

RESEARCH ARTICLE

Analyzing the Mediating Effect of Psychological Resilience on the Relationship between COVID-19 Fear and Happiness

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ABSTRACT

Background/purpose – Psychological resilience is considered a factor that can support teachers' adaptation to rapidly changing situations such as COVID-19, and in turn help to reduce the fear they may experience. The current study aims to examine the effect of COVID-19 fear on happiness through the mediating effect of psychological resilience based on teachers' perceptions.

Materials/methods – The study was designed according to the relational survey model, and was conducted with the participation of 346 teachers. Research data were collected through online surveys. The study used the Sobel, Aroian, and Goodman tests to test the significance of the effect of the mediator variables between the dependent and independent variables

Results – The results of the study showed that teachers' fear of COVID-19 significantly affected their happiness level. However, it was found that fear related to COVID-19 significantly predicted resilience and teachers' resilience level had a significant effect on their happiness.

Conclusion – Fear and resilience associated with COVID-19 have a significant impact on happiness. In addition, psychological resilience was found to have a mediating effect on the relationship between fear and happiness associated with COVID-19. The findings of this study will lead the other researchers to expand their studies to assess other behavioral variables, such as apathy and depression that might influence the relationship between fear of covid, resilience and happiness.

Keywords – COVID-19, pandemic, psychological resilience, COVID-19 fear, happiness

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1. INTRODUCTION

For as long as man has existed, the Earth has experienced various natural events, natural disasters, wars, and epidemics that have affected many lives. In particular, the sudden appearance of epidemic diseases, their rapid progression throughout human society, and their far-reaching effects have a varied impact for both societies and individuals. The COVID-19 pandemic also triggered a severe impact on the psyche of many individuals, as well as affecting the social structures of healthcare, education, economics, politics, and the arts. One of the reasons that exacerbated these types of negative effect from the pandemic was the prolonged restrictions imposed on the use of open spaces, and the various health-related hazards caused by the virus. These multiple effects caused by infectious diseases on both the lives of individual and societal life in general have demonstrated that it is necessary to consider the COVID-19 pandemic together with the psychological impact on the individuals within society. People worked to protect themselves and their family from the disease, whilst also attempting to maintain their psychological well-being. Studies on this topic have reported that COVID-19 can trigger psychological problems (Gill et al., 2022; Stankovska et al., 2020; Wang et al., 2020).

In this era, the phenomenon of change is a habitual situation, and is mostly accepted as just a part of modern-day life. However, it did not prove easy for most people to get used to the rapidly implemented and comprehensive changes affecting their daily life due to COVID-19. The pandemic also triggered psychological effects due to the requirements for social and individual behavioral changes (Karakose et al., 2022; Tilak & Kumar, 2022). People had to very quickly become accustomed to significantly curbed freedoms to travel, restrictions on meeting family and friends for special days (e.g., weddings, funerals, etc.), paying attention to maintaining social distance between themselves and others, and the restrictions applied to public entertainment venues, social gatherings, and worship activities. It is known that social isolation helps to prevent the spread of epidemics, but equally it can trigger psychological issues. These common pressure points resulted in COVID-19 causing widespread stress, grief, anxiety, worry, discomfort, and various other psychological problems amongst individuals (Baykal, 2020; Bilge & Bilge, 2021; Bozdog, 2020; Karal & Bicer, 2020; Kimter, 2020; Yüksel, Çoban & Yazıcı, 2021). In many studies to be found in the literature, fear of COVID-19 was shown to have caused negative emotions such as depression and anxiety in individuals (Lee et al., 2020; Matos et al., 2022; Ornell et al., 2020).

From this perspective, it is considered important to examine the relationship between fear and happiness experienced by teachers, and their psychological resilience working within an environment of fear, stress, and uncertainty due to the COVID-19 pandemic. From examining the literature, it is clear that most studies on this topic focus on adults, students or healthcare professionals, with only a limited number conducted with those working in education to study the relationship between happiness and resilience along with COVID-19 fear. In their research, Lara-Cabrera et al. (2021) examined the mediating role of the resilience on the sample of Spanish nurses and the results revealed that resilience played a protective role in the direct relationships of stress with depression, anxiety, and psychological distress. In another research with healthcare workers by Serrão et al. (2021) showed that psychological resilience played a partial mediating role between depression and all burnout dimensions. Satıcı et al. (2020) found out that resilience had a direct effect and an indirect effect on subjective happiness via fear of COVID-19 on Turkish adults. In Kaşıkçı and Peker's (2022) research with university students, it was concluded that a high level of

psychological resilience increases subjective vitality and happiness. One of the indicators of happiness is that individuals experience fewer negative situations such as fear (Moron & Biolik-Moron, 2021). Considering that psychological resilience has the potential to survive individuals' negative experiences, it is inevitable that COVID-19 fear impacts upon happiness and psychological resilience. In the current pandemic period, the study of fear of COVID-19, teachers' happiness, and their psychological resilience is considered to be one of the most important elements of the educational process, and thereby reflects an important contribution to the literature. In this context, the current study aims to investigate the effect of fear of COVID-19 on happiness through the mediating effect of resilience based on teachers' perceptions.

2. LITERATURE REVIEW

Various characteristics of individuals help to make them strong and better equipped to deal with the negative situations encountered in daily life (Demir & Ciftci, 2020). Some of these characteristics are conceptualized as psychological resilience in the literature (Sameroff, 2005). In particular, psychological resilience plays a crucial role in coping with the effects of a pandemic (Kluge, 2020). As such, psychological resilience becomes increasingly important for teachers and other educational professionals, especially during times of crisis such as COVID-19, as those who are psychologically strong in the face of stress and burnout are known to adapt better to the constantly evolving conditions (Brooks, 2022).

Dating back to the 1950s, the concept of resilience came to the fore with the transition from problem-oriented classical psychology to positive psychology, which focuses more on the positive qualities of the individual, and which emerged primarily in the field of medicine. This concept, which originated in Latin, is also referred to as resilience, psychological resilience, psychological empowerment, or the power of self-healing (Ezer, 2017; Gizir, 2007; Guner, 2021). The concept of psychological resilience has been defined in different ways, with Tugade and Fredrickson (2004) referring to resilience as the ability to adapt to stressful life experiences, whilst Karairmak (2006) defined it as perseverance in the face of negative experiences, and Doğan (2015) described it as the ability to successfully overcome negative conditions. According to Earvolino-Ramirez (Earvolino-Ramirez, 2007) resilience is the ability of a person to recover from a disadvantaged or traumatic situation. More generally, psychological resilience is considered to be an individual's ability to not give up in the face of adversity, to remain optimistic and cheerful, to return to normal functioning when faced with extremely stressful situations, whilst protecting one's mental health (Bilge & Bilge, 2021; Karakose, 2015).

It is emphasized that the risk factors to which individuals may be exposed are important for the formation of psychological resilience (Hosoglu et al., 2018). Risk factors are the characteristics of a group of individuals or their situation that predict negative consequences in the future (Arslan, 2015). For psychological resilience to emerge, individuals should activate protective factors in risky situations such as divorce, illness, poverty, and when faced with natural disasters (Guloglu & Karairmak, 2010). Psychological resilience involves adapting to and sustaining negative outcomes using protective factors against the risks to which the individual is exposed. Psychological resilience refers to the individual's positive adaptation despite significant risky or traumatic experiences (Karakose, 2022; Luthar, 2005). During the COVID-19 pandemic, the importance of psychological resilience was seen as increasingly more important for both healthcare professionals and educators.

In the pessimistic picture that emerged under the influence of the COVID-19 pandemic, one of the feelings that people sought out most was happiness. In fact, human beings are generally defined by their feelings, thoughts, and behaviors, with their emotional state having significant control over their behaviors and thoughts. A happy person is assumed to be mentally fit and healthy (Diener et al., 2008). In this context, happiness is an important concept that helps to protect the physical and mental health of individuals (Altuntas & Genc, 2020; Cihangir et al., 2018). A growing interest in positive psychology, which aims to focus on the strengths of the individual, has also begun to address the relationship between happiness and resilience. Researchers have found that the concept of resilience to be among the determinants of happiness in individuals (Goldstein, 2005; Rutter, 2006; Soylyu, 2018).

Scientific disciplines that aim to understand the individual and society have declared happiness as a significant goal to be achieved, with happiness considered the most fundamental component for experiencing what is deemed to be a good life (Begum et al., 2014; Karakose & Malkoc, 2021; Can & Cantez, 2018; Arslan, 2015). Happiness is a concept that has been thought about and its definition attempted since ancient times. Aristotle defined happiness as the feeling that an individual experiences when their needs are met through motivation (Yazici Celebi & Celebi, 2020). However, other definitions of happiness have also been put forth, with some associated more with positive emotions than negative emotions Kangal (2013), Karakose et al. (2016), Özdemir & Koruklu (2011) the fulfilment of all one's desires Gülcan & Bal (2014), and experiencing the feeling of being perfect in every way (Layard, 2005). Moreover, the concept of happiness is also referred to as subjective well-being in the literature. Since happiness is a general assessment of life as a whole, it is influenced by many variables such as religion, values, economy, marriage, self-criticism, and communication. In this regard, psychological resilience, which is a subject of study in the current research, is just one of these variables (Yazici Celebi & Celebi, 2020). As a general assessment, it can be said that the COVID-19 pandemic negatively affects both teachers' satisfaction happiness and their psychological resilience.

With the ubiquitous spread of the COVID-19 disease, schools and other educational institutions were soon closed to face-to-face education, which represented a new and difficult process for students, teachers, and school administrators alike, as well as for the students' parents. One of the emotions that individuals described experiencing during this difficult process was fear. Studies have shown that during the COVID-19 pandemic, people were afraid of contracting the disease or infecting their loved ones (Berger et al., 2022; Boer & Asino, 2022; Fukuda & Fukuda, 2022). In addition, teachers were found to feel uncomfortable and worried about their students due to the uncertainties that arose when the schools generally reopened during the latter stages of the pandemic (Kim et al., 2021). Even prior to the pandemic, many teachers experienced varying levels of stress throughout their professional careers. Therefore, the added stress caused by the fear associated with COVID-19 only exacerbated the teachers' existing emotional distress (Brooks et al., 2022). Despite all of these negative aspects and difficult conditions, teachers around the world worked to keep the teaching profession as healthy as possible.

Alternative teaching and learning methods were needed to reduce the negative impact of the COVID-19 pandemic on the education system. In this context, communication technologies such as the Internet, television, and radio have become effective tools for the continuance of education. Among the available technologies, the Internet has proven to be the most appropriate tool for addressing learning difficulties, and has become a transformative tool throughout education and training as it can be used to facilitate the

students' participation in learning activities (Faturoti, 2022; Nikolopoulou, 2022; Tsegay et al., 2022). However, this process has also resulted in certain difficulties for both developed and developing countries. One such obstacle is that students from a low income background often face issues of gaining access to the necessary computer hardware equipped with Internet access (Adedoyin & Soykan, 2020). Another problem is that teachers face attempting to learn to correctly use online software such as Zoom or Google Class in a very short period of time, as seen during the COVID-19 process. Teachers who were unfamiliar with these types of tools and software faced difficulties in delivering online teaching at the beginning (Ikeda, 2022; Kumar et al., 2021; Akbana et al., 2021). This led to teachers experiencing various issues such as stress, burnout, deteriorated sleep patterns, appetite loss, and fear (Minihan et al., 2022). In this context, psychological resilience is considered a factor that can support teachers' adaptation to such rapidly changing situations, and in turn help to reduce the fear they may experience. The current study examines in detail the relationships between teachers' psychological resilience during the COVID-19 pandemic and feelings of fear and happiness.

2.1. Purpose of the Study and Hypotheses

The current study's purpose is the examination of the impact of COVID-19 fear on happiness through the mediating effect of psychological resilience. In this context, the hypotheses developed in accordance with the general objective of the research are presented as follows:

Hypothesis 1 (H1). Fear associated with COVID-19 has a statistically significant effect on happiness (Model-1).

Hypothesis 2 (H2). Fear associated with COVID-19 has a statistically significant effect on psychological resilience (Model-2).

Hypothesis 3 (H3). Psychological resilience has a statistically significant effect on happiness (Model-3).

Hypothesis 4 (H4). Psychological resilience has a mediating effect on the relationship between fear and happiness associated with COVID-19 (Model-4).

Figure 1 illustrates a hypothetical model of the relationships between the variables examined in the study.

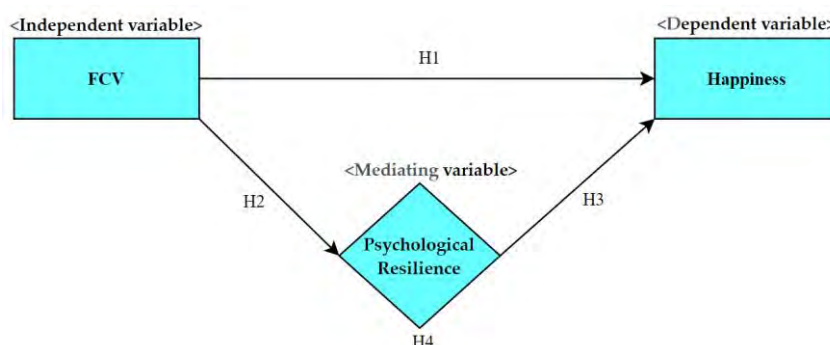


Figure 1. Conceptual model's hypothetical relationships.

3. METHODOLOGY

3.1. Research Design

The study employed a descriptive correlational design to examine relationships among the variables, and hypothesized relationships between teachers' fear of COVID-19, their psychological resilience, and happiness. Relational screening models were then used to show

the relationship or degree between two or more variables (Cresswell, 2012; Fraenkel & Wallen, 2006; Johnson & Christensen, 2014). In the study, Sobel, Aroian, and Goodman tests were used to test the significance of the effect of the mediator variable between the dependent and independent variables.

3.2. Participants

The survey was conducted with the participation of teachers working in public schools in the Turkish province of Kahramanmaraş during the 2021-2022 academic school year. Data were collected electronically through Google Forms. The sample included 363 participants who were identified using the simple random sampling method. From the analyses performed, data from 17 of the initial participants were excluded from the dataset because they presented extreme values, leaving a total of 346 participants whose data was subsequently analyzed in the study. The sociodemographic characteristics of the participants are presented in Table 1.

Table 1. Sociodemographic profile of the respondents.

Variable	Description	<i>f</i> (<i>N</i> = 346)	%
Gender	Male	161	46.5
	Female	185	53.5
Marital status	Never married (single)	84	24.3
	Currently married	247	71.4
	Separated/Divorced /Widowed	15	4.3
Age (years)	25 or less	22	6.4
	26 to 35	149	43.1
	36 to 45	142	41.0
	46 or over	33	9.5
Educational status	Bachelor's degree	256	74.0
	Graduate degree	90	26.0
School type	Kindergarten	29	8.4
	Elementary	120	34.7
	Secondary	137	39.6
	High school	60	17.3

Table 1 shows that 161 (46.5%) of the 346 participants were male and 185 (53.5%) were female; that 84 (24.3%) were never married (single), 247 (71.4%) were currently married, and 15 (4.3%) were separated, divorced, or widowed. Looking at the age range of the participants, it can be seen that 22 (6.4%) were aged 25 years or less, 149 (43.1%) were between 26 and 35 years old, 142 (41.0%) were between 36 and 45 years old, and 33 (9.5%) were aged 46 years or over. Looking at the educational status of the participants, 256 (74.0%) possessed a bachelor's degree, whilst 90 (26.0%) held a graduate degree. Looking at the type of school at which the participants work, it can be seen that 29 (8.4%) work in a kindergarten, 120 (34.7%) in elementary schools, 137 (39.6%) in secondary schools, and 60 (17.3%) in high schools.

3.3. Data Collection and Data Analysis

3.3.1. Measurements

Data for the study were collected using three different scales in addition to the sociodemographic personal information form. These scales are listed as the Fear of COVID-19 Scale (FCV-19S), the Oxford Happiness Questionnaire, and the Brief Resilience Scale. The scales used in the study were reviewed and their application was approved by the Kahramanmaraş Sütçü Imam University, with legal permission granted for the study to be performed with teaching staff as its subjects (Permit: E-72321963-020-40689).

3.3.1.1. The Fear of COVID-19 Scale (FCV-19S)

The Fear of COVID-19 Scale was developed by Ahorsu et al. (2020) as a 5-point, Likert-type instrument (1: *strongly disagree* to 5: *strongly agree*) with one single dimension. The factor loadings of the seven items of the scale ranged from .66 to .74, and the item-total correlations ranged from .47 to .56. The reliability of the scale was calculated with a Cronbach's alpha value of .82. The scale was adapted to the Turkish context by Bakioğlu et al. (2021) and was proved to also be unidimensional as per the original scale, whilst the reliability was calculated to have a Cronbach's alpha value of .88. The fit indices for the validity of the scale were found to be at a good level (CFI = 0.99; TLI = 0.99; RMSEA = 0.03; SRMR = 0.014). In the Turkish version of the scale, the factor loadings of the items ranged from .73 to .82, and the item-total correlations ranged from .62 to .72.

In the current study, the reliability of the scale was calculated to have a Cronbach alpha value of .90. Item-total correlations of the items were calculated using IBM's SPSS 24.0 program and were found to range from .60 to .77. To examine the validity of the scale, confirmatory factor analysis was performed using the MPlus 7.4 program, and it was established that the factor loadings of the items varied between .55 and .84. When the fit indices of the model were examined, the CFI, TLI, RMSEA, and SRMR values were found to be 0.99, 0.98, 0.07, and 0.04, respectively. Looking at the model fit indices, the CFI and TLI values are greater than 0.90, whilst the RMSEA and SRMR values are less than 0.08, which indicates that the model has an acceptable level (Kline, 2011). Also, the χ^2/df value was found to be below the desired value of 4 ($\chi^2(11, 346) = 28.020, p < .001$). Figure 2 presents an illustration of the confirmatory factor analysis model for the Fear of COVID-19 Scale.

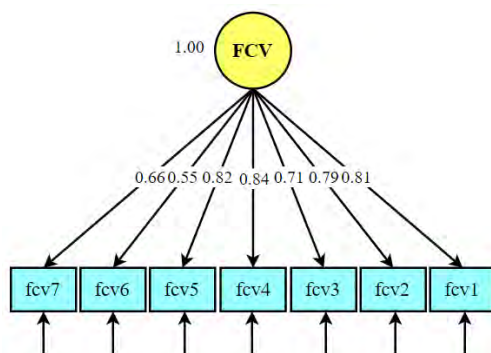


Figure 2. CFA Model – Fear of COVID-19 Scale.

3.3.1.2. Oxford Happiness Questionnaire

The Oxford Happiness Inventory was developed by Argyle et al. (1989) as a 29-item 4-point, Likert-type scale (rated 0 to 3) and then revised by Hills and Argyle (2002) as the Oxford Happiness Questionnaire; an 8-item, 6-point, Likert-type instrument with one single dimension. The internal consistency coefficient of the scale was calculated as being .92.

The revised scale was adapted to the Turkish context by Doğan and Akıncı Çötök (2011), and was proven to be unidimensional as per the original version. For the reliability of the scale, the Cronbach alpha internal consistency coefficient and the test-retest method were calculated as being .74 and .85, respectively. The fit indices for the validity of the scale were at a good level (CFI = 0.95; AGFI = 0.93; RMSEA = 0.07; RMR = 0.04). In the Turkish version of the scale, the factor loadings of the items ranged from .53 to .72, and the item-total correlations varied from .36 to .55.

In the current study, the reliability of the Turkish version of the scale was calculated to have a Cronbach alpha internal consistency coefficient value of .73. Item-total correlations of the items were calculated using IBM's SPSS 24.0 program, and these values were found to vary from .44 to .77. In examining the validity of the scale, confirmatory factor analysis was performed using the MPlus 7.4 program, and it was found that the factor loadings of the items ranged from .22 to .81. When the fit indices of the model were examined, the CFI, TLI, RMSEA, and SRMR values were found to be 0.98, 0.95, 0.03, and 0.05, respectively. Considering these model fit indices, both the CFI and TLI values are greater than 0.90, whilst the RMSEA and SRMR values are less than 0.08, which indicates that the model has an acceptable level [61]. The χ^2 / df value was found to be below the desired value of 4 ($\chi^2 (9, 346) = 18.330, p < .001$). Figure 3 presents an illustration of the confirmatory factor analysis model for the Oxford Happiness Questionnaire.

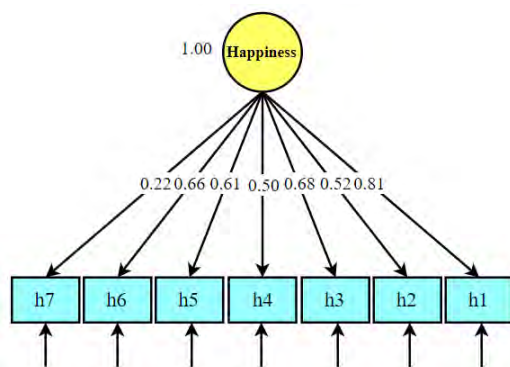


Figure 3. CFA Model – Oxford Happiness Questionnaire.

3.3.1.3. Brief Resilience Scale

The Brief Resilience Scale was developed by Smith et al. (2008) as a 6-item, single-factor, 5-point, Likert-type instrument. The scale was later adapted to the Turkish context by Doğan (2015), who analyzed the psychometric properties of the scale with internal consistency, exploratory and confirmatory factor analyses, and criterion-related validity. From the analyses, the scale was revealed to be a single-factor structure with an internal consistency coefficient of .83. The fit indices for the validity of the scale were found to be at a good level (CFI = 0.99; AGFI = 0.99; RMSEA = 0.05; SRMR = 0.03). In the Turkish version of the scale, the factor loadings of the items ranged from .63 to .79, and the item-total correlations varied from .49 to .66.

In the current study, the reliability of the scale was recalculated using Cronbach's alpha internal consistency coefficient and a value of .87 was obtained. The item-total correlations of the items were calculated using IBM's SPSS 24.0 program, and it was revealed to have values that ranged from .62 to .73. Regarding the scale's validity, it should be noted that the factor loadings of the items, whose confirmatory factor analysis was performed with the MPlus 7.4 program, ranged from .66 to .93. When examining the fit indices of the model, the CFI, TLI, RMSEA, and SRMR values were found to be 0.99, 0.97, 0.07, and 0.07, respectively.

Looking at the model fit indices, the CFI and TLI values are greater than 0.90, whilst the RMSEA and SRMR values are less than 0.08, which indicates that the model has an acceptable level (Minihan et al., 2022). Also, the χ^2 / df value was found to be below the desired value of 4 ($\chi^2 (3, 346) = 7.751, p < .001$). Figure 4 presents an illustration of the confirmatory factor analysis model for the Brief Resilience Scale.

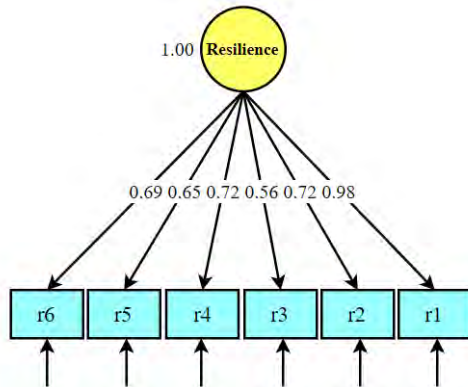


Figure 4. CFA Model – Brief Resilience Scale

3.3.2. Data Analysis

IBM's SPSS 24.0 program and the MPLUS 7.4 program were used in the analysis of the obtained data and in testing the hypotheses of the study. In order to examine factors that affect teachers' happiness level (COVID-19 fear and psychological resilience) with the mediation model in the study, the assumptions of the model were first tested. In the mediation model, teachers' happiness level, COVID-19 fear, and psychological resilience were defined as dependent, independent, and mediator variables, respectively. In the mediation model, four conditions must be met for a mediation relationship to be established (Baron & Kenny, 1986):

1. The effect of the independent variable on the dependent variable should be significant (Model-1).
2. The effect of the independent variable on the mediator variable should be significant (Model-2).
3. When the effect of the independent variable is controlled, the mediator variable significantly predicts the dependent variable (Model-3).
4. When the effect of the mediator variable is controlled, there is a significant decrease in the amount of the relationship between the independent and dependent variables, or the relationship is no longer deemed significant.

In the current study, the significance of the mediator effect was tested using the Sobel, Aroian, and Goodman tests. The finding of statistically significant results from these tests indicates that a third variable mediates the relationship between the independent and dependent variables, and thereby indirectly influences the relationship (1986). The diagrams were created using Flowchart Maker & Online Diagram Software (2022).

4. FINDINGS

The correlation values of the data collection instruments used in the study are presented in Table 2.

Table 2. Correlation values between scales

Scale	FCV	Happiness	Resilience
FCV	1	-.30	-.39
Happiness	-.30	1	.46
Resilience	-.39	.46	1

According to Table 2, there is a negative and significant correlation between FCV and happiness ($r_{\text{FCV-Happiness}} = -.30, p < .05$; $r_{\text{FCV-Resilience}} = -.30, p < .05$), and a positive and significant correlation between happiness and resilience ($r = .46, p < .05$).

In addition, we examined whether or not the data was normally distributed, and the values of mean, standard deviation, skewness, and kurtosis of the variables in the measurement model are presented in Table 3.

Table 3. Mean, standard deviation, skewness, and kurtosis values of the scales

Scale	Min	Max	\bar{X}	SD	Skewness	Kurtosis
FCV	1.00	5.00	2.43	0.89	0.24	-0.65
Happiness	1.42	5.00	3.52	0.64	-0.44	-0.01
Resilience	1.00	5.00	3.40	0.79	-0.58	-0.30

Table 3 shows that the minimum and maximum values of the FCV, happiness, and resilience scales vary from 1.00 to 5.00, and that their mean values range from 2.43 to 3.52. When the three scales' skewness and kurtosis values are examined, it is clear that they range from -1 to +1, which reveals that all three scales present a normal distribution (Huck, 2012).

4.1. Structural Model

For the mediation model, the MPLUS 7.4 program was used to create models for the four conditions required to establish mediation relationships. The variables and the goodness-of-fit indices for each model are shown in Table 4.

Table 4. Variables and goodness-of-fit indices of models

	DV	IV/M	B	SE _B	p-value	RMSEA	CFI	TLI	SRMR
Model 1	Happiness	FCV	-.27	0.06	.000	0.05	0.97	0.96	0.06
Model 2	Resilience	FCV	-.29	0.05	.000	0.06	0.97	0.97	0.06
Model 3	Happiness	Resilience	.52	0.06	.000	0.06	0.95	0.93	0.07
Model 4	Happiness	FCV	-.15	0.06	.000	0.06	0.94	0.93	0.07
		Resilience	.45	0.07	.000				

DV: Dependent variable; IV: Independent variable; M: Mediator; SE: Standard error; FCV = Fear of COVID-19.

For the goodness of fit indices of each model, as shown in Table 4, it can be seen that the CFI and TLI values were greater than 0.90, whilst the RMSEA and SRMR values were less than 0.08. These results indicate that the model has an acceptable level (Kline, 2011).

In Model 1, the teachers' fear level of COVID-19, which is the independent variable in the model, was found to statistically affect the teachers' happiness level, which is the

dependent variable ($B_{FCV} = -.27; p < .05$). The independent variable is assumed to explain 7.1% of the variance in the dependent variable ($R^2 = .071; p < .05$).

In Model 2, the teachers' fear level of COVID-19, as the independent variable, was found to statistically affect the teachers' psychological resilience level, which is the mediator variable ($B_{FCV} = -.29; p < .05$). The independent variable is assumed to explain 8.4% of the variance in the mediator variable ($R^2 = .084; p < .05$).

In Model 3, the teachers' resilience level, which is the mediating variable of the model, was found to statistically influence the teachers' happiness level, which is the dependent variable ($B_{Happiness} = .52; p < .05$). Here it is shown that the mediating variable explains 27.3% of the variance in the dependent variable ($R^2 = .273; p < .05$).

Model 4 shows that teachers' fear levels related to COVID-19, as the independent variable, and the teachers' psychological resilience, as the mediating variable, were found to statistically affect the teachers' happiness levels, as the dependent variable ($B_{Happiness} = .45; p < .05; B_{FCV} = -.15; p < .05$). The diagram of Model 4 is presented as Figure 5, in which it can be seen that the independent and mediator variables explained 26.6% of the variance of the dependent variable ($R^2 = .266; p < .05$). In Model 4, the effect of the teachers' fear level of COVID-19, as the independent variable, decreased from -.27 to -.15 when compared to Model 1.

The significance of the mediation effect was tested using the Sobel, Aroian, and Goodman tests, and the results of which are presented in Table 5.

Table 5. Sobel, Aroian and Goodman test results

Sobel		Aroian		Goodman	
Value	<i>p</i>	Value	<i>p</i>	Value	<i>p</i>
-4.277	.000	-4.249	.000	-4.307	.000

Examination of the Sobel, Aroian, and Goodman test results in Table 5 shows that the mediation effect was shown to be statistically significant. In this context, the structural equation model illustrated in Figure 5 shows that psychological resilience mediates the effect of COVID-19 fear on happiness.

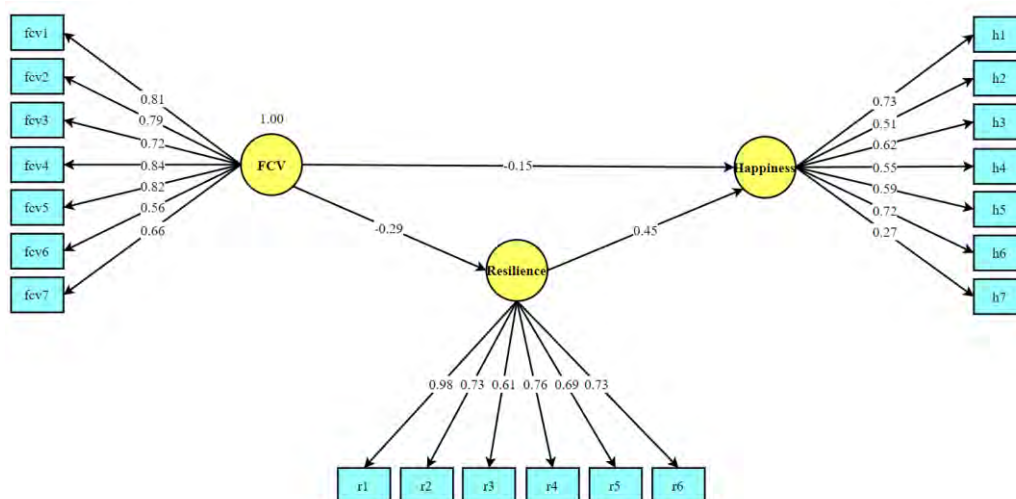


Figure 5. Structural model with COVID-19 fear, psychological resilience, and happiness.

According to Figure 5, the direct effect of the teachers' COVID-19 fear on their happiness level is -.15, while the indirect effect is -.13, and the total effect is -.28. In the proposed model, it was statistically demonstrated that the teachers' psychological resilience

level was found to be a mediating variable between the teachers' COVID-19 fear level and their happiness level. However, in addition to the precondition analyses, the significance of the model also definitively shows the proposed model to be a mediation model.

The CFI, TLI, RMSEA, and SRMR values, which are the fit indices of the model, were found to be 0.95, 0.94, 0.06, and 0.07, respectively. By examining the model fit indices, it is clear that both the CFI and TLI values are greater than 0.90, whilst the RMSEA and SRMR values are less than 0.08, which indicates that the model has an acceptable level [67]. Also, the χ^2 / df value was found to be less than the desired value of 4 ($\chi^2 (152, 346) = 310.570$, $p < .001$).

5. DISCUSSION

The results of the study show that teachers' fear of COVID-19 has a significant correlation with their happiness level. In this context, teachers' happiness level tends to decrease when their COVID-19-related fear increases. This result is consistent with the findings of other studies in the literature (Peker & Cengiz, 2021; Stănculescu, 2022; Sturman, 2020). Changes affecting daily life related to the COVID-19 pandemic, continued uncertainty about the future, and changes to teachers' job descriptions and responsibilities during the pandemic period contributed to this finding. Negative emotions such as stress, anxiety, and depression caused by the pandemic also significantly affected the quality of teachers' lives (Karakose et al., 2022). In a study by Dymecka et al (2022), it was stated that fear of COVID-19 and similar negative emotions occur to different degrees in each individual. In this regard, factors such as individuals' age, job responsibilities (teaching or school administration), and level of psychological resilience may cause fear of COVID-19 to vary among education workers.

Another finding of the study is that participants' fear related to COVID-19 significantly affects their psychological resilience. This result shows that negative emotions such as fear caused by COVID-19 can negatively affect individuals' struggle against the pandemic. Of course, the rapid spread of COVID-19 and the lack of definitive treatment unsettled many throughout society. As can be seen, some studies can be found in the literature on this topic (e.g., Allen et al., 2022). Significant negative emotions such as stress, anxiety, hopelessness, as well as job responsibility changes and a general feeling that things will never be quite the same have been felt more frequently by people during the pandemic (Pandey et al., 2022). Fear brings with it other negative emotions, such as anxiety, worry, and a reduction in the quality of life. For example, Shah et al. (2022) found that individuals with fear of COVID-19 tended to become more socially isolated, and that their social isolation negatively affected their psychological well-being. The same study emphasized the importance of raising awareness with regards to psychological resilience as a mechanism to better cope with the psychological difficulties faced during the pandemic.

The current research has shown that the level of teachers' resilience significantly correlates with their level of happiness. Accordingly, increasing teachers' psychological resilience may help to increase their resilience and perseverance in the face of adversity. Some studies have examined COVID-19-related fear along with psychological resilience, which is one of the emotions that increases teachers' adaptability within a crisis environment, and helps equip them with the determination to continue to fight when times are tough. Richards et al. (2016) found that teachers with strong psychological resilience are better able to cope with the tensions of their school work life. Fostering resilience in teachers facing adverse conditions such as the COVID-19 pandemic, is critical to reducing

teacher turnover intentions (Pham, 2021; Gutentag & Asterhan, 2022). Increasing people's psychological resilience can help make it easier for them to focus upon more positive thoughts and thereby help them to continue with their daily lives more smoothly during a pandemic (Yıldırım & Güler, 2021; Sakurai & Chughtai, 2020).

Finally, the results of the current study have shown that levels of COVID-19-related fear and resilience can significantly correlates with teachers' happiness. In other words, resilience was found to have a mediating effect on the relationship between teachers' fear and happiness due to COVID-19. A similar result was obtained in a study by Morales-Rodríguez (2021), in which resilience and coping strategies were shown to have a mediating effect in the development of solution-oriented strategies to reduce the impact of unpleasant feelings, thoughts, and stress. In another study conducted with teachers in Italy, it was reported that teachers with low baseline resilience experienced higher levels of anxiety, depression, stress, and burnout during the COVID-19 pandemic than those with higher levels of resilience (Matiz et al., 2020). These findings highlight the importance of maintaining high levels of psychological resilience in teachers. In this context, it can be considered beneficial to hold informational sessions for education workers given by experts, and to organize seminars that promote positive motivation in the workplace.

6. CONCLUSION

This research presents an empirical study that examined the effect of psychological resilience of public-school teachers' relationship between COVID-19 fear and happiness. The study's results have shown that fear associated with COVID-19 has a statistically significant correlation with happiness and psychological resilience. However, the research has also shown that resilience plays a mediating role in the effect of fear associated with COVID-19 on happiness. As a result, the current study confirmed that goodness of fit indices of the hypothetical model is at an acceptable level and the proposed model is considered to be a mediator model. We believe that the findings of this study will lead the other researchers to expand their studies to assess other behavioral variables, such as apathy and depression that might influence the relationship between fear of covid, resilience and happiness.

7. LIMITATIONS

This cross-sectional research has some limitations in terms of the characteristics of the participants and the time period during the data collection process. All the participants are teachers who work at state schools in Turkey. Therefore, they all work in permanent status and they do not have to be worried about losing their job due to COVID-19. Also, when the researchers started to collect data, the severity of the pandemic began to wane and the strict measures taken against COVID-19 were reduced. In addition, it was reported that the rate of COVID-19 vaccination among teachers in Turkey in the data collection period reached a satisfactory level. The possible effects of these factors on the results can be cited as two important limitations of this study.

DECLARATIONS

Author Contributions R.Y: Conceptualization, E.H.A & G.K: methodology, E.H.A, G.K. & R.Y: Formal analysis, R.Y., E.H.A. & G.K: data curation, R.Y., E.H.A and G.K: writing-original draft, R.Y., E.H.A and G.K: writing-review and editing, supervision: R.Y. and E.H.A. All authors have read and approved the published on the final version of the article)

Conflicts of Interest (as applicable), or the authors declare no conflict of interest.

Ethical Approval The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by Kahramanmaraş Sutcu Imam University, with legal permission granted for the study to be performed with teaching staff as its subjects (Permit: E-72321963-020-40689, July 01, 2021).

Data Availability Statement The data presented in this study are available on request from the corresponding author.

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