

# Relationship between Anxiety Sensitivity, Death Anxiety and Resilience in the Cge of Randemics and Nifelong Nearning

Eyüp Çelik<sup>1</sup> Eda Biçener<sup>2</sup>, Samet Makas<sup>3</sup>

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Epidemics bring along many pathologies and become a threat for ill individuals because of an outbreak and those exposed to the outbreak process. Many negative psychological and educational results can be encountered following the COVID-19 process when previous studies were considered together with these threats. In this context, this research aimed to examine the effect of the COVID-19 on anxiety sensitivity, death anxiety, and resilience. In addition, examining anxiety sensitivity in terms of some personal variables (gender, physical health, marital status, and working status). The study has been conducted on a relational survey method. The participants consisted of 955 individuals aged between 18-68, of which 281 were males, and 662 were females. In this study, Anxiety Sensitivity Index-3, Death Anxiety Scale, and Brief Resilience Scale were used to collect data. The data were analyzed with Pearson correlation coefficient, regression, independent samples t-test, and ANOVA. The result of analyses showed a positive correlation between anxiety sensitivity and death anxiety; however, there is a negative correlation between resilience and anxiety sensitivity. Furthermore, resilience and anxiety sensitivity differed significantly according to gender, marital status, and working status (student, unemployed, employed, retired); however, the level of death anxiety did not differ according to gender and marital status. Anxiety sensitivity, death anxiety, and resilience did not differ significantly in terms of physical health. When considering the finding obtained in the present study, individuals with high anxiety sensitivity levels were affected more by the COVID-19 pandemic, but those with high resilience levels were affected less.

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**Keywords:** COVID-19, lifelong learning, student, anxiety sensitivity, death anxiety, resilience

## INTRODUCTION

Since the COVID-19 epidemic began in the world, many cases have been detected, and many people have died from it. Previously with the H1N1 (swine influenza) pandemic has seen in the world, it was found that anxiety and depression symptoms, stress symptoms (Luyt et al., 2012), and fear of death have been observed in individuals (Sahni et al., 2016). After the SARS pandemic, the studies have revealed post-traumatic stress disorder and depression symptoms in individuals (Hawryluck et al., 2004). Although anxiety and depression symptoms were seen in the patients of HIV/AIDS, the researchers determined that their main problem was death anxiety (Sherman et al., 2010). Even if individuals have not become infected by epidemic disease, panic symptoms are seen. Besides, the depressive symptoms and the death anxiety were seen in the relatives of individuals infected by the epidemic (Elizarraras-Rivas et al., 2010; Lau et al., 2007).

Within the framework of the existentialist approach, death is an inevitable part of the individual's existence. Also, death anxiety is viewed as the universally primary anxiety in the life of all humanity and the primary source of psychopathology (Yalom, 2018). Abdel-Khalek (2005) conceptualized death anxiety as a concern emerging as a result of death awareness. In line with this view, witnessing the death process of another person, remembering and thinking about death may arouse an individual's death anxiety (Adelbratt & Strang, 2000; Erdoğan & Özkan, 2007). In the literature, it was found that women had higher death anxiety levels (Abdel-Khalek, 2005; Akça & Köse, 2008), besides linear and curvilinear relationships were found between age and death anxiety (Erdoğan & Özkan, 2007; Russac et al., 2007). Also, significant positive associations were determined between death anxiety and having a medical illness (Adelbratt & Strang, 2000). Moreover, the people who lost their lives due to COVID-19 were mainly the individuals who were old aged and had a medical illness (WHO, 2019).

In the expectancy model, anxiety sensitivity was described as excessive fear regarding the fact that anxiety-driven symptoms and sensations have harmful bodily, psychological, and social results (McNally, 2002). Therefore, the reasons for the individual's fear of a particular situation or event are emphasized. Anxiety sensitivity consists of physical, cognitive, and social anxiety sensitivity dimensions. Physical anxiety sensitivity includes fear of bodily symptoms that threaten the individual's health. Cognitive anxiety sensitivity has a fear of losing mental control. Social anxiety sensitivity involves fear that anxiety symptoms are noticed by others (Taylor et al., 2007). However, meta-analyses revealed that anxiety sensitivity is associated with anxiety disorders (Naragon-Gainey, 2010; Noel & Francis, 2011; Olantunji & Wolitzky-Taylor, 2009).

Moreover, anxiety sensitivity was the predictor of obsessive-compulsive disorder (Wheaton et al., 2012) and hypochondriasis (Stewart et al., 2008). Anxiety sensitivity results from an individual's fear about the possibility that their own anxiety experience might cause injury, illness, and death (Taylor et al., 2008). A positive correlation was found within the scope of outbreaks between anxiety sensitivity, anxiety about H1N1 disease (Wheaton et al., 2012), and fear of the Ebola virus (Blakey et al., 2015).

<sup>1</sup> Assoc. Prof. Dr., Sakarya University, eyupcelik@sakarya.edu.tr, ORCID: 0000-0002-7714-9263

<sup>2</sup> Ph.D. Sakarya University, edabicener@sakarya.edu.tr, ORCID: 0000-0002-9596-6486

<sup>3</sup> Ph.D. Sakarya University, sametmakas@sakarya.edu.tr, ORCID: 0000-0002-9896-4013

Individuals' reactions to events that are extreme, life-threatening, and remaining outside daily experience intervals vary across persons. Hence, the ongoing COVID-19 pandemic can be evaluated as a potentially traumatic event. The previous study indicated that 89.7% of participants were exposed to at least one traumatic event throughout their lives; however, the frequency of post-traumatic stress disorder among the participants in the following year was 4.7% (Kilpatrick et al., 2013). The non-development of psychopathology following a traumatic life event was evaluated as resilience. Bonanno (2004) defined resilience as the individual's ability to protect the psychological and physical functions relatively consistently when exposed to exceptional and potentially devastating situations such as severe and life-threatening events or losing a close relative.

Furthermore, the definitions of resilience include an individual's recovery following a challenging life event, adapting to the situation, getting over it, and not becoming ill despite difficulties. (Tusaie & Dyer, 2004). However, following the earthquake and the tsunami occurring in Japan, resilience indicated a buffering effect for depression and post-traumatic stress symptoms (Kukihara et al., 2014). According to the qualitative study conducted with the participants who survived following the Ebola epidemic, the themes of being deprived of healthcare and a high number of deaths were identified as a source of stress. However, the themes of protecting and giving care for oneself or others, coping resources, and activities were identified as a source of resilience (Schwerdtle et al., 2017). Within the scope of outbreaks, in the study in which SARS outbreak survivors participated, it was found that individuals with a high level of resilience were less concerned about SARS and had better physical functions (Bonanno et al., 2008). Early interventions made immediately after potentially traumatic events without discriminating between people may negatively affect the natural recovery process. Hence, it is crucial to examine resilience, which has a buffering effect, to determine the risk groups in the COVID-19 process.

Finally, the literature review shows that epidemics bring along many pathologies and become a threat for ill individuals because of an outbreak and those exposed to the outbreak process. Many negative psychological results can be encountered following the COVID-19 process when previous studies were considered together with these threats. As with other natural disasters, COVID-19 also disrupts people's education and lifelong learning activities. Learning and psychological development can be affected by resilience and major outbreaks such as COVID-19, and resilience can affect these variables. For this reason, in this study, it was tried to determine how students were affected by the negative effects of COVID-19 by comparing students and other groups. Also, death anxiety may arise as a natural result of this process. Although death anxiety is considered like other anxiety disorders within the framework of cognitive theory, the level of anxiety an individual experience depends on oneself evaluation regarding the hazard and thoughts related to own ability to overcome the hazard (Beck, 2005). Hence, the research into the variable of death anxiety, which is likely to increase in society, the variable of anxiety sensitivity which is regarded as the antecedent of mental health disorders, and the resilience which is considered to be its preventer against mental health disorders, is viewed as that will contribute to the prevention of pathological results which are likely to arise at the end of the outbreak process and the implementation of limited mental health service more functionally. In this context, this research investigates the relationship between individuals' levels of anxiety sensitivity, death anxiety, and resilience in the COVID-19 pandemic process. Moreover, it also aims to investigate the individuals' levels of anxiety sensitivity, death anxiety, and resilience according to gender, marital status, working status, and physical health.

## Method

The study was conducted with correlational research.

### Participants

The study data was collected online from 943 participants aged between 18-68 ( $\bar{x}$ = 31.55,  $SD$ = 10.35), of which 281 were males, and 662 were females. In this study, 503 of the participants were single, and 440 were married individuals; however, 132 had a chronic disease, and 811 did not have a chronic disease. The study group consisted of 201 university students, 173 unemployed, 535 employed, and 34 retired individuals. Moreover, since the data was collected online, the study group included individuals from many cities in Turkey.

## Data Collection Tools

### Anxiety Sensitivity Index-3 (ASI-3)

The scale was used to assess individuals' anxiety sensitivity levels. ASI-3 includes 18 items with a 5-point Likert-type (not at all = 0, very much = 4). As a result of the exploratory factor analysis used to determine the scale's construct validity, it was seen that this tool was valid for measuring anxiety sensitivity. The concurrent validity of the index was determined by examining the correlations between the scores were taken from the Anxiety Sensitivity Index ( $r = 0.68$ ), State-Trait Anxiety Inventory ( $r = 0.68$ ), Beck Depression Inventory ( $r = 0.57$ ), and the Somatosensory Amplification Scale ( $r = 0.47$ ). It was observed that the ASI-3 had concurrent validity. Moreover, the reliability analyses demonstrated that scale is a valid measurement tool (Cronbach alpha = .93, test-retest = .64) to measure anxiety sensitivity (Mantar et al., 2010).

### Death Anxiety Scale

In this study, participants' death anxiety levels were assessed using the Death Anxiety Scale (DAS). DAS consisted of 15 items with a 2-point Likert type (false = 0, true = 1). As a result of the exploratory factor analysis used to determine the scale's construct validity, it was seen that this tool was valid for measuring death anxiety. The reliability analyses showed that the KR-20 reliability level was .75, and the test re-test reliability coefficient was .79 (Akça & Köse, 2008).

### Brief Resilience Scale

Participants' resilience level was assessed using the Brief Resilience Scale (BRS), which includes 6-items with a 5-point Likert-type scale (strongly disagree = 1, strongly agree = 5). As a result of the exploratory factor analysis used to determine the scale's construct validity, it was seen that this scale's construct validity was valid. As a result of the investigation was conducted within the scope of criterion-related validity, it was observed that the scale was positively related to the Short Form of the Oxford Happiness Questionnaire ( $r = .40$ ), Ego-Resiliency Scale ( $r = .61$ ), and The Connor Davidson Resilience Scale ( $r = .66$ ). The scales' Cronbach alpha level was found to be .83 (Doğan, 2008).

### Data Analysis

The Pearson correlation coefficient, multiple regression, ANOVA, and independent samples t-test were performed to analyze the data in this present research.

## RESULTS

The relationships between anxiety sensitivity, death anxiety, and resilience were examined with Pearson correlation coefficient. The obtained findings are shown in Table 1.

**Table 1.** *The Findings Regarding the Descriptive Statistics and Correlation Analysis*

	1	2	3
Anxiety Sensitivity (1)	1		
Death Anxiety (2)	.129**	1	
Resilience (3)	-.433**	.004	1
$\bar{x}$	23.35	9.57	19.39
SD	13.01	2.66	4.47

\*\* =  $p < 0.01$

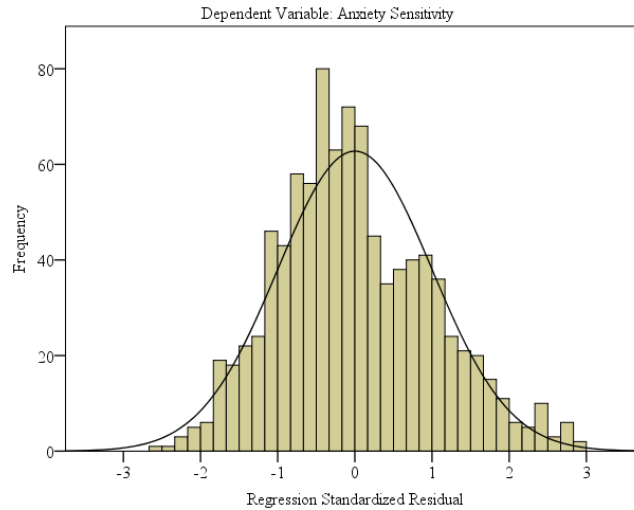
As seen in Table 1, the anxiety sensitivity is correlated to the variables of death anxiety ( $r = .129$ ) and resilience ( $r = -.433$ ). On the other hand, Pearson correlation analysis showed no statistically significant relationship between death anxiety and resilience ( $r = .004$ ).

In the Covid-19 process, whether death anxiety and resilience predict individuals' level of anxiety sensitivity were analyzed by multiple regression analysis. Before the regression analysis, the data was examined in terms of regression analysis assumptions, and 35 outliers were deleted from the data set. The information about the regression analysis assumptions is presented in Table 2 and Figure 1.

**Table 2.** Results Regarding Regression Analysis Assumptions

Variables	Skewness	Kurtosis	VIF	CI
Anxiety Sensitivity	.512	-.187		1.00
Death Anxiety	.007	.206	1.00	6.83
Resilience	-.056	.259	1.00	12.11

**Figure 1.** Normal Distribution Graph



As seen in Table 2 and Figure 1, the study's data set meets the regression assumptions. Therefore, the prediction levels of death anxiety and resilience on anxiety sensitivity were examined using multiple regression analysis, and the results are presented in Table 3.

**Table 3.** Results Regarding Regression Analysis

Predictive Variables	B	SH	$\beta$	t	p	R <sup>2</sup>
Constant	41.718	2.164		19.276	.000	
Death anxiety	.637	.142	.130	4.475	.000	.203
Resilience	-1.262	.085	-.433	-14.891	.000	

As seen in Table 3, anxiety sensitivity is predicted by the variables of resilience ( $\beta = -.43$ ) and death anxiety ( $\beta = .13$ ).

**Findings Regarding Gender**

In the study, whether the levels of anxiety sensitivity, death anxiety, and resilience differed significantly in terms of gender was tested using an independent samples t-test. The findings are shown in Table 4.

**Table 4.** T-Test Result Regarding Examination of Anxiety Sensitivity, Death Anxiety, and Resilience Levels in terms of Gender

	Levene's Test		T-Test			95% CI	
	F	p	t	df	p	Lower	Upper
Anxiety sensitivity	11.143	.001	-4.698	619.281	.000	-5.71203	-2.34443
Death anxiety	28.166	.000	-.929	445.607	.353	-.59414	.21279
Resilience	3.630	.057	7.418	941	.000	1.70693	2.88112

As seen in Table 4, the levels of anxiety sensitivity (Male  $\bar{x}$  = 20.52,  $SD$  = 11.38; Female  $\bar{x}$  = 24.55,  $SD$  = 13.47) and resilience (Male  $\bar{x}$  = 21.00,  $SD$  = 4.08; Female  $\bar{x}$  = 18.70,  $SD$  = 4.44) differ significantly in terms of gender ( $p < .05$ ), but the level of death anxiety (Male  $\bar{x}$  = 9.44,  $SD$  = 3.04; Female  $\bar{x}$  = 9.62,  $SD$  = 2.48) are not different. When the reached results are evaluated in general, it can be stated that the females have higher levels of anxiety sensitivity and the males have higher levels of resilience.

### Findings Regarding Marital Status

The study tested whether anxiety sensitivity, death anxiety, and resilience differ significantly according to marital status using independent samples t-test. The results are shown in Table 5.

**Table 5.** T-Test Result Regarding Examination of Anxiety Sensitivity, Death Anxiety, and Resilience Levels in terms of Marital Status

	Levene's Test		T-Test		95% Confidence Interval		
	<i>F</i>	<i>p</i>	<i>t</i>	df	<i>p</i>	Lower	Upper
Anxiety sensitivity	.030	.863	3.648	941	.000	1.42239	4.73398
Death anxiety	2.640	.105	-1.142	941	.254	-.53863	.14233
Resilience	2.257	.133	-6.482	941	.000	-2.40995	-1.28978

As presented in Table 5, the levels of anxiety sensitivity (Unmarried  $\bar{x}$  = 24.78,  $SD$  = 13.01; Married  $\bar{x}$  = 21.71,  $SD$  = 12.82) and resilience (Unmarried  $\bar{x}$  = 18.52,  $SD$  = 4.49; Married  $\bar{x}$  = 20.37,  $SD$  = 4.24) differ significantly in terms of marital status ( $p < .05$ ), but the level of death anxiety doesn't differ (Unmarried  $\bar{x}$  = 9.48,  $SD$  = 2.60; Married  $\bar{x}$  = 9.68,  $SD$  = 2.73). When the obtained results are examined generally, it can be stated that the unmarried participants have higher levels of anxiety sensitivity, and the married participants have higher levels of resilience.

### Findings Regarding Physical Health

The study tested whether levels of anxiety sensitivity, death anxiety, and resilience in terms of physical health differed significantly using an independent samples t-test. In the study, physical health was evaluated regarding whether or not there is a chronic disease. The results are presented in Table 6.

**Table 6.** T-Test Result Regarding Examining Anxiety Sensitivity, Death Anxiety, and Resilience Levels in terms of Physical Health

	Levene's Test		T-Test		95% Confidence Interval		
	<i>F</i>	<i>p</i>	<i>t</i>	<i>SD</i>	<i>p</i>	Lower	Upper
Anxiety sensitivity	1.627	.202	-.488	941	.626	-2.99333	1.80120
Death anxiety	.804	.370	-1.008	941	.314	-.74114	.23813
Resilience	.305	.581	.062	941	.951	-.79709	.84910

As presented in Table 6, the levels of anxiety sensitivity (Participants who have a chronic disease  $\bar{x}$  = 23.86,  $SD$  = 13.94; Participants who do not have a chronic disease  $\bar{x}$  = 23.27,  $SD$  = 12.86), death anxiety (Participants who have a chronic disease  $\bar{x}$  = 9.79,  $SD$  = 2.51; Participants who do not have a chronic disease  $\bar{x}$  = 9.54,  $SD$  = 2.68), and resilience (Participants who have a chronic disease  $\bar{x}$  = 19.36,  $SD$  = 4.63; Participants who do not have a chronic disease  $\bar{x}$  = 19.39,  $SD$  = 4.44) are not differ significantly in terms of physical health ( $p > .05$ ).

### Findings Regarding Working Status

ANOVA was used to determine whether the levels of anxiety sensitivity, death anxiety, and resilience differed in terms of working status (student, unemployed, employed, retired) in the COVID-19 pandemic process. Before performing ANOVA, whether the data set is homogeneously distributed or not was examined by Levene's test. It was viewed that the data related to the variables of anxiety sensitivity (Levene's test:  $F_{(3, 939)} = 2.254$ ,  $p = .081$ ), death anxiety (Levene's test:  $F_{(3, 939)} = 2.079$ ,  $p = .101$ ), and resilience

(Levene’s test:  $F_{(3, 939)} = .283, p = .838$ ) displayed a homogeneous distribution. The analysis results are presented in Tables 7, 8, and 9.

**Table 7. Descriptive Statistics Results**

		N	$\bar{x}$	SD	Minimum	Maximum
Anxiety sensitivity	Student	201	27.19	12.70	2.00	67.00
	Unemployed	173	25.56	14.15	1.00	62.00
	Employed	535	21.29	12.27	.00	60.00
	Retired	34	21.91	13.70	.00	50.00
	Total	943	23.35	13.01	.00	67.00
Death anxiety	Student	201	9.83	2.40	4.00	16.00
	Unemployed	173	9.86	2.61	3.00	16.00
	Employed	535	9.34	2.75	.00	18.00
	Retired	34	10.21	2.72	6.00	18.00
	Total	943	9.57	2.66	.00	18.00
Resilience	Student	201	17.89	4.42	6.00	30.00
	Unemployed	173	18.84	4.27	6.00	30.00
	Employed	535	20.07	4.40	6.00	30.00
	Retired	34	20.26	4.45386	11.00	30.00
	Total	943	19.39	4.46638	6.00	30.00

**Table 8. One-Way Analysis of Variance Test Result**

		Sum of Squares	df	Mean Square	F	p
Anxiety sensitivity	Between groups	6157.408	3	2052.469	12.573	.000
	Within groups	153283.409	939	163.241		
	Total	159440.817	942			
Death anxiety	Between groups	68.349	3	22.783	3.247	.021
	Within groups	6588.569	939	7.017		
	Total	6656.918	942			
Resilience	Between groups	777.376	3	259.125	13.507	.000
	Within groups	18014.119	939	19.184		
	Total	18791.495	942			

When Tables 7 and 8 are examined, it is observed that the levels of anxiety sensitivity ( $F_{(3, 939)} = 12.573, p = .000$ ), death anxiety ( $F_{(3, 939)} = 3.247, p = .021$ ), and resilience ( $F_{(3, 939)} = 13.507, p = .000$ ) differ significantly according to the working status. Scheffe’s test was conducted to determine the groups that differed, and the reached results are presented in Table 9.

**Table 9. Scheffe Test Result**

Dependent Variable	(I) Working Status	(J) Working Status	Mean Difference (I-J)	Sig.
Anxiety sensitivity	Student	Unemployed	1.62836	.680
		Employed	<b>5.90307*</b>	<b>.000</b>
		Retired	5.27729	.175
	Unemployed	Student	-1.62836	.680
		Employed	<b>4.27471*</b>	<b>.002</b>
		Retired	3.64893	.509
	Employed	Student	<b>-5.90307*</b>	<b>.000</b>
		Unemployed	<b>-4.27471*</b>	<b>.002</b>
		Retired	-.62578	.994
	Retired	Student	-5.27729	.175
		Unemployed	-3.64893	.509
		Employed	.62578	.994
Death anxiety	Student	Unemployed	-.02962	1.000
		Employed	.48195	.185
		Retired	-.38001	.897
	Unemployed	Student	.02962	1.000
		Employed	.51157	.182
		Retired	-.35039	.919
	Employed	Student	-.48195	.185
		Unemployed	-.51157	.182
		Retired	-.86196	.337
	Retired	Student	.38001	.897
		Unemployed	.35039	.919
		Employed	.86196	.337
Resilience	Student	Unemployed	-.94760	.227
		Employed	<b>-2.17861*</b>	<b>.000</b>
		Retired	<b>-2.37416*</b>	<b>.037</b>
	Unemployed	Student	.94760	.227
		Employed	<b>-1.23101*</b>	<b>.016</b>
		Retired	-1.42656	.390
	Employed	Student	<b>2.17861*</b>	<b>.000</b>
		Unemployed	<b>1.23101*</b>	<b>.016</b>
		Retired	-.19555	.996
	Retired	Student	<b>2.37416*</b>	<b>.037</b>
		Unemployed	1.42656	.390
		Employed	.19555	.996

When Table 9 is examined, it is viewed that the anxiety sensitivity and resilience levels of the employed individuals (Anxiety sensitivity  $\bar{x}$ = 21.29; Resilience  $\bar{x}$ = 20.07), students (Anxiety sensitivity  $\bar{x}$ = 27.19; Resilience  $\bar{x}$ = 17.89), and unemployed individuals (Anxiety sensitivity  $\bar{x}$ = 25.56; Resilience  $\bar{x}$ = 18.84) differ significantly. In other words, it can be stated that employed individuals' anxiety sensitivity levels are lower than the students and the unemployed individuals; however, employed individuals' resilience levels are higher than the students and unemployed individuals. Furthermore, when Table 9 is examined, it is observed that the resilience levels of the retired individuals (Resilience  $\bar{x}$ = 20.26) and the students (Resilience  $\bar{x}$ = 17.89) differed significantly. The resilience levels of the retired individuals were found to be higher than

the students. In other possible binary comparisons between groups, it is seen that this difference is not statistically significant, although there is a difference in terms of arithmetic means.

### Discussion and Conclusion

In the present study, it was observed that there was a significant positive relationship between anxiety sensitivity and death anxiety, but there was a meaningful negative relationship between anxiety sensitivity and resilience. It was also found that there was not a significant relationship between death anxiety and resilience. But Siegel et al. (2021) found that significant relations between anxiety sensitivity and death anxiety. Another result of the present study was that there was a significant negative relationship between anxiety sensitivity and resilience. Although not a study examining the relationship between anxiety sensitivity and psychological resilience is available in the literature, there are some studies examining the relationship between anxiety and resilience (Açıkgöz, 2019; Bulut, 2016). These two studies found a significant negative relationship between anxiety and resilience, which supports the finding of this study. It was also observed in the literature that anxiety sensitivity is a risk factor for many disorders such as anxiety disorder (Andreatta et al., 2020), panic disorder (Schmidt et al., 2006), and post-traumatic stress disorder (Marshall et al., 2010). Therefore, it can be stated that anxiety sensitivity incorporates an individual into the risk group against this kind of disorder, and it is also risky for their psychological states. For this reason, a significant negative relationship was found between anxiety sensitivity and resilience levels in the present study. In another result of the study, no significant relationship was found between death anxiety and psychological resilience. Similarly, Öz et al. (2012) found no meaningful relationship between death anxiety and resilience. The reason for this finding may be that the level of resilience is affected by different concepts. When the literature is examined, it is seen that these variables include a) good interpersonal relationships, b) trust to expand social relationships and relationships with other individuals, 3) having internal resources such as optimism and positive thinking, and 4) high spirituality and religiosity (Boardman et al., 2008; Hegney et al., 2007; Tedeschi & Kilmer, 2005; Wahyudi & Partini, 2017).

As a result of this study, it was also found that the levels of anxiety sensitivity and resilience differed significantly in terms of gender, but the level of death anxiety did not vary in terms of gender. One reason for this may be the low average age ( $\bar{x} = 31.55$ ) of the individuals participating in the study. Because it is known that the death rate of the Covid-19 virus in young people is low (Hotar et al., 2020). For this reason, death anxiety may not differ in terms of gender in individuals participating in this study conducted during the Covid-19 process. When the reached results are evaluated in general, it can be stated that the women had a higher level of anxiety sensitivity and the men had a higher level of resilience. In the literature, research findings support that women have a higher level of anxiety sensitivity than men (DeWolfe et al., 2019; Norr et al., 2015). In the literature, it is also stated that environmental factors affect men's level of anxiety sensitivity; however, in women, environmental factors and hereditary factors affect anxiety sensitivity (Taylor et al., 2008). The reason why it was found in the present study that women have higher levels of anxiety sensitivity than men, maybe because women are more anxious, neater, and meticulous due to their heredity and their family's raising style.

In the study, the men's resilience levels were found to be higher compared to women. In the literature, there are research results that have supported this finding (Portnoy et al., 2018) and reported that women's resilience levels are higher than men (Açıkgöz, 2016; Bahadır, 2009). However, research results indicate that resilience does not differ in terms of gender (Aydın & Egemberdiyeva, 2018; Özer, 2013). When the results of this study are evaluated, it can be stated that resilience does not differ clearly in terms of gender. This is because an essential concept like resilience can not be dependent only on gender and may be affected by many factors.

As a result of the study, it was observed that the levels of anxiety sensitivity and resilience differed significantly in terms of marital status, but the level of death anxiety did not differ in terms of marital status. When the literature is examined, it is seen that marital status does not make a difference on death anxiety in the same way as the result of this research (Yüksel et al., 2017). In Yüksel et al.'s (2017) study, as in the current study, marital status does not make a difference on death anxiety in middle-aged adults. The reason for this may be that with the increase in life expectancy in the world, middle-aged adults feel themselves far from death. Therefore, marital status may not have made a difference on death anxiety in middle-aged single



or married individuals. When the reached results are evaluated in general, it can be stated that single individuals have higher anxiety sensitivity levels and married individuals have higher resilience levels. As a result of the study supporting this finding, it was found that single individuals have higher anxiety sensitivity levels than married (Aydede, 2019). Moreover, a research result indicates that the resilience level is higher in married individuals than unmarried individuals (Kim et al., 2011). In summary, it can be stated that married individuals' level of resilience was found to be higher than the single individuals might be that married individuals get social support from their close environment. It can be said that with the social support they get, married individuals can easily cope with the events that cause stress and anxiety in life; besides, they can increase their level of resilience.

In the present study, it was observed that the levels of anxiety sensitivity, death anxiety, and resilience did not differ significantly in terms of physical health. In the literature, although not a study examining if the levels of anxiety sensitivity, death anxiety, and psychological resilience differ in terms of physical health, there is a research result indicating that anxiety sensitivity plays an essential role in maintaining chronic pain (Martin et al., 2007). It can be stated that this finding differs from the present research finding. Since individuals with chronic diseases receive regular control, medical treatment, and drug therapy because of these diseases, they can continue their lives as they are accustomed to chronic diseases. For this reason, whether participants have a chronic disease or not might have affected their anxiety sensitivity, death anxiety, and psychological resilience levels.

In the study, it was found that the anxiety sensitivity levels of the employed individuals were lower compared to the students and unemployed individuals. In the literature, it is reported that working improves individuals' physical and psychological health. (Broom et al., 2006); it might be for this reason that the anxiety sensitivity levels of the employed individuals were found to be lower than students and the unemployed individuals in the present study. Another finding of the study is that the resilience levels of the employed individuals were higher than students and unemployed individuals. In the study was conducted by Broom et al. (2006), it was found that working improved the individuals' psychological health and it also increased the individuals' resilience levels. From this point of view, the working may have results that increase the resilience of individuals, such as meeting the material needs of individuals and experiencing feelings of productivity. In this context, this might explain why employed individuals had higher resilience levels than the students and unemployed individuals. Another finding of the study is that retirement individuals have higher resilience levels than students. In the literature, not a study examining this was encountered. Since the educational processes ranging from preschool to post-graduate levels suffered a setback in the COVID-19 process, online education replaced formal education, and students have become distant from their social circles, students' lives underwent serious changes and were affected. Also, it can be said that there is a less serious change in the lives of retired people compared to the students during the virus period. Since the material resource required for their basic needs came as a retirement pension, they might feel at ease psychologically. Therefore, the resilience levels of retired individuals may be higher than students.

The COVID-19 pandemic process is affecting the lives of people seriously in many dimensions all over the world. As there is no precise date for the pandemic process to end, adapting to live with this pandemic is essential for the individual's psychological health. It is seen that many countries are preparing to give psychosocial and psychological support in addition to medical interventions to cope with the psychological effects created by the virus. When considering the finding obtained in the present study, individuals with high anxiety sensitivity levels were affected more by the COVID -19 pandemic, but those with high resilience levels were affected less. Therefore, individuals with high anxiety sensitivity and low resilience levels can receive online preventive and supportive psychological health services (e.g., online and phone psychological counseling and online self-help groups). In addition, research can be conducted to determine and enrich the factors affecting resilience. According to the research findings, the resilience of single individuals was lower than that of married individuals. Based on this finding, intervention programs can be made to strengthen social support systems in order to increase the resilience levels of single individuals.

## Limitations

Some limitations can be stated for this study. First of all, since the quarantines continue during the Covid-19 process, it is not possible to check the accuracy of the data collected on the online platform. Secondly, children and adolescents were not included among the individuals participating in the study. In the future, research on children and adolescents can be conducted with these concepts.

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## Conflict of interest statement

The authors declare that they have no conflict of interest.

## Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Informed consent was obtained from all participants and their parents in the study.

## Research and Publication Ethics Statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee. In this context, ethical permission was obtained from Sakarya University Ethics Committee. Document Date and Number: 06/07/2020-E.5971

## Contribution Rates of Authors to the Article

The authors provided an equal contribution to this work.

## REFERENCES

- Abdel-Khalek, A. M. (2005). Death anxiety in clinical and non-clinical groups. *Death Studies*, 29(3), 251-259. <https://doi.org/10.1080/07481180590916371>
- Açıkgöz, M. (2016). *Examining the relationship among the psychological resilience, humour styles and happiness level of medicine school students* [Master Thesis]. Retrieved from CoHE Thesis Center (Thesis No: 443054).
- Açıkgöz, S. C. (2019). *Depression, panic disorder and general anxiety disorder's relation with resilience* [Master Thesis]. Retrieved from CoHE Thesis Center (Thesis No: 580399).
- Adelbratt, S., & Strang, P. (2000). Death anxiety in brain tumour patients and their spouses. *Palliative Medicine*, 14(6), 499-507. <https://doi.org/10.1191/026921600701536426>
- Akça, F., & Köse, İ. A. (2008). Adaptation of Death Anxiety Scale (DAS): Validity and reliability studies. *Clinic Psychiatry*, 11(1), 7-16. Retrieved from [https://www.journalagent.com/kpd/pdfs/KPD\\_11\\_1\\_7\\_16.pdf](https://www.journalagent.com/kpd/pdfs/KPD_11_1_7_16.pdf)
- Aydede, H. Z. (2019). *The relationship between vicarious embarrassment, anxiety sensitivity and empathic tendency* [Master Thesis]. Retrieved from CoHE Thesis Center (Thesis No: 545160).
- Aydın, M., & Egemberdiyeva, A. (2018). An investigation of university students' resilience levels. *Turkey Education Journal*, 3(1), 37-53. Retrieved from <https://dergipark.org.tr/tr/pub/turkegitimdergisi/issue/37897/333333>
- Bahadır, E. (2009). *The resilience levels of students having started for education in faculties with health* [Master Thesis]. Retrieved from CoHE Thesis Center (Thesis No: 236965).

- Beck, T. A. (2005). *Cognitive therapy and emotional disorders*. In A. Türkcan & V. Öztürk (Trans.). İstanbul: Litera Yayıncılık.
- Blakey, S. M., Reuman, L., Jacoby, R. J., & Abramowitz, J. S. (2015). Tracing "fearbola": Psychological predictors of anxious responding to the threat of Ebola. *Cognitive Therapy and Research, 39*(6), 816-825. <https://doi.org/10.1007/s10608-015-9701-9>
- Boardman, J. D., Blalock, C. L., & Button, T. M. (2008). Sex differences in the heritability of resilience. *Twin Research and Human Genetics, 11*(1), 12-27. <https://doi.org/10.1375/twin.11.1.12>
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. <https://doi.org/10.1037/0003-066X.59.1.20>
- Bonanno, G. A., Ho, S. M. Y., Chan, J. C. K., Kwong, R. S. Y., Cheung, C. K. Y., Wong, C. P. Y., & Wong, V. C. W. (2008). Psychological resilience and dysfunction among hospitalized survivors of the SARS epidemic in Hong Kong: A latent class approach. *Health Psychology, 27*(5), 659-667. <https://doi.org/10.1037/0278-6133.27.5.659>
- Broom, D. H., D'souza, R. M., Strazdins, L., Butterworth, P., ... Rodgers, B. (2006). The lesser evil: Bad jobs or unemployment? A survey of mid-aged Australians. *Social Science & Medicine, 63*(3), 575-586. <https://doi.org/10.1016/j.socscimed.2006.02.003>
- Bulut, B. (2016). *The investigation of relationship between anxiety, social support and psychological resilience of adolescents* [Master Thesis]. Retrieved from CoHE Thesis Center (Thesis No: 433837).
- DeWolfe, C. E., Watt, M. C., Romero-Sanchiz, P., & Stewart, S. H. (2020). Gender differences in physical activity are partially explained by anxiety sensitivity in post-secondary students. *Journal of American College Health, 68*(3), 219-222. <https://doi.org/10.1080/07448481.2018.1549048>
- Doğan, T. (2008). Adaptation of the Brief Resilience Scale into Turkish: A validity and reliability study. *The Journal of Happiness & Well-Being, 3*(1), 93-102. Retrieved from <https://www.journalofhappiness.net/article/kisa-psikolojik-saglamlik-olceginin-turkce-uyarlamasi-gecerlik-ve-guvenirlik-calismasi>
- Elizarraras-Rivas, J., Vargas-Mendoza, J. E., Mayoral-Garcia, M., Matadamas-Zarate, C., Elizarraras-Cruz, A., Taylor, M., & Agho, K. (2010). Psychological response of family members of patients hospitalised for influenza A/H1N1 in Oaxaca, Mexico. *BMC Psychiatry, 10*(1), 104-113. <https://doi.org/10.1186/1471-244X-10-104>
- Erdoğan, M. Y., & Özkan, M. (2007). The Relationships between death anxiety with dispositional symptoms and socio-demographic variables of individuals from different religions. *İnönü Üniversitesi Tıp Fakültesi Dergisi, 14*(3), 171-179. Retrieved from <https://www.trdizin.gov.tr/publication/paper/detail/TVRBMU1qWTFOUT09>
- Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases, 10*(7), 1206-1212. <https://doi.org/10.3201/eid1007.030703>
- Hegney, D. G., Buikstra, E., Baker, P., Rogers-Clark, C., Pearce, S., Ross, H., ... & Watson-Luke, A. (2007). Individual resilience in rural people: A Queensland study, Australia. *Rural and remote health, 7*(4), 1-13. Retrieved from <https://search.informit.org/doi/epdf/10.3316/informit.516561880817531>
- Hotar, N., Omay, R. E., Bayrak, S., Kuruüzüm, Z., & Ünal, B. (2020). Social reflections of the pandemic. *İzmir Journal of Economics, 35*(2), 211-220. <https://doi.org/10.24988/ije.202035201>
- Kilpatrick, D. G., Resnick, H. S., Milanak, M. E., Miller, M. W., Keyes, K. M., & Friedman, M. J. (2013). National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. *Journal of Traumatic Stress, 26*(5), 537-547. <https://doi.org/10.1002/jts.21848>
- Kim, B. N., Oh, H. S., & Park, Y. S. (2011). A study of nurses' resilience, occupational stress and satisfaction. *Korean Journal of Occupational Health Nursing, 20*(1), 14-23. <https://doi.org/10.5807/kjohn.2011.20.1.014>

- Kukihara, H., Yamawaki, N., Uchiyama, K., Arai, S., & Horikawa, E. (2014). Trauma, depression and resilience of earthquake/tsunami/nuclear disaster survivors of Hirono. Fukushima. Japan. *Psychiatry and Clinical Neurosciences*, 68(7), 524-533. <https://doi.org/10.1111/pcn.12159>
- Lau, J. T., Kim, J. H., Tsui, H., & Griffiths, S. (2007). Perceptions related to humanavian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population. *American Journal Infection Control*, 35(1), 38-49. <https://doi.org/10.1016/j.ajic.2006.07.010>
- Luyt, C. E., Combes, A., Becquemin, M. H., Beigelman-Aubry, C., Hatem, S., Zraik, N. ... REVA Study Group. (2012). Long-term outcomes of pandemic 2009 influenza A(H1N1)-associated severe ARDS. *Chest*, 142(3), 583-592. <https://doi.org/10.1378/chest.11-2196>
- Mantar, A., Yemez, B., & Alkın, T. (2010). The validity and reliability of the Turkish version of the Anxiety Sensitivity Index-3. *Turkish Journal of Psychiatry*, 21(3), 225-234. Retrieved from <http://www.turkpsikiyatri.com/default.aspx?modul=tekSayi&sa=75>
- Martin, A. L., McGrath, P. A., Brown, S. C., & Katz, J. (2007). Anxiety sensitivity, fear of pain and pain-related disability in children and adolescents with chronic pain. *Pain Research and Management*, 12(4), 267-272. <https://doi.org/10.1155/2007/897395>
- McNally, R. J. (2002). Anxiety sensitivity and panic disorder. *Biological Psychiatry*, 52(10), 938-946. [https://doi.org/10.1016/S0006-3223\(02\)01475-0](https://doi.org/10.1016/S0006-3223(02)01475-0)
- Naragon-Gainey, K. (2010). Meta-analysis of the relations of anxiety sensitivity to the depressive and anxiety disorders. *Psychological Bulletin*, 136(1), 128-150. <https://doi.org/10.1037/a0018055>
- Noel, V. A., & Francis, S. E. (2011). A meta-analytic review of the role of child anxiety sensitivity in child anxiety. *Journal of Abnormal Child Psychology*, 39(5), 721-733. <https://doi.org/10.1007/s10802-011-9489-3>
- Norr, A. M., Albanese, B. J., Allan, N. P., & Schmidt, N. B. (2015). Anxiety sensitivity as a mechanism for gender discrepancies in anxiety and mood symptoms. *Journal of Psychiatric Research*, 62, 101-107. <https://doi.org/10.1016/j.jpsychires.2015.01.014>
- Olatunji, B. O., & Wolitzky-Taylor, K. B. (2009). Anxiety sensitivity and the anxiety disorders: A meta-analytic review and synthesis. *Psychological Bulletin*, 135(6), 974-999. <https://doi.org/10.1037/a0017428>
- Öz, F., İnci, E., & Bahadır Yılmaz, E. (2012). The death anxiety and resilience levels of nursing students and relevance between these levels. *New Symposium Journal*, 50(4), 229-236. Retrieved from [https://www.researchgate.net/publication/288143410\\_The\\_death\\_anxiety\\_and\\_resilience\\_levels\\_of\\_nursing\\_students\\_and\\_relevance\\_between\\_these\\_levels](https://www.researchgate.net/publication/288143410_The_death_anxiety_and_resilience_levels_of_nursing_students_and_relevance_between_these_levels)
- Özer, E. (2013). *An investigation of university students' resilience level on the view of trait emotional eq and the five factor personality traits* (Doctoral Dissertation). (Master Thesis). Retrieved from CoHE Thesis Center (Thesis No: 347489).
- Portnoy, G. A., Relyea, M. R., Decker, S., Shamaskin-Garroway, A., ... Haskell, S. G. (2018). Understanding gender differences in resilience among veterans: Trauma history and social ecology. *Journal of Traumatic Stress*, 31(6), 845-855. <https://doi.org/10.1002/jts.22341>
- Russac, R. J., Garliff, C., Reece, M., & Spottswood, D. (2007). Death anxiety across the adult years: An examination of age and gender effects. *Death Studies*, 31(6), 549-561. <https://doi.org/10.1080/07481180701356936>
- Sahni, S. P., Kumar, V., Srivastava, D. K., & Jain, G. (2016). Psychological responses to influenza A. H1N1 ("Swine Flu") in India. *Journal of Psychological Research*, 11(1), 201-2013. Retrieved from <http://www.printspublications.com/journal/journalofpsychosocialresearch135031246130386373>
- Schmidt, N. B., Zvolensky, M. J., & Maner, J. K. (2006). Anxiety sensitivity: Prospective prediction of panic attacks and Axis I pathology. *Journal of Psychiatric Research*, 40(8), 691-699. <https://doi.org/10.1016/j.jpsychires.2006.07.009>

- Schwerdtle, P. M., De Clerck, V., & Plummer, V. (2017). Experiences of Ebola survivors: Causes of distress and sources of resilience prehospital and disaster. *Medicine*, 32(03), 234–239. <https://doi.org/10.1017/s1049023x17000073>
- Sherman, D. W., Norman, R., & McSherry, C. B. (2010). A comparison of death anxiety and quality of life of patients with AIDS and their family care givers. *Journal of the Association of Nurses in AIDS Care*, 21(2), 99-112. <https://doi.org/10.1016/j.jana.2009.07.007>
- Siegel, A., Mor, I., & Lahav, Y. (2021). Profiles in COVID-19: Peritraumatic stress symptoms and their relation with death anxiety, anxiety sensitivity, and emotion dysregulation. *European Journal of Psychotraumatology*, 12(1). <https://doi.org/10.1080/20008198.2021.1968597>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15, 194–200. <https://doi.org/10.1080/10705500802222972>
- Stewart, S. H., Sheryy, S. B., Watt, M. C., Grant, V. V., & Hadjistavropoulos, H. D. (2008). Psychometric evaluation of the multidimensional inventory of hypochondriacal traits: Factor structure and relationship to anxiety sensitivity. *Journal of Cognitive Psychotherapy: An International Quarterly*, 22(2), 97-114. <https://doi.org/10.1891/0889-8391.22.2.97>
- Stewart, S. H., Taylor, S., & Baker, J. M. (1997). Gender differences in dimensions of anxiety sensitivity. *Journal of Anxiety Disorders*, 11(2), 179-200. [https://doi.org/10.1016/S0887-6185\(97\)00005-4](https://doi.org/10.1016/S0887-6185(97)00005-4)
- Taylor, S., Jang, K. L., Stewart, S. H., & Stein, M. B. (2008). Etiology of the dimensions of anxiety sensitivity: A behavioral–genetic analysis. *Journal of Anxiety Disorders*, 22(5), 899-914. <https://doi.org/10.1016/j.janxdis.2007.09.005>
- Taylor, S., Zvolensky, M. J., Cox, B. J., Deacon, B., Heimberg, R. G., Ledley, D. R., ... Cardenas, S. J. (2007). Robust dimensions of anxiety sensitivity: Development and initial validation of the Anxiety Sensitivity Index-3. *Psychological Assessment*, 19(2), 176-188. <https://doi.org/10.1037/1040-3590.19.2.176>
- Tedeschi, R. G., & Kilmer, R. P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology: Research and Practice*, 36(3), 230–237. <https://doi.org/10.1037/0735-7028.36.3.230>
- Templer, D. I. (1970). The construction and validation of a Death Anxiety Scale. *Journal of General Psychology*, 82(2), 165–177. <https://doi.org/10.1080/00221309.1970.9920634>
- Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice*, 18(1), 3–8. <https://doi.org/10.1097/00004650-200401000-00002>
- T. C. Sağlık Bakanlığı. (2020). *Current situation in Turkey: Turkey daily coronavirus table*. Retrieved from <https://covid19.saglik.gov.tr/>
- Wahyudi, A., & Partini, S. (2018). *Factors affecting individual resilience*. In 1st International Conference on Education Innovation (Icei 2017). Atlantis Press.
- Wheaton, M. G., Mahaffey, B., Timpano, K. R., Berman, N. C., & Abramowitz, J. S. (2012). The relationship between anxiety sensitivity and obsessive-compulsive symptom dimensions. *Journal of Behavior Therapy and Experimental Psychiatry*, 43(3), 891-896. <https://doi.org/10.1016/j.jbtep.2012.01.001>
- Wheaton, M. G., Abromowitz, J. S., Berman, N. C., Fabricant, L. E., & Olantunji, B. O. (2012). Psychological predictors of anxiety in response to the H1N1 (swine flu) pandemic. *Cognitive Therapy and Research*, 36(3), 210-218. <https://doi.org/10.1007/s10608-011-9353-3>
- WHO (2019). *Coronavirus disease 2019 (COVID-19) situation report-85*. Retrieved from [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57\\_10](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10)

- WHO (2020). *Coronavirus disease 2019 (COVID-19) situation report-121*. Retrieved from [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200520-covid-19-sitrep-121.pdf?sfvrsn=c4be2ec6\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200520-covid-19-sitrep-121.pdf?sfvrsn=c4be2ec6_2)
- Yalom, I. D. (2018). *Existential psychotherapy*. Z. Babayiğit (Trans.). İstanbul: Pegasus Yayınevi.
- Yüksel, M. Y., Güneş, F., & Akdağ, C. (2017). Investigation of the death anxiety and meaning in life levels among middle-aged adults. *Spiritual Psychology and Counseling*, 2(2), 165-181. <https://doi.org/10.12738/spc.2017.2.0024>