilişkili kaygı arasındaki kuramsal ilişkiyi güçlendirmekte ve ölümün belirsizliği, ölümü düşünme ve ölüme tanıklık ile acı çekme korkusu alt boyutlarının yetişkinlerde COVID-19 kaygısını anlamlı biçimde yordadığını ortaya koymaktadır. Bulgular, pandemi döneminde ölümle ilişkili korkuların psikolojik etkilerini ve bunların uzun vadeli ruh sağlığı üzerindeki olası sonuçlarını göstermektedir. Ayrıca, sonuçlar, COVID-19 kaynaklı psikolojik sıkıntının azaltılmasında ölüm kaygısının yönetilmesinin ruh sağlığı uzmanları ve politika yapıcılar açısından önemli olduğunu vurgulamaktadır.

**Anahtar Kelimeler:** COVID-19, Kaygı, Ölüm, Ölüm Kaygısı.

**Introduction**

The COVID-19 pandemic has deeply affected individuals' mental health, increasing concerns such as death anxiety, loneliness, and uncertainty in society (Bostan, Hrișuleac, & Măgurianu, 2023). Although death anxiety is one of the psychological processes underlying pandemic-related anxiety, it has not been sufficiently explored, particularly in countries with diverse sociocultural contexts (Karadağ, Ergin, & Erden, 2023). This study aims to address this gap by examining how the subdimensions of death anxiety—such as fear of the unknown, fear of pain, and fear of death—predict COVID-19 anxiety. In doing so, it contributes to understanding the psychological factors behind pandemic-related anxiety while also clarifying how fear of death affects general anxiety levels (Yang et al., 2023). In this context, explaining the theoretical foundation of the study is as important as emphasizing the effects of the pandemic. Existential theories suggest that individuals experience a fundamental level of anxiety upon realizing the inevitability of death (Yalom, 1980). This awareness intensifies during times of heightened threat and uncertainty, such as pandemics. COVID-19 has become a major global stressor that forces individuals to confront death, triggering basic existential fears and shaping psychological responses and coping strategies (Pyszczynski et al., 2020). Therefore, addressing death anxiety within the context of the pandemic provides a critical theoretical basis for understanding COVID-19-specific anxiety.

According to Lu et al. (2020), the first COVID-19 cases emerged in late 2019, linked to a seafood market in Wuhan, China, and the virus rapidly spread worldwide (Hui et al., 2020). Despite high transmission, early mortality was relatively low. In 2020, the WHO declared a pandemic due to its swift global spread (WHO, 2020). Countries like Turkey implemented strict measures, including travel bans, remote education, and stay-at-home orders for vulnerable groups (Torales et al., 2020; Ministry of Health, 2020). By April 2021, there were 165 million cases and 2.9 million deaths globally (WHO, 2020). Prolonged quarantines led to psychological issues including loneliness, hopelessness, PTSD, anxiety, and

depression (Guan et al., 2020). The sudden disruption of daily routines and the invisible nature of the virus triggered intense fear and anxiety (Duan & Zhu, 2020). Precautionary measures increased both fear and perceived threat (Yıldırım, Geçer, & Akgül, 2021). Isolation efforts contributed to feelings of hopelessness and loneliness (Duan & Zhu, 2020), while infected individuals faced fear of death, helplessness, and stigma (WHO, 2020). Increased media exposure during the pandemic, especially to death-related news, further intensified infection-related and death anxiety. Death anxiety is defined as intense, conscious or unconscious fear and discomfort when contemplating one's own death or that of loved ones (Letzner, 2023).

Studies following previous outbreaks such as SARS (Severe Acute Respiratory Syndrome), MERS (Middle East Respiratory Syndrome), and COVID-19 have revealed various psychological responses, including phobias, anxiety disorders, suicide attempts, and hopelessness (Kozloff et al., 2020; Tang et al., 2020; Temel, Ok & Boyacıoğlu, 2023). Duman (2020) emphasized that fear of COVID-19 is strongly linked to low tolerance for uncertainty. Factors such as social distancing, quarantine, economic challenges, and limitations in the healthcare system further intensified anxiety (Arden & Chilcot, 2020; Banerjee & Rai, 2020). Kaplan's (2021) study examined loneliness and burnout in women during home quarantine, finding that variables such as spousal and child relationships, education, marriage duration, number of children, and domestic responsibilities significantly impacted burnout and loneliness. Although housework increased with all family members at home, the burden mainly remained on housewives, leading to heightened exhaustion and isolation. Several studies have adapted the COVID-19 Anxiety Scale (CAS) into Turkish (Akkuzu et al., 2020; Biçer et al., 2020; Şayık et al., 2021), and explored the relationship between COVID-19 anxiety (CA) and death anxiety (DA) (Arslan, 2021; Gündoğan & Arpacı, 2022;

Yiğitalp & Gümüş, 2022). While this relationship has been examined during the acute phase of the pandemic, the current study focuses on the post-pandemic context, addressing a critical gap. Exploring persistent psychological effects and changing anxiety patterns is vital for guiding mental health interventions as societies transition to recovery. The findings offer insights into how death fear influences COVID-19 anxiety in adults after the pandemic's peak, supporting the development of resilience strategies for future health crises and informing clinical and public health policy (Taylor, 2022). Pandemic-related uncertainty, invisible threats, high transmission risk, and lack of treatment options have all contributed to elevated CA and DA (Duan & Zhu, 2020). Understanding whether these patterns persist or change provides valuable knowledge about coping and long-term psychological effects. Thus, this study aims to both adapt the CAS to Turkish culture and examine the relationship between CA and DA.

## Method

### Research Design

This research employed a correlational survey design, which is a quantitative methodology. The correlational survey approach focuses on examining the relationships among two or more variables (Karasar, 2022). Since the study also involved the evaluation of the CAS, psychometric tests commonly used in validation studies were applied (Çokluk, Şekercioğlu, & Büyüköztürk, 2018).

### Study Population & Procedure

The study sample consisted of 307 participants aged between 18 and 60, recruited in 2023 via an online survey platform. Purposive sampling was employed in this study

to ensure that participants who met specific criteria aligned with the research objectives were included. Studies that seek to examine the connections between psychological dimensions like death fear and COVID-19 anxiety within a particular group of adults are best suited for this non-probability sampling technique. Additionally, when random sampling is not feasible or access to specific subgroups is restricted, purposive sampling allows researchers to specifically select participants who are more likely to provide rich, pertinent, and informative data (Palinkas et al., 2015). Purposive sampling was found to be the most effective method for gathering significant data from a diverse adult sample, considering limitations such as time, budget, and the ongoing pandemic. A purposive sampling strategy was employed, and participants were reached through mailing lists and social media platforms, targeting various regions of Turkey, including the Marmara, Central Anatolia, Aegean, and Southeastern Anatolia regions. Inclusion criteria required participants to (a) be between 18 and 60 years old, (b) reside in Turkey, and (c) voluntarily consent to participate in the study. Participants who provided inconsistent or incomplete responses ( $n = 21$ ) were excluded from the final dataset. The final sample consisted of 307 individuals (38% male [ $n = 118$ ], 62% female [ $n = 189$ ]) with a mean age of 33.8 years ( $SD = 9.2$ ). A summary of participants' demographic characteristics is presented in Table 1. The data collection process included clear information about the study's purpose, confidentiality, and the voluntary nature of participation. Ethical approval was obtained from the Ethics Committee of Necmettin Erbakan University (Approval No: 2023/433), and all procedures adhered to the principles outlined in the Declaration of Helsinki. The data for this study were collected in 2023.

**Table 1.** *The Demographic Information*

	<b>f</b>	<b>%</b>
<b>Gender</b>	Female	72
	Male	38
<b>Missing data</b>	21	
<b>Final Sample Size (Analyzed)</b>	307	
<b>Mean Age (SD)</b>	33.8 (9.2)	
<b>Geographic Regions Represented</b>		
<b>Marmara Region</b>		
<b>Anatolia Region</b>		
<b>Aegean Region</b>		
<b>Southeastern Anatolia Region</b>		

### Data Collection Instruments

Data were collected using the COVID-19 Anxiety Scale (CAS) and the Death Anxiety Scale (DAS).

#### CAS

Silva et al. (2021) created the CAS to assess anxiety specifically associated with COVID-19. The scale consists of 7 items and is unidimensional. Items are rated on a four-point Likert scale (0 = not at all, 3 = very much).

Exploratory factor analysis (EFA) revealed a one-factor structure (eigenvalue = 3.14), explaining 62.94% of the total variance, with factor loadings ranging from .57 to .80. The scale demonstrated high internal consistency ( $\alpha = .85$ ). Exploratory Factor Analysis (EFA) was used to assess the correlation matrix and sample adequacy. The sample was deemed appropriate for factor analysis based on the findings of the Bartlett's Test of Sphericity [ $\chi^2(21) = 1382.14, p < .001$ ] and the Kaiser-Meyer-Olkin test (KMO

=.89). With an eigenvalue of 4.34, the results showed a unidimensional structure that accounted for 62.02% of the variance. The range of factor loadings was .53 to .88. The scale's Cronbach's alpha .89, indicating a good level of internal consistency. The fit indices for the configural model indicated an acceptable fit:  $\chi^2(28) = 37.84$ ,  $\chi^2/df = 1.35$ , CFI = .982, and RMSEA = .059 (90% CI = .000–.104). Separate analyses for men and women also demonstrated acceptable fit values. For men, the results were  $\chi^2(14) = 20.74$ ,  $\chi^2/df = 1.48$ , CFI = .979, and RMSEA = .070 (90% CI = .000–.130); for women,  $\chi^2(14) = 17.10$ ,  $\chi^2/df = 1.22$ , CFI = .986, and RMSEA = .047 (90% CI = .000–.112). In the metric invariance model, the fit indices were  $\chi^2(34) = 47.84$ ,  $\chi^2/df = 1.40$ , CFI = .974, and RMSEA = .064 (90% CI = .000–.103), with a change of  $\Delta CFI = .008$  and  $\Delta RMSEA = .005$  compared to the configural model. In the scalar model,  $\chi^2(40) = 52.62$ ,  $\chi^2/df = 1.31$ , CFI = .977, and RMSEA = .056 (90% CI = .000–.094), with a  $\Delta CFI = .003$  and  $\Delta RMSEA = .008$  compared to the metric model. These results indicate that the changes in CFI and RMSEA remained within acceptable thresholds ( $\Delta CFI < .01$ ;  $\Delta RMSEA < .015$ ), supporting configural, metric, and scalar invariance of the scale across gender groups.

The “Anxiety Associated with COVID-19” scale used in this study is not limited to measuring anxiety during the acute phase of the pandemic; it is also suitable for assessing COVID-19-related anxiety in the post-pandemic period. The developers of the scale emphasized the need for valid and reliable instruments to evaluate the lasting psychological effects of the pandemic. They noted that this scale could be adapted for similar future situations. The scale includes items such as “I feel bad when I think about COVID-19” and “My heart races when I read something about COVID-19,” which reflect emotional and physiological responses that may continue even after the crisis has ended. In this context, the scale's suitability for measuring anxiety experienced in the post-pandemic period was one of the reasons it was chosen for our study (Silva, Brito, & Pereira, 2022).

**DAS:** The psychometric characteristics of the DAS were evaluated using item-total correlations, exploratory and confirmatory factor analyses (CFA), comparisons between the top and bottom 27% groups, criterion validity, internal

consistency, and test-retest reliability. EFA indicated that the 20-item scale had a three-factor structure explaining 67.27% of the total variance. These factors were labeled “Uncertainty of Death,” “Thinking About and Witnessing Death,” and “Pain.” This three-factor structure was confirmed through CFA. The difference between the means of the top and bottom 27% groups was found to be statistically significant through a t-test. The Cronbach's alpha coefficient was .95, and the two-week test-retest reliability was found to be .82 (Sarıkaya, 2013).

**Statistical Analysis**

The data were processed and examined utilizing SPSS version 25 and LISREL version 8.8 software. For the validation of the CAS, both EFA and CFA were performed. Cronbach's alpha and item-total correlations were calculated to assess reliability. Furthermore, Pearson correlation and multiple regression analyses were performed to investigate the associations among the variables (Tabachnick & Fidell, 2013).

**Findings**

To identify the factor structure of the CAS, an EFA was performed using principal component analysis with Varimax rotation on the scale's seven items. The Kaiser-Meyer-Olkin (KMO) index for sampling adequacy was .89, and Bartlett's test of sphericity yielded a statistically significant result ( $p < .001$ ), confirming that the data were appropriate for factor analysis. The extracted single factor accounted for 67.00% of the total variance. Factor loadings for the items ranged between .62 and .80, indicating that each item contributed substantially to the underlying factor.

The model obtained from the EFA was tested on a second subsample of participants using CFA performed in LISREL software with the maximum likelihood estimation method. The hypothesized one-dimensional measurement model demonstrated an acceptable level of fit. The fit indices were as follows: NNFI = .95, CFI = .97, IFI = .97, SRMR = .04, RMSEA = .15. According to the criteria established by Hu and Bentler (1999), these values indicate an acceptable level of model-data fit.

**Figure 1.** One-Factor CFA Model of the CAS

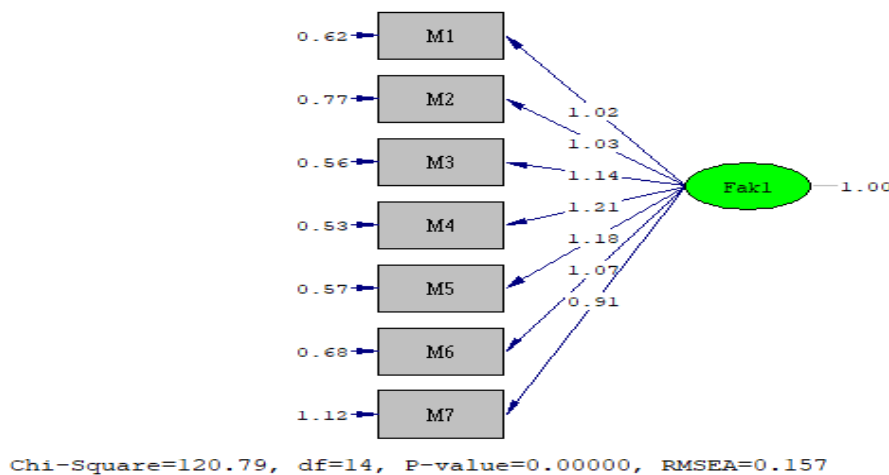


Figure 1 displays the one-factor CFA model structure for the CAS. The fit indices indicate an overall acceptable level of model fit, and all items load significantly onto their corresponding factor.

Pearson correlation and multiple regression analyses were conducted in this study to examine the relationship between COVID-19 anxiety (CA) and death anxiety (DA) among adults. The results of these analyses are presented in Tables 2 and 3.

**Table 2.** Statistical Descriptions and Correlation Coefficients

Variables	CA	DA	AD	TWD	P
CA	—				
DA	.517**	—			
AD	.482**	.972**	—		
TWD	.505**	.962**	.886**	—	
p	.512**	.892**	.804**	.855**	—

Correlation is significant at the 0.01 level (2-tailed). Subfactor of Death Anxiety; AD= Ambiguity of Death; TWD=Thinking and Witnessing Death; P=Pain

According to the correlation analysis presented in Table 2, CA (r = .51) was found to be positively correlated with DA. This finding indicates that individuals with higher

levels of anxiety related to COVID-19 also tend to experience higher levels of death-related anxiety. The two variables show a tendency to increase together.

**Table 3.** Hierarchical Regression Analysis of Factors Associated with CA

Variables	B	SE <sub>B</sub>	β	t	p	R	R <sup>2</sup>	F	p
<b>Step 1</b>									
Ambiguity of Death	.066	.067	.103	7.37	.00	.262	.26	109.9	.00
<b>Step 2</b>									
Ambiguity of Death	.600	.187	.301	3.21	.00	.279	.27	59.0	.00
Thinking and Witnessing Death	.229	.087	.248	2.64	.00				
<b>Step 3</b>									
Ambiguity of Death	.066	.067	.103	.97	.332	.530	.28	40.0	.00
Thinking and Witnessing Death	.159	.113	.171	1.403	.162				
Pain	.565	.190	.283	2.969	.003				

\*p<.01

Table 3 presents the outcomes of the hierarchical multiple regression analysis, which assesses the predictive influence of the independent variables on CA. The variable "Fear of the Uncertainty of Death," a subdimension of the DAS, entered the regression equation first and accounted for 26% of the variance in CA. The variable "Thinking About and Witnessing Death" was entered at the second step, explaining an additional 1% of the variance. The "Pain" variable was included in the third step, accounting for another 1% of variance. Together, the final regression model—including "Fear of the Uncertainty of Death," "Thinking About and Witnessing Death," and "Pain"—explained 28% of the total variance in CA. The standardized beta coefficients indicated that all three variables had a statistically significant effect on CA, with "Fear of the Uncertainty of Death" emerging as the strongest predictor.

**Discussion**

This study gathered evidence on the validity and reliability of the CAS within the Turkish cultural context during the post-pandemic period. It examined the relationship between COVID-19 anxiety (CA) and death anxiety (DA) among adults. The findings confirmed that the CAS is a valid and reliable tool for use with Turkish adults after the pandemic. A significant positive relationship was identified between CA and DA, with the subdimensions of DA significantly predicting CA. Among these, "fear of the uncertainty of death" was the strongest predictor. However, due to the study's cross-sectional design, causal conclusions cannot be drawn (Wang & Cheng, 2020). While most earlier research focused on pandemic-phase stress and anxiety (Mertens et al., 2020; Min et al., 2021), growing evidence shows that pandemic-related worry may

persist as a long-term psychological burden. Continued social isolation, economic instability, and health concerns may contribute to worsening psychological distress in the post-pandemic era (Bourmistrova et al., 2021; Le Vigouroux et al., 2025). Therefore, exploring CA and DA in this period is essential for understanding long-term impacts and developing effective interventions. Bostan, Hrițuleac, and Măgurianu (2023) found a positive correlation between death fear and COVID-19 anxiety, while showing that coping strategies like cognitive reappraisal and religious relational identification were ineffective in reducing anxiety. Similarly, Karadağ, Ergin, and Erden (2023) reported a positive correlation between DA, anxiety, and depression in hospitalized COVID-19 patients, highlighting the need for further evidence-based and non-pharmacological research. Yang et al. (2023) investigated mortality anxiety in elderly Chinese individuals. They found that high DA was associated with greater neuroticism and use of disengagement coping, while quarantine experience had no significant effect. Their regression model showed that the impact of COVID-19, neuroticism, and openness explained 44.6% of the variance in death fear. These findings support the results of the current study.

Fear, anxiety, and stress are emotional responses to perceived danger that enhance survival, and given that illness and death were central concerns during the pandemic, such reactions were expected (Sanderson et al., 2020). COVID-19 caused widespread infection and loss of life, heightening individuals' fear of illness and death. The strong link between COVID-19 anxiety (CA) and death anxiety (DA) suggests that the psychological impact of these emotions continues beyond the pandemic. Thus, fear and anxiety are likely to exert lasting psychological effects even in the post-pandemic period.

National and international studies support the present findings, generally showing that COVID-19 anxiety (CA) is linked to various psychological effects. Choi, Lee, and Lee (2020) found that the COVID-19 obsession scale had strong psychometric properties and that CA correlated with COVID-19 obsession. Lee (2020) reported associations between CA, substance use, hopelessness, and suicidal ideation. Spitzenstätter and Schnell (2020) identified death anxiety (DA) as a significant predictor of CA, noting that increased risk of infection heightens fear and panic, potentially leading to emotional collapse.

Mental health studies during the COVID-19 pandemic have commonly identified anxiety, depression, and increased stress as key psychological responses (Rajkumar, 2020). In an international study with 737 participants, death anxiety (DA) positively predicted COVID-19 anxiety (CA) and related negative emotions (Curșeu et al., 2023). Wang et al. (2021) also found a positive correlation between anxiety and depression, with women reporting higher anxiety levels than men. Similarly, Tsang, Avery, and Duncan (2021) revealed that COVID-19 fear partially mediated the link between virus exposure and depression. As with other disasters, the pandemic triggered widespread panic and psychological distress globally.

In a study among young adults in Turkey, Arslan (2021) found that COVID-19-related stress was significantly influenced by perceived risk and preoccupation with death. Yıldırım et al. (2021) noted that fear, perceived risk, and psychological factors can spread similarly to infectious

diseases, affecting both individual and societal well-being. As fear of infection increased, death anxiety and COVID-19 anxiety (CA) negatively impacted psychological well-being, with rising fear linked to decreased well-being (Silva, Brito & Pereirave, 2021). Singh et al. (2020), analyzing 10,403 tweets, found that negative thoughts and COVID-19-related fear were widespread. Globally, psychological distress has risen during the pandemic. Factors like neuroticism, coronaphobia, and hypochondriasis have been identified as predictors of pandemic-related psychopathology in adults (Lee, 2020). While fear is adaptive, its persistence under uncertain, ongoing threats—as seen in the pandemic—can lead to chronic anxiety. Mertens et al. (2020) found that COVID-19 fear varied by individual differences and was associated with widespread coronavirus-related concerns. Gruchola and Sławek-Czochra (2020) observed that fear about the consequences of the pandemic has, in some cases, exceeded the actual adverse experiences. These findings suggest that pandemic-related fear and anxiety have become chronic burdens, driven not only by the viral threat but also by its ongoing uncertainty.

This study contributes to the theoretical understanding of the link between death anxiety and pandemic-related anxiety by empirically showing that three subdimensions of death anxiety—fear of the unknown, thought and witnessing of death, and fear of pain—predict COVID-19 anxiety in adults. It provides insight into the psychological effects of death fear during the pandemic and highlights its long-term mental health impacts. The findings have practical implications for mental health professionals and policymakers, underlining the importance of managing death anxiety to reduce COVID-19-related distress. The study supports the need for psychological support services that help individuals cope with death-related fears, and for public health policies promoting emotional regulation and resilience during and after pandemics. However, the study has limitations, including the lack of control for demographic and health variables (e.g., age, gender, chronic illness), its cross-sectional design, and a sample limited to Turkish adults, which restricts generalizability. Future research should use longitudinal designs, include control variables, and examine diverse populations better to understand the dynamics of death and COVID-19 anxiety. As the psychological effects of death fear and COVID-19 anxiety persist post-pandemic, supporting individuals in developing resilience and managing negative emotions remains essential. Further studies are needed to identify effective interventions within public health frameworks to address these psychological challenges.

#### **Declarations**

#### **Ethics Approval and Consent to Participate**

The necessary ethics committee permission to start this study was obtained from the Social Sciences Ethics Committee of Necmettin Erbakan University with the number 2023/433-10 dated 13.10.2023. During the study process, the ethical principles outlined in the Declaration of Helsinki were adhered to, and informed consent was obtained from all participants.

#### **Consent for Publication**

Not applicable.

**Availability of Data and Materials**

Data sets used and / or analysed for the current study with the online database can be obtained from the relevant author upon reasonable request.

**Competing Interests**

The author declares that no competing interests exist in this manuscript.

**Funding**

Not applicable.

**Authors' Contributions**

All five authors contributed equally to this work. Each author participated in all phases of the research process, including study design, data collection, data analysis, and manuscript preparation. All authors reviewed and approved the final version of the manuscript.

**References**

- Akkuzu, H., Yumuşak, F. N., Karaman, G., Ladikli, N., Türkkan, Z., & Bahadır, E. (2020). Koronavirüs Kaygı Ölçeği'nin Türkçe güvenilirlik ve geçerlik çalışması. *Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi*, 2(2), 63–67. <https://doi.org/10.35365/ctjpp.20.2.09>
- Arden, M. A., & Chilcot, J. (2020). Health psychology and the coronavirus (COVID-19) global pandemic: A call for research. *British Journal of Health Psychology*, 25(2), 231–232. <https://doi.org/10.1111/bjhp.12414>
- Arslan, G. (2021). Understanding wellbeing and death obsession of young adults in the context of Coronavirus experiences: Mitigating the effect of mindful awareness. *Death Studies*, 46(8), 1923–1932. <https://doi.org/10.1080/07481187.2020.1871122>
- Banerjee, D., & Rai, M. (2020). Social isolation in Covid-19: The impact of loneliness. *Int J Soc Psychiatry*, 66(6), 525–527. <https://doi.org/10.1177/0020764020922269>
- Biçer, İ., Çakmak, C., Demir, H., & Kurt, M. E. (2020). Koronavirüs Anksiyete Ölçeği Kısa Formu: Türkçe geçerlik ve güvenilirlik çalışması. *Anadolu Kliniği Tıp Bilimleri Dergisi*, 25(1), 216–225. <https://doi.org/10.21673/adoluklin.731092>
- Bostan, C. M., Hriuleac, A., & Măgurianu, L. A. (2023). Death anxiety and COVID-19 anxiety: The mediating role of religious relational identification and the impact of emotional regulation strategies. *OMEGA - Journal of Death and Dying*, 91(3), 1268–1285. <https://doi.org/10.1177/00302228231151744>
- Bourmistrova, N. W., Solomon, T., Braude, P., Strawbridge, R., & Carter, B. (2021). Long-term effects of COVID-19 on mental health: A systematic review. *Journal of Affective Disorders*, 299, 118–125. <https://doi.org/10.1016/j.jad.2021.11.031>
- Choi, E., Lee, J., & Lee, S. A. (2020). Validation of the Korean version of the obsession with COVID-19 scale and the Coronavirus anxiety scale. *Death Studies*, 46(3), 608–614. <https://doi.org/10.1080/07481187.2020.1833383>
- Curşeu, P. L., Coman, A. D., Panchenko, A., Fodor, O. C., & Ratiu, L. (2023). Death anxiety, death reflection and interpersonal communication as predictors of social distance towards people infected with COVID 19. *Current Psychology*, 42, 1490–1503. <https://doi.org/10.1007/s12144-020-01171-8>
- Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2018). *Sosyal bilimler için çok değişkenli istatistik: SPSS ve LISREL uygulamaları* (5. baskı). Türkiye, Ankara: Pegem Akademi. ISBN: 978-605-5885-67-0.
- Duan, L. & Zhu, G. (2020). Psychology calinter inventions for people affected by the COVID-19 epidemic. *Lancet Psychiatry*, 7(4), 300–302. [https://doi.org/10.1016/S2215-0366\(20\)30073-0](https://doi.org/10.1016/S2215-0366(20)30073-0)
- Duman, N. (2020). Üniversite öğrencilerinde Covid-19 korkusu ve belirsizliğe tahammülsüzlük. *The Journal of Social Science*, 4(8), 426–437. <https://doi.org/10.30520/tjsosci.748404>
- Gruchola, M. & Sławek Czochra, M. (2020). “The culture of fear” of inhabitants of EU countries in their reaction to the COVID-19 pandemic – A study based on the reports of the Eurobarometer. *Safety Science*, 135, 105140. <https://doi.org/10.1016/j.ssci.2020.105140>
- Guan, W. J., Ni, Z. Y., Hu, Y., Liang, W. H., & Ou, C. Q., (2020). Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*, 382(18), 1708–1720. <https://doi.org/10.1056/NEJMoa2002032>
- Gündoğan, S., & Arpacı, İ. (2022). COVID-19 korkusunun depresyon ve ölüm kaygısı üzerindeki etkisi: Depresyonun aracılık rolü. *Current Psychology*, 43, 12990–12997. <https://doi.org/10.1007/s12144-022-03120-z>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hui, D. S., Azhar, E. I., Madani, T. A., Ntoumi, F., Kock, R. & Dar, O. (2020) The continuing 2019- nCoV epidemic there at of novel coronaviruses to global health: The latest 2019 novel coronavirus outbreak in Wuhan, China. *Int J Infect Dis Elsevier*, 91, 264–246. <https://doi.org/10.1016/j.ijid.2020.01.009>
- Kaplan, V. (2021). The burnout and loneliness levels of housewives in home-quarantine during COVID-19 pandemic. *Cyprus Turkish Journal of Psychiatry & Psychology*, 3(2), 115–122. <https://doi.org/10.35365/ctjpp.21.2.13>
- Karadağ, S., Ergin, Ç., & Erden, S. (2023). Anxiety, depression and death anxiety in individuals with COVID-19. *Omega: Journal of Death and Dying*, 90(4), 1002–1016. <https://doi.org/10.1177/00302228221124981>
- Karasar, N. (2022). *Bilimsel araştırma yöntemi: Kavramlar, ilkeler, teknikler* (35. baskı). Türkiye, Ankara: Nobel Yayınları. ISBN: 978-605-5426-58-3.
- Kozloff, N., Mulsant, B. H., Stergiopoulos, V., & Voineskos, A. N. (2020). The COVID-19 global pandemic: Implications for people with schizophrenia and related disorders. *Schizophr Bull*, 46(4), 752–757. <https://doi.org/10.1093/schbul/sbaa051>
- Le Vigouroux, S., Chevrier, B., Montalescot, L., & Charbonnier, E. (2025). Post-pandemic student mental health and coping strategies: A time trajectory study. *Journal of Affective Disorders*, 376, 260–268. <https://doi.org/10.1016/j.jad.2025.02.015>
- Lee, S. A. (2020). Corona virus anxiety scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*, 44(7), 393–401. <https://doi.org/10.1080/07481187.2020.1748481>
- Letzner, R. D. (2023). Death anxiety in connection to anxiety and depressive disorders: A meta-analysis on emotional distress in clinical and community samples. *Death Studies*, 48(4), 393–406. <https://doi.org/10.1080/07481187.2023.2230556>
- Lu, R., Zhao, X., Li, J., Niu, P., Yang, B., Wu, H., ... & Tan, W. (2020). Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. *The Lancet*, 395(10224), 565–574. [https://doi.org/10.1016/S0140-6736\(20\)30251-8](https://doi.org/10.1016/S0140-6736(20)30251-8)
- Mertens, G., Gerritsen, L., Duijndam, S., Saleminck, E., & Engelhard, I. M. (2020). Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. *Journal of Anxiety Disorders*, 74, 102258. <https://doi.org/10.1016/j.janxdis.2020.102258>
- Min, S., Jeong, Y. H., Kim, J., Koo, J. W., & Ahn, Y. M. (2021). The aftermath: Post-pandemic psychiatric implications of the COVID-19 pandemic, a South Korean perspective. *Frontiers in Psychiatry*, 12, 671722. <https://doi.org/10.3389/fpsy.2021.671722>
- Ministry of Health. (2020). COVID-19 information page. Republic of Turkey Ministry of Health. <https://covid19.saglik.gov.tr> (Retrieved July 22, 2024).

- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Pyszczyński, T., Lockett, M., Greenberg, J., & Solomon, S. (2020). Terror management theory and the COVID-19 pandemic. *Journal of Humanistic Psychology*, 60(6), 734–749. <https://doi.org/10.1177/0022167820959488>
- Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, 52, 102066. <https://doi.org/10.1016/j.ajp.2020.102066>
- Sanderson, W. C., Arunagiri, V., Funk, A. P., Ginsburg, K. L., Krychiw, K. J., Limowski, A. R., Olesnycky, O. S., & Stout, Z. (2020). The Nature and Treatment of Pandemic-Related Psychological Distress. *J Contemp Psychother*, 50, 251-263. <https://doi.org/10.1007/s10879-020-09463-7>
- Sarıkaya, Y. (2013). The Development, Validity and Reliability of the Death Anxiety Scale. (Unpublished Master Thesis). Gaziosmanpaşa University, Eskişehir, Türkiye.
- Silva, W. A. D., Brito, T. R. S., & Pereira, C. R. (2021). Anxiety associated with COVID-19 and concerns about death: Impacts on psychological well-being. *Personality and Individual Differences*, 176, 110772. <https://doi.org/10.1016/j.paid.2021.110772>
- Silva, W. A. D., de Sampaio Brito, T. R. & Pereira, C. R. (2022). COVID-19 anxiety scale (CAS): Development and psychometric properties. *Curr Psychol*, 41, 5693–5702. <https://doi.org/10.1007/s12144-020-01195-0>
- Singh, P., Singh, S., Sohal, M., Dwivedi, Y. K., Kahlon, K. S., & Sawhney, R. S. (2020). Psychological fear and anxiety caused by COVID-19: Insights from Twitter analytics. *Asian Journal of Psychiatry*, 54, 102280. <https://doi.org/10.1016/j.ajp.2020.102280>
- Spitzenstätter, D., & Schnell, T. (2020). The existential dimension of the pandemic: Death attitudes, personal worldview, and coronavirus anxiety. *Death Studies*, 46(5), 1031–1041. <https://doi.org/10.1080/07481187.2020.1848944>
- Şayık, D., Yiğit, D., Açıkgöz, A., Ertuğrul, Ç., & Mumcu, Ö. (2021). Koronavirüs anksiyete ölçeği'nin Türkçe geçerliliği ve güvenilirliği. *Eskişehir Medical Journal*, 2(1), 16–22. <https://doi.org/10.48176/esmj.2021.10>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). ABD, Boston, MA: Pearson Education. ISBN: 0205849571, 9780205849574.
- Tang, W., Hu, T., Hu, B., Jin, C., Wang, G. & Xie, C. (2020). Prevalence and correlates of PTSD and depressive symptoms one month after the outbreak of the COVID-19 epidemic in a sample of home-quarantined Chinese university students. *J Affect Disord*, 274, 1–7. <https://doi.org/10.1016/j.jad.2020.05.009>
- Temel, M., Ok, E., & Boyacıoğlu, N. E. (2023). Death anxiety, mental health, and meaning in life during COVID-19. *Hacettepe University Faculty of Health Sciences Journal*, 10(3), 535–546. <https://doi.org/10.21020/husbfd.1185854>
- Taylor, S. (2022). *The psychology of pandemics: Preparing for the next global outbreak of infectious disease*. UK, Newcastle upon Tyne: Cambridge Scholars Publishing. ISBN: 9781527539594.
- Tsang, S., Avery, A. R. & Duncan, G. E. (2021). Fear and depression linked to COVID-19 exposure A study of adult twins during the COVID-19 pandemic. *Psychiatry Research*, 296, 113699. <https://doi.org/10.1016/j.psychres.2020.113699>
- Wang, X., & Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1S), S65–S71. <https://doi.org/10.1016/j.chest.2020.03.012>
- Wang, Y., Di, Y., Ye, J., & Wei, W. (2021). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychology, Health & Medicine* 26(1), 13-22. <https://doi.org/10.1080/13548506.2020.1746817>
- World Health Organization (WHO). (2020, March 11). WHO Director-General's opening remarks at the media briefing on COVID-19-11 March 2020. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020> (Retrieved August 22, 2024).
- Yalom, I. D. (1980). *Existential psychotherapy*. ABD, New York: Basic Books. ISBN: 13 978-0465021475.
- Yang, D., Xia, Y., Wu, W., Feng, Y., Liang, J., & Zhang, J. (2023). Death anxiety during COVID-19 and its related factors among Chinese elderly people. *Omega: Journal of Death and Dying*. Advance online publication. <https://doi.org/10.1177/00302228231157446>
- Yıldırım, M., Geçer, E., & Akgül, Ö. (2021). The impacts of vulnerability, perceived risk, and fear on preventive behaviours against COVID-19. *Psychology, Health & Medicine* 26(1), 35-43. <https://doi.org/10.1080/13548506.2020.1776891>
- Yiğitalp, G., & Gümüş, F. (2022). COVID-19 korkusu, ölüm kaygısı ve yaşam anlamı arasındaki ilişkiler: Hemşirelik öğrencileri örneği. *International Journal of Health Services Research and Policy*, 7(2), 157–172. <https://doi.org/10.33457/ijhsrp.1112061>