

## **The Mediating Effect of Religious Attitude on the Relationship Between Mindfulness and Covid-19 Fear**

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### **Abstract**

The worldwide Covid-19 pandemic, which has significantly affected the entire globe for the past three years, has also influenced daily life and mental well-being in various ways. Many studies have emphasized that the use of religion as a coping mechanism can be an effective factor in improving mental health. Therefore, this study examines the cross-sectional relationship between religious attitude, mindfulness, and Covid-19 fear besides the Covid-19 anxiety levels that individuals are exposed to and evaluates the mediating role of religiosity in this relationship. A survey of 440 participants with most were female (80.2%) and single (68.2%) were obtained online by random sampling. The demographic results indicated that women exhibited a higher level of Covid-19 fear compared to men, showing a significant difference. In religious attitude and mindfulness scores, there was no significant difference observed by gender. The correlational analysis demonstrated that a higher fear of Covid-19 was significantly linked to lower levels of mindfulness and religious attitude, but it did not show any significant association with religious coping. The mediational analysis indicated that religious attitude acts as a partial mediator in the association between trait mindfulness and fear of Covid-19, implying that the impact of mindfulness on fear of Covid-19 was explained by the influence of religious attitude. While limitations of the study design exist, the findings suggest that belief-based behaviours may play an active role in mental health management during crises, and strategies that promote religious attitudes and mindfulness during times of life crises requires further investigations.

**Keywords:** Health Psychology, Mental Health, Mindfulness, Covid-19 Fear, Religiosity

### **1. INTRODUCTION**

The World Health Organization (WHO) officially announced Covid-19 pandemic as a global pandemic crisis in March 2020, classifying it as an infectious disease (World Health Organization, 2022). It has caused significant loss of life and health all over the world since late 2019. By force of circumstance, various lockdown measures have been implemented by many institutions and frontline healthcare professionals in Trkiye to prevent the spread of this health threat. The measures implemented included mask wearing, physical and social distance, hand washing, regional quarantine, travel restrictions, contact tracing, and surveillance of infected people. During the time of this study conducted, no vaccine was invented yet.

However, several studies have indicated that the ambiguity of the pandemic and the fear of transmission have placed significant pressure on individuals of all ages, leading them to develop severe psychological and emotional challenges during the lockdown measures (Kul et al., 2020; Lima et al., 2020; zmen et al., 2021; Zakari et al., 2021d). For instance, some studies have

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revealed the constant risk of Covid-19 infection caused increased psychological distress, anxiety, and fear among different age groups across the world (Serafini et al., 2020). Also, studies have revealed that fear of Covid-19 is a negative state of mind that steers people to focus on past and future, not present (Şanal-Karahan and Bakalim, 2021).

Furthermore, there is evidence indicating that encountering an unusual situation (like a new environment or new acquaintances) can elevate the anxiety levels in individuals (Turgut et al., 2020). Likewise, it is obvious that the Covid-19 is a novel process that seriously disrupts life and remains uncertain when it will end completely, thus causing a sense of meaninglessness or emptiness in individuals. Such unpredictable health crisis seems to create not only life-threatening but also makes people more vulnerable to negative mental states (e.g., anxiety, stress, fear, and so on). Although scientific research has increased to eliminate uncertainties about the virus, the feeling of fear still continues to exist. Hence, it is estimated that Covid-19 will continue to impact people's emotional states. Recent research suggests that coping strategies based on individuals' own thoughts, feelings, and actions have a considerable correlation with managing psychological distress during challenging times (Awaad et al., 2023).

Covid-related research has reported that in many ways, people are developing more and more diverse coping strategies to get through challenging processes with less damage (Gashi, 2020; Manav et al., 2021). Similarly, many previous studies have highlighted that religiosity plays the role of a coping strategy by providing understanding and support in the face of difficulties or challenging circumstances. For example, a meta-analysis examining the relationship between religious coping and psychological adjustment showed that religious coping strategies were positively associated with positive mental health outcomes (Ano and Vasconcelles, 2005). More specifically, religious coping strategies, such as seeking support from a higher power or finding meaning through religion, were associated with reduced symptoms of anxiety, depression, and overall distress (Ano and Vasconcelles, 2005). In a similar vein, an earlier study conducted by Koenig et al. (1988) explores how older adults use religion as an emotion-regulating coping strategy, suggesting that religiosity plays a significant role in coping with various life stressors. This study found that older adults often use religious practices, such as prayer and attending religious services, as a way to cope with stress and life challenges, and that these religious coping strategies were associated with better emotional well-being and resilience among the elderly (Koenig et al., 1988). Another example comes from a longitudinal study that explored the complex role of religiosity in coping with serious health issues among medically ill elderly patients (Pargament et al., 2001). This study discovered that religious struggle, which refers to inner conflicts related to one's faith or religious beliefs, could have a negative impact on the health and survival of medically ill elderly patients. These findings revealed that those who experienced religious struggle were found to have higher mortality rates compared to those who did not (Pargament et al., 2001). Another research discusses religious and spiritual struggles as aspects of coping with life challenges, shedding light on the multifaceted nature of religiosity in dealing with adversity (Exline and Rose, 2013). The findings of the mentioned research suggest that individuals may experience conflicts, doubts, or existential questions related to their faith or spirituality when facing adversity. These struggles can be a part of the coping process and may lead to personal growth and transformation.

These studies collectively indicate that religiosity can serve as a coping mechanism by providing emotional support, a sense of meaning, and resilience when individuals are confronted with stressors or adverse situations.

### **1.1. Religiosity and Fear of Covid-19**

Those who follow religion may find it to be a coping mechanism that gives them a sense of motivation and course in life. This coping strategy takes the shape of religious activities and a sense of being close to God. When facing major challenges to psychological pressures, religion

appears to be a useful personal resource as a coping mechanism (Pargament et al., 2002). For the past two decades, numerous research has reported that religious commitments play a balancing role in outlining the direction of people's behavior in crisis situations that cannot be overcome or suffer significant losses in life (Abdel-Khalek, 2013; Awaad et al., 2023; Hackney and Sanders, 2003). Indeed, there is a strong support for the function of religiosity in alleviating the harmful effects of daily stressors in non-pandemic settings, which contributes to better wellbeing and health. For instance, according to previous studies, religiosity provides an interpretative framework (James and Wells, 2003), serves meaning and purpose of life (Emmons et al., 1998), enhances subjective well-being and life satisfaction (Gireyhan, 2022), and lessens anxiety, stress, increased happiness (Çetinkaya, 2023), and depression (Koenig, 2018, 2020).

As is seen in the preceding literature, it has been anticipated to use religiosity as a coping method to gain strength in times of highly stressful experiences (Pargament, 2011). Although religious commitments were widely found to be associated with improved psychological functioning, the findings were not always consistent (Pargament, 2011). Some have pointed out that the frustration of unanswered prayers and putting the responsibility of problem solving on God can lead to mental deterioration (David et al., 2023). Specifically, a frequent and significant connection was observed between utilizing negative religious strategies and experiencing reduced mental well-being and adaptation. (Pargament, 2011). Therefore, the direction of the bond between religiosity and mental health is inconclusive (Kranz et al., 2020). In the current situational framework, religious practices have been shown to be linked to decreased worry, stress, and increased hope when people benefit from deepening their religious beliefs (Koenig, 2020). The majority of the people in Türkiye consists of Muslim individuals. As in other world religions, Islamic beliefs and practices provides many theological responses such as remembering Allah, contemplating His blessings, trusting His wise plan, and showing patience in all difficult circumstances to reduce feelings of fear and anxiety (Durmuş and Durar, 2021; Kasapoğlu, 2020). In particular, studies on the healthcare professionals striving with the pandemic in the lead and their religiosity perceptions support the above-mentioned phenomenon that religiosity are used more frequently in response to anxiety due to health crisis and difficult situations (Angın, 2021; Doğan and Karaca, 2021).

## **1.2. Mindfulness and Fear of Covid-19**

Mindfulness is frequently portrayed in the literature as a skill involving nonjudgmental attention to what is happening in the present (Kabat-Zinn, 2015), and functions to reduce stress and regulate mood (Brown and Ryan, 2003). Another perspective proposed by Baer et al. (2004) classifies mindfulness as self-regulated attention and orientation towards experiences consisting of one's thoughts, feelings, and surroundings. Baer et al. (2006) assesses five abilities as markers of dispositional mindfulness trait; observing the present moment, describing seen experiences, acting aware towards thoughts and feelings, cultivating a non-judgmental internal awareness, and refraining from reactive responses to them (Baer et al., 2004). Mindfulness reviews the characteristic diversities in the frequency of individuals' states of consciousness and their tendency to focus and be aware of ongoing experiences in daily life. More than two decades of research has shown that mindfulness provides the ability to control emotions without being affected by negative experiences, and increases happiness and well-being (Bishop et al., 2004; Germer et al., 2005), and reduces negative behaviors and distraction (Brown and Ryan, 2003). In addition, when previous empirical studies were assessed, it was achieved that mindfulness was significantly related with positive psychological well-being (Brown and Ryan, 2003; Falkenström, 2010), more adaptive psychological functioning (Lykins and Baer, 2009), less anxiety symptoms (Vollestad, Svertsen, and Nielsen, 2011), and heightened coping with troubling times (Sweeny and Howell, 2017).

Mindfulness has previously appeared to be a possible effective coping skill that promotes high psychological well-being in helping with the ongoing uncertain health crisis (Conversano et al., 2020; Sweeny and Howell, 2017). Due to the confusion brought about by the current pandemic, the increasing concern for mental health prevents people from focusing on the present moment. For this reason, mental health researchers tend to conduct studies to see how mindfulness can potentially contribute to regulating distressing thoughts and feelings under the challenging conditions of the pandemic process (Dehghan et al., 2021; Malakoutikhah et al., 2021b). In the current situation, for example, Dubey et al. (2020) reported that the highest amount of knowledge of Covid-19 was bonded to the high level of mindfulness, an indicator of reduced psychological distress. Thus, it can be assumed that mindfulness can help to better cope with the challenges posed by the Covid-19 pandemic.

Studies have shown that being mindful during the present pandemic has psychological benefits among Turkish individuals. As an example, Belen (2022) presented that COVID-19 fear has negatively associated with mindfulness, while displaying a positive connection with anxiety and depression. And also, the relationship between fear of COVID-19 and depression and anxiety was mediated by mindfulness. Similarly, Söner and Kartol (2022) discovered that individuals with higher levels of mindfulness have lower levels of depression, anxiety, and stress. Furthermore, Manav et al. (2021) showed that the variables used differed significantly by age, and that elderly people with more mindful awareness tended to have better personal well-being and lower stress levels than those with less mindful awareness. Another study noted that coronavirus experiences serve significant risk factor for lower wellbeing and heightened death obsession. Moreover, coronavirus stress was identified as a mediator variable in the link between coronavirus suffering and mindfulness (Arslan, 2021). Based on a study conducted by Saricali et al. (2022), mindfulness played a partial role in mediating the outcome of COVID-19 fear on hopelessness. Indeed, these findings collectively underscore the significance of mindfulness as a valuable source of coping mechanism, playing a pivotal role in enhancing psychological and mental well-being.

### **1.3. Religiosity and Mindfulness**

Mindfulness is, in essence, an ancient practice designed to instill specific attitudes through the cultivation of the mind to deal with stressors faced. Mindfulness can be found in many different forms in all religious and secular traditions from East to West. Considering this situation, religiosity and spirituality have been considered as expressions of mindfulness, particularly due to the connections each has with both physical and mental well-being (Chin, Anyanso, and Greeson, 2019). The convergence of religiousness, spirituality, and mindfulness on a shared platform is better understood by their intimate connection to the inner mental and emotional experiences of individuals. While there are certain areas of overlap between religiosity and mindfulness, religion distinguishes itself through its focus on a structured framework of beliefs and practices. Nevertheless, it is widely acknowledged that this approach is not exclusive to any specific religious tradition, given the contextual variations of mindfulness within diverse religious beliefs and practices (Lazaridou and Pentaris, 2016). Interestingly, studies exploring the concepts of religiosity and mindfulness were found to be significantly higher in those who officially belonged to a religion (Ramirez-Garduno et al, 2020). Moreover, Mindfulness has been studied extensively in the context of mental health and has shown promise in reducing symptoms of depression and anxiety among religious individuals (Chin, Anyanso, and Greeson, 2019, p. 5). In a study conducted among Afro-American youth, a correlation was observed between religiosity and mindfulness. It was observed that individuals who identified as religious tended to score higher on mindfulness assessments compared to their nonreligious counterparts (Spofford et al., 2014).

Most study samples predominantly originate from Western societies. Hence, it is essential to underscore that the research examining the relationship between mindfulness and religiosity remains limited in terms of diversity. Specifically, religion and spirituality hold considerable cultural significance in the experiences of numerous Turkish individuals. Despite Türkiye's

diverse cultural tapestry and its historical connection to a substantial Muslim community, Islam occupies a central place in the lives of many individuals, influencing various facets of their daily existence.

At present, Covid-19 pandemic in Türkiye has been completely brought under regulation with the vaccines invented. However, it is anticipated that the anxiety and fear triggered by this pandemic, which threatens the individuals' psychological health, may still have the potential to exist (Karataş and Tagay, 2021). For this reason, individuals need to be aware of more resources and beliefs to overcome the fear of all kinds of health threats, especially Covid-19 pandemic, in order to maintain their mental well-being. It has been previously reported that religiosity is a way of sincerely fulfilling people's attitudes, experiences and behaviors based on their beliefs, and a way of taking refuge in a transcendent being in insurmountable issues (Aydın, 2019). Similarly, mindfulness is the state of being in present-centered awareness by cognitively regulating or controlling thoughts, feelings, or bodily sensations and doing things purposely (Kabat-Zinn, 2015). Conversely, some studies have failed to uncover a significant connection between mindfulness and religiosity (Balıkcı, 2023). Giving priority to the cognitive and psychological aspects, it is clearly seen that religious behaviors and mindfulness provide people mental perspective that facilitates viewing daily life stressors (Myers, 2012).

As stated by Aydın (2019), there is an increasing focus on adopting a comprehensive worldview in research concerning the connection between mental well-being and mindfulness. Consequently, the concept of mindfulness has made it an important element in inquiries about religion in Türkiye as well (Şanal-Karahan and Bakalım, 2021). To sum up, the pandemic has given religious individuals the chance to reconsider their religious beliefs, practices and devotion. It has also enabled them to reflect on themselves, enhance their faith, be more attentive to worship, and become more mindful of human rights, social responsibility and peaceful coexistence (Turan, Bostan and Baynal, 2022).

#### **1.4. The Present Study**

To develop effective preventive measures for the current and potential future crises, it is crucial to examine the coping mechanisms used by individuals in Türkiye. Among these mechanisms, religious behaviors (Awaad et al., 2023; Galea et al., 2020; Gilbert et al., 2020; Koenig, 2020; Polizzi et al., 2020) and mindfulness approaches (Arslan, Muyan-Yılık, and Bakalım et al., 2021; Manav, Atik, Coşkun and Bozkurt, 2021; Matta et al., 2022; Söner and Kartol, 2022; Weis et al., 2021) have received significant attention as recommended coping strategies for internal stress and anxiety. While there are studies that investigate the relationship of the Covid-19 outbreak with religious behavior or mindfulness separately, no research has examined how religious behavior and mindfulness together can serve as coping strategies in the scenery of fear of Covid-19 in. Thus, this study aimed to explore how individuals' daily routines and experiences could be better understood through religious behaviors, particularly during the lockdown period in Türkiye.

Nevertheless, the existing literature is deficient in enquiries as to the interplay between fear of Covid-19 and its relationship with religiosity and mindfulness throughout the early steps of the isolation period in Türkiye. This study aims to bridge the gap by investigating how religiosity and mindfulness relate to fear of Covid-19. The study measures religiosity through religious attitudes (RA). RA refers to cognitive, emotional, and behavioral religious tendencies. Mindfulness measures the level of personal attention maintained and strengthened to current experiences, as a component of mental health. Fear of Covid-19 measures emotional effects and reactions, such as anxiety and fear, on people due to the pandemic's uncertainty. Coping mechanisms adopted by individuals are thought to affect the connection between fear of Covid-19 and mental health. Therefore, the study proposes a hypothetical model that includes religiosity, mindfulness, and Covid-19 fear, drawing from relevant literature, to examine their relationship.

Based on the below suggested model, the present study puts forward four hypotheses: (1) Religiosity assessment through religious attitude will have a negative link to Covid-19 fear; (2) Covid-19 fear will have a negative relation with mindfulness; (3) Religiosity will have a positive association with trait mindfulness; and (4) Religious attitude will have a mediating effect on the connection between Covid-19 fear and mindfulness.

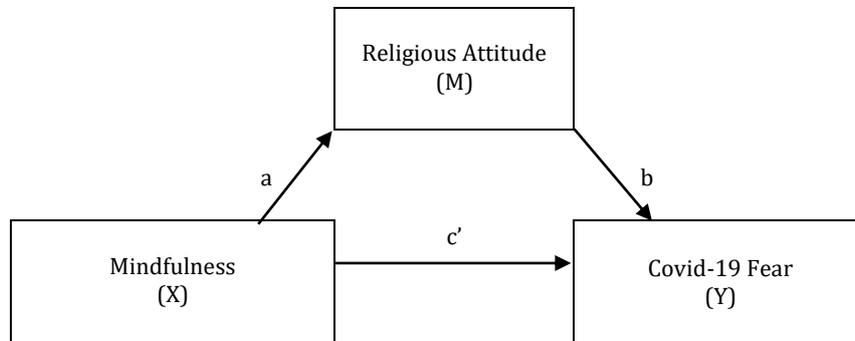


Figure 1. Suggested Mediating Model of the Study.

## 2. MATERIAL AND METHODS

### 2.1. Participants and Procedure

The present study was designed in cross-sectional research design, which exemplifies a relational analysis of the quantitative research methodology. A representative sample of 440 participants in Türkiye was recruited using an online recruitment platform and snowball approach (asking participants to inform others) to participate in a survey concerning the relationships between Covid-19 fear, mindfulness, and religious behaviors. The participation in the research consists of two criteria: being 18 years or older and residing in Türkiye during the quarantine process caused by the corona pandemic. Data collection was carried out from January to February 2021. Measurement instruments including demographic details, attitudes towards the COVID-19 pandemic, distinct facets of religiosity, and mindfulness as a mental health component were applied to the participants.

Prior to their involvement in the study, participants were given details about the research's purpose and privateness of the research on the start point of the on-screen survey. The ethics committee approval was applied for the research to be carried out, and the study was found ethically appropriate with the ethics committee (Date: 27.01.2021, Protocol No: 02/05).

### 2.2. Variable Measures

Sociodemographic data consisting of age, gender, relationship status, education level, and income level were collected. Besides background information, work status, stress level related to the Covid-19 exposure, the history of physical or psychological problems were also obtained for the study.

#### 2.2.1. Questionnaire

Regarding Covid-19 pandemic-related experiences during the lockdown, six questions were developed as follows: The questions are: "if the participant was diagnosed of Covid-19?", "if the participant's relatives were diagnosed of Covid-19", "if people around the participant died due to Covid-19". These three questions were measured by yes/no. As consequences of Covid-19 fear, the measure of anxiety level was included in the questionnaire as "how worried were you about the first pandemic case declared in Türkiye?", "how worried were you about Covid-19 last week?",

“how worried were you about lockdown measures?” The possible answers for these three questions were measured by low/mid/high.

### 2.2.2. Fear of Covid-19 Scale

The Scale of Covid-19 Fear was originally developed by Ahorsu et al. (2020) to examine nurses' fear about Covid-19, and Satıcı et al. (2020) adapted the scale to assess the current pandemic fear among Turkish students. The Turkish version of a 7-item unidimensional scale was used in this study, and participants rated their responses on a 5-point Likert type, ranges from strongly disagree (1) to strongly agree (5). The overall score on the scale ranges from 7 to 35. High scores obtained from the scale indicate greater fear of Covid-19, low scores indicate lower fear of Covid-19. Representative item includes “*I am most afraid of the coronavirus-19*”. In previous research, the Cronbach Alpha value of the scale was reported as .88 and .87 respectively (Bakioğlu et al., 2020; Oti-Boadi et al., 2021). In the current study, this value was measured as .87.

### 2.2.3. Trait Mindfulness -Short Form

The Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF) was first developed by Baer et al. (2006) as 39 items. Here, a 20-item reduced version of the scale with two dimensions of mindfulness (self-regulated attention and orientation towards experience) was used (Tran et al. 2013). Ayalp and Şahin (2018) carried out the Turkish validity and reliability of the FFMQ-SF to assess participants' awareness as an indicator of mental health. *Self-regulated attention* represented three facets: observing (e.g., “I pay attention to sensations, such as the wind in my hair or sun on my face”), describing (e.g., “I can easily put my beliefs, opinions, and expectations into words”), and nonreactivity to inner experience (e.g., “I watch my feelings without getting lost in them”). *Orientation towards experience* represented two facets: acting with awareness (e.g., “I find it difficult to stay focused on what's happening in the present”), and nonjudging of inner experience (e.g., “I tell myself that I shouldn't be thinking the way I'm thinking”). Participants answered 20 items (4 items for each facet) on a 5-point Likert-type scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Almost Always) with half of the items reversed-scored, as in the original form. After obtaining each score of the subscales, all sub-scores are added to get a total mindfulness score, meaning that the higher score reveals a higher level of general mindfulness. An adequate internal consistency reliability ( $\alpha$ ) in the current study was found .78 for the overall trait mindfulness. And the reliability of all sub-scales of trait mindfulness has also shown an acceptable internal consistency ( $\alpha$ = .62 to .86).

### 2.2.4. Ok-Religious Attitude Scale (Islam, ORASI)

The Ok-Religious Attitude Scale was developed by Ok (2011, 2016) to measure the attitudinal dimension of religion based on the attitude theory in social psychology. The scale measures four religious involvements: Cognition (e.g., “*I feel there is no need for religion*”), Feeling (e.g., “*I feel enjoy when I take part in religious activities*”), behavior (e.g., “*I try to put my religion into practice in my life*”), and Relation to God (e.g., “*I feel that God helps me when life is difficult*”), consisting of eight items (two items for each dimension). Response options rated on a 5-point Likert-type scale ranges from 1 (Not at all) to 5 (Completely), and the two items were reversely coded. The internal consistency reliability coefficient was found to be .91 for the whole scale, along with the reliability of its subscales ranging from .75 to .87 (Ok, 2011). In terms of the internal consistency of the scale in the present study, Cronbach's alpha of .82 for the whole scale and Cronbach's alpha of (ranged from .70 to .89) the sub-dimensions were found valid and reliable.

## 2.3. Data Analysis

The Statistical Package for the Social Sciences (Armonk, NY: IBM Corp, SPSS version 22.0) was used to conduct all analyses, and all significance was applied with a p-value < .05 and a 95% confidence interval. Descriptive statistics were first used to provide an overview of the participants' characteristics, followed by an analysis of multidimensional analysis to examine

relationships. *T*-tests were run to uncover the impact of various factors on fear of Covid-19, including gender, working status, chronic disease history, and three Covid-19 diagnostic questions. One-way ANOVA analyses were performed to assess demographic responses (e.g., age, marriage, education, and income level) and Covid-related anxiety responses (e.g., the anxiety levels of the first case in Türkiye, the reported cases over the part one week, and performing pandemic rules) in terms of fear of Covid-19. The effect size ( $n^2$ ) was calculated as 0.10 for low level, 0.25 for mid-level, and 0.40 for high level (Cohen, 1988). (Cohen, 1988). Pearson correlation analysis was then used to identify potential correlations between the primary variables. The effect size for the zero-order correlation analysis was computed using Cohen's *d*, with the lowest level at 0.20, mid-level at 0.50, and the highest level at 0.80 (Cohen, 1988). In regression analyses, effect size is classified according to Cohen's (1988) categorization, where values between .02 and .15 indicate a small effect, values between .15 and .35 indicate a medium effect, and values greater than .35 indicate a large effect. Before conducting regression analysis, the multivariate tests' assumptions, such as multicollinearity and homogeneity of variances, were checked for significance. The VIF values were below the cut-off value of 10, as recommended by Neter et al. (1985), and the kurtosis and skewness values of the scale scores were also checked based on Mayers' (2013) proposed range of  $\pm 1.96$  for samples less than 50,  $\pm 2.58$  ranges for samples from 51 to 100, and  $\pm 3.29$  ranges for samples greater than 100. Finally, to test the mediational model and evaluate direct and indirect relationships, Model 4 in PROCESS software, version 4.1 (Hayes, 2022), was employed to analyze the mediating effects of religious attitude (M) on the connection between mindfulness (X) and fear of Covid-19 (Y). Bootstrap analyses with 5000 samples and a bias-corrected confidence interval technique were employed for the analysis. To determine whether the sample size was sufficient for the study, a power analysis was conducted using G.Power 3.1.9.4 software (Erdfelder, Faul, Buchner, and Lang, 2009). The sample size was considered with a .03 effect size, an alpha level of .05, and a power value of .80, leading to the determination that 325 participants were adequate. The selection of a small to medium effect size was made to better enhance the detectability of differences. As a result of data collection for the current study, a total of 440 individuals were reached for the present study. In addition, a retrospective power analysis was also carried out to assess the adequacy of the sample size reached in this study. The objective was to determine if the sample size could produce statistically significant results. The retrospective power analysis revealed a calculated power of 0.90, indicating a high level of statistical power. However, it's important to note that such retrospective power analysis may indicate inefficient resource allocation and potential sample wastage when the calculated power is roughly twice the actual power, as reported by Keskin (2020, p. 169, cited in McKean, 1990). Accordingly, it is important to emphasize that the retrospective power analysis performed in the current study did not show such a detrimental effect on the study results.

### 3. RESULTS

#### 3.1. Descriptive Analysis of the Sample

Here, depending on the hypotheses of the study, the descriptive statistics of the scales and, accordingly, the difference tests analysis were made. Table 1 presents the distribution of individuals in the sample group based on demographics (age, sex, marriage, income status, education level, work status, and Covid related information was obtained, along with their numbers and percentages. A total of 440 [353(80.2%) women and 87(19.8%) men] participated in this study online, all residing in Türkiye. The study reported that among the participants, 244 individuals (55.5%) belonged to the 18-25 age group, 123 individuals (28.0%) were in the 26-36 age group, and 73 individuals (16.6%) were aged 37 and above. The majority of the participants, 356 (80.9%) reported that they were university students or graduates, 44 (10.0%) had a postgraduate education, 40 (9.1%) had a high school or lower education level. It was determined that 300 (68.2%) of the participants were single,

Table 1. Frequency and percentages of sociodemographic data, allowing for analyses of the differences and similarities among the participants in fear of Covid-19 as dependent variable. (n= 440)

Variable	Fear of Covid-19				
	N	%	t-Test/Anova (t/f)	p-value (2tailed)	Cohen's d
Age					
18-25	244	55.5	$F_{(2,437)} = 1.019$	$p = .362$	.005
26-36	123	28.0			
37 ≥	73	16.6			
Gender					
Female	353	80.2	$t_{(438)} = 2.74$	$p < .001$	.017
Male	87	19.8			
Marital Status					
Single	300	68.2	$F_{(3,436)} = 1.048$	$p = .371$	.007
Married	131	29.8			
Divorced/Separated	6	1.4			
Other	3	0.7			
Education Status					
High School	40	9.1	$F_{(3,436)} = .655$	$p = .580$	.004
Undergraduate	356	80.9			
Graduate	44	10.0			
Working Status					
Yes	177	40.2	$t_{(438)} = -.96$	$p > .001$	.002
No	263	59.8			
Income Level					
Low	95	21.6	$F_{(2,437)} = .441$	$p = .643$	.002
Mid	318	72.3			
High	27	6.1			
History of past chronic diseases?					
Yes	54	12.3	$t_{(438)} = -.81$	$p > .001$	.001
No	386	87.7			
<b>History of Covid-19 diagnoses</b>	<b>N</b>	<b>%</b>	<b>T-Test/Anova (t/f)</b>	<b>p-value (2tailed)</b>	<b>Cohen's d</b>
Had diagnosed of Covid-19?					
Yes	54	12.3	$t_{(438)} = -.03$	$p > .001$	.000
No	386	87.7			
Had relatives diagnosed of Covid-19?					
Yes	364	82.7	$t_{(438)} = -.12$	$p > .001$	.000
No	76	17.3			
Loss of Close due to Covid-19?					
Yes	155	35.2	$t_{(438)} = 1.74$	$p > .001$	.008
No	285	64.8			
Anxiety level due to the first Covid case in Türkiye					
Low	90	20.5	$F_{(2,437)} = 34.310$	$p = .000$	.136
Mid	132	30.0			
High	218	49.5			
Anxiety level due to Covid-19 in last one week					
Low	235	53.4	$F_{(2,437)} = 45.276$	$p = .000$	.188
Mid	137	31.1			
High	68	15.5			
Anxiety level due to personal hygiene practices					
Low	141	32.0	$F_{(2,434)} = 22.358$	$p = .000$	.101
Mid	143	32.5			
High	153	34.8			

*Notes.* Parametric tests: Independent Sample *t*-test, One-way ANOVA *F*-test.

131 (29.8%) were married, 6 (1.4%) were divorced or separated, and 3 (0.7%) chose the other option. While the socioeconomic level of 318 (72.3%) of the participants was determined as medium, the economic level of 272 (6.1%) was high and the economic level of 95 (21.6%) was low. From the sample, 87.7% (n=386) of the participants reported having no physical or psychological problems, while 12.3% (n=54) of them stated the opposite. Concerning Covid-related experiences, the vast majority of participants (386, 87.7%) reported they had been diagnosed with COVID-19, 82.7%(364) stated people around them diagnosed with covid, and only 35.2%(155) reported they lost someone close due to Covid. Most participants reported high anxiety due to Covid pandemic when the first case declared in Türkiye (218, 49.5%), and 53.4% (235) of participants had high anxiety for the past last week. As consequences of lockdown rules, participants reported their anxiety level almost equally (32.0% for low, 32.5% for middle, and 34.8% for high).

Table 1 depicts the results of the independent sample *t*-test and one-way ANOVA analyses, which were conducted to explore whether there is a significant difference in the scores of the individuals contributing to the research. As posed in Table 1, the independent sample *t*-test on gender-based differences revealed that Covid-19 fear scores of women were significantly higher than men, with a small effect size ( $16.80 \pm 5.88$  vs.  $14.85 \pm 6.14$ ,  $t_{438} = 2.74$ ,  $p < .001$ , Cohen's  $d = .02$ ). Further, the results of one-way ANOVA analysis revealed significant differences with a small effect size in the participants' level of anxiety about the first pandemic case occurred in Türkiye ( $F_{(2,437)} = 34.31$ ;  $p = .000$ , Cohen's  $d = .14$ ). Because Levene *F* statistics were found significant ( $p < .05$ ), the tests of homogeneity of variances were reported with the pandemic cases over the last week (*Welch* = 45.28;  $p = .000$ , Cohen's  $d = .19$ ) and the personal hygiene practices (*Welch* = 22.36;  $p = .000$ , Cohen's  $d = .10$ ). The post-hoc tests showed that the fear of Covid-19 increased as the level of anxiety increased due to the first case that emerged in Türkiye, the cases in the last week, and personal hygiene practices.

### 3.2. Correlational Analysis

The findings of the Pearson correlation analysis results, which were carried out to see the level and direction of the relationships between the main research variables, are illustrated in Table 2 below.

Table 2. Intercorrelations, means, standard deviations, and coefficient alphas of the main research variables (n=440).

Variables	M(SD)	$\alpha$	2	3
1. The Fear of Covid-19	16.41(5.97)	.87	-.18**	-.15**
2. Mindfulness (total)	51.13 (9.26)	.78	-	.14**
3. Religious Attitude (total)	4.36 (0.55)	.82		-

Note. \* $p < .05$ ; \*\* $p < .01$  M= Mean; SD= Standard Deviation;  $\alpha$ = Cronbach's Alpha.

According to the correlation results between the main variables, a statistically significant negative pattern of correlations was observed for the general trait mindfulness ( $r(440) = -.18$ ;  $p < .01$ ) and for the total score of religious attitude ( $r(440) = -.15$ ;  $p < .01$ ). Consequently, it can be asserted that the higher values of mindfulness and religious attitudes are associated with lower coronavirus fear in individuals. However, a complex pattern of correlations was found between the general trait mindfulness score and religiosity, which was positively and slightly related with religious attitude total score ( $r = .14$ ,  $p < .01$ ). Accordingly, one can posit that a rise in religious attitude corresponds to an increase in the level of mindfulness.

### 3.3. Mediating Analysis

Table 3 below presents the results of the mediating analysis conducted to investigate whether the relationship between fear of Covid-19 (FoC-19) and mindfulness is mediated by religious attitude. Recent studies claimed that new methods based on bootstrapping in mediation analysis provide more valid and reliable results (Gürbüz and Bayık, 2021; Preacher and Kelley, 2011). In the current study, based on the new mediation approach, specific definitions such as partial mediation and full mediation will not be included in the models as they are not considered appropriate according to the new approach. Instead, the results obtained from the examined mediation model will be explained in terms of direct effects, indirect effects, and total effects in the context of bootstrap confidence intervals. As presented in Table 3, path a was tested in the first part of the analysis, and both path b and path c' were examined in the second part of the analysis. According to the tested mediation model, mindfulness explains about 1.9% ( $R^2 = .19$ ,  $F = 8.660$ ,  $p < .001$ ) of the change in religious attitude, while religious attitude and mindfulness together explains about 4.9% ( $R^2 = .049$ ,  $F = 11.181$ ,  $p < .001$ ) of the change in fear of Covid-19 (Figure 2 below).

As a result of the regression analyses, the indirect effect value, calculated as the product of coefficients a and b, is found to be -0.011, and its confidence interval is statistically significant (a.b = -0.011; 95%CI [-0.025, -0.001]). However, this value is statistically significant but indicates a small effect size (Cohen, 1988; Preacher and Kelley, 2011). Therefore, it has been determined that the indirect effect of mindfulness on Covid-19 fear is significant, indicating that religious attitudes mediate the relationship between mindfulness and Covid-19 fear. Furthermore, the coefficient of the mindfulness variable (c') represents the direct effect, with an effect size of -0.107. This value also suggests a small effect size (Cohen, 1988; Preacher and Kelley, 2011). The direct effect is statistically different from zero within the 95% bootstrap confidence interval ( $t = -3.53$ ;  $p = .000$ ; 95%CI [-.17, .05]), confirming its significance. The total effect value (c) is the sum of the indirect and direct effect values, calculated to be -.118. Likewise, the total effect is statistically different from zero within the 95% bootstrap confidence interval ( $t = -3.911$ ,  $p < .001$ ; 95%CI [-.178, -.059]), and thus, it is considered significant. Overall, these findings suggest that mindfulness has a direct negative impact on fear of Covid-19 and that this relationship is mediated by religious attitude. Individuals who have higher levels of mindfulness and positive religious attitudes may be better equipped to manage fear and anxiety related to Covid-19.

Table 3. Direct and Indirect Effects of Mindfulness on Fear of Covid-19

		Religious Attitude					
Predictors	$\beta$	SE	t	p	Lower	Upper	
Constant	3.93	.15	26.94	.000	3.65	4.22	
Mindfulness (a)	.01	.00	2.94	.003	.00	.01	
		COVID-19 Fear					
Predictor	$\beta$	SE	t	p	Lower	Upper	
Constant	27.74	2.55	10.88	.000	22.73	32.75	
Religious Attitude (b)	-1.34	.51	-2.62	.009	-2.34	-.33	
Mindfulness (Direct effect) (c')	-.11	.03	-3.53	.000	-.17	-.05	
Mindfulness (Total effect) (c)	-.12	.03	-3.91	.000	-.18	-.06	
			Effect	SE	Lower	Upper	
Indirect effect Bootstrap (a.b)			-.01	.01	-.02	-.00	
		$\beta$	SE	t	p	Lower	Upper
Gender (Covariates)		-.13	.06	-2.00	.05	-.26	-.00

As demonstrated by the t-test analysis conducted previously, a noteworthy association between gender and fear of COVID-19 was observed. In light of this, gender, a variable presumed to influence the mediation analysis model, was incorporated into the model as a covariate. However,

upon analyzing the data, it was determined that the gender covariate did not yield a statistically significant effect within the model ( $B = -.13$ , 95%CI  $[-.26, -.00]$ ,  $p > .05$ ). This finding suggests that gender does not significantly contribute to the effect of religious attitude, aligning with previous research findings (Yapıcı, 2016).

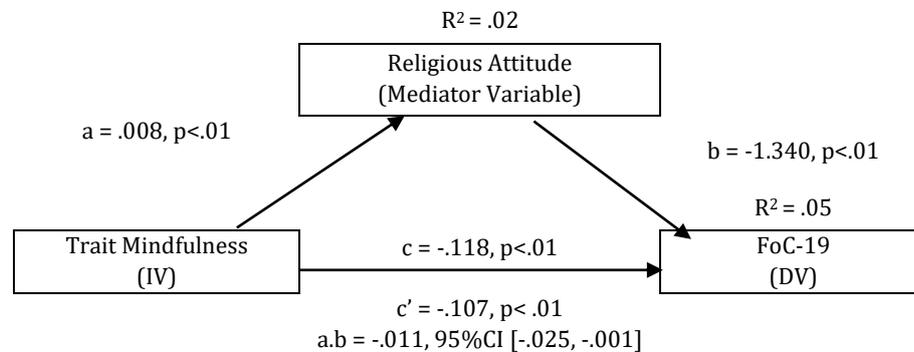


Figure 2. Mediating effect of religious attitude between mindfulness and Covid-19 fear.

#### 4. DISCUSSION

This study focused on assessing the mediating effect of religious attitudes in the connection between mindfulness and the fear of COVID-19 within a sample of adults residing in Türkiye under the lockdown conditions. Numerous studies have revealed that the Covid-19 and its restriction process can lead to various psychological problems, especially before a vaccine was produced (Lima et al., 2020; Zakari et al., 2021d; Kul et al., 2020). As the quarantine is strictly enforced in many areas such as school, religious activities, and work, an increasing body of studies have reached the consensus that the pandemic is disrupting daily life, leading to anxiety, fear, and stress. However, there was little evidence that belief-related coping mechanisms have significant effects on psychological outcomes during quarantine period in Türkiye. To the best of current knowledge, this study stands as the first in the literature to propose the hypothesis that the effect of mindfulness approach to COVID-19 fear will be influenced by the individual's religiosity through mediation.

The present study investigated whether the outcome variable, fear of Covid-19, differed according to demographic variables. As a result of the *t*-test analyses, it was seen that there was a significant difference in the variable of fear of Covid-19 according to gender. However, when the fear of Covid-19 was examined according to other demographic variables, no significant difference was observed. The study's findings, which show that women have significantly higher levels of fear of COVID-19 compared to men, align with previous evidence suggesting that women tend to be related with higher psychological distress than men in crucial health situations (Conversano et al., 2020). Regarding the gender differences, however, some studies have indicated that fear of COVID-19 varies in favor of women (Özmen et al., 2021) or doesn't show a significant difference based on gender (Ahorsu, 2020). An analysis of the current study's sample distribution underscores the challenge of making a definitive gender-based distinction in the context of COVID-19 fear. Moreover, it was also revealed in this study that the greater level of anxiety when the first Covid-19 case was announced in Türkiye also increased Covid-19 fear. Likewise, the increase in the level of anxiety caused by the pandemic cases reported over the last week and following the pandemic rules applied on a personal basis also enlarged Covid-19 fear. Such findings were coherent with prior studies in which individuals had higher anxiety levels during the Covid-19 and the restriction period (Çıtak and Pekdemir, 2020). One possible explanation for this result could be related to different levels in being more sensitive in response to the increased pandemic

cases, as well as feeling a stronger sense of responsibility to adhere to public health guidelines and take precautionary measures to protect themselves and their loved ones.

Moreover, the correlation findings revealed that individuals who had higher levels of both mindfulness and religious attitudes reported reduced levels of fear related to the coronavirus during the lockdown period. This outcome is consistent with prior research that has shown the protective influence of mindfulness and religious beliefs during times of uncertainty and stress, as demonstrated by Thune-Boyle et al. (2006). Additionally, the positive correlation between trait mindfulness and the total score of religious attitude suggests that people with greater levels of trait mindfulness may have more positive attitudes towards religion (Aydın, 2019). This underlines that the relationship between religious attitude and mindfulness is interrelated and may lead to higher levels of awareness employed by individuals. These findings can be interpreted as suggesting that individuals with a strong religious attitude may be better equipped to cope with stressors like COVID-19 while also exhibiting a heightened level of mindfulness. Consequently, these results support the hypothesis positing a significant connection between mindfulness and religious attitudes.

In line with the mediation hypothesis, another finding in this study arises from the analysis carried out to understand the effect of religious attitude on the significant relationship between mindfulness and the fear of COVID-19. The findings of the mediational analysis provide interesting insights into the multifaceted nature of these variables. The results show that both mindfulness and religious attitude play a significant role in reducing fear of Covid-19. Specifically, greater levels of mindfulness were linked to lessen of Covid-19 fear, and this relationship was explained by the general religious attitude of individuals. The direct negative impact of mindfulness on fear of Covid-19 is coherent with earlier research indicating that mindfulness is an effective technique for reducing anxiety and stress (Ulaş, Çağlar, and Güneri, 2021). These findings suggest that mindfulness practices could be beneficial for individuals who are experiencing heightened levels of fear and anxiety related to the pandemic. The partial mediation effect of religious attitude suggests that having a positive religious attitude may amplify the beneficial effects of mindfulness on fear of Covid-19. While the indirect effect of mindfulness on Covid-19 fear through religious attitude is small, it is still statistically significant, suggesting that the two constructs are interrelated. The current finding is in harmony with prior research demonstrating that religious and spiritual beliefs can serve happiness as protective factors in times of crisis and stress (Çetinkaya, 2023). The study also assessed the covariate effect of gender within the mediation model developed for the research's objectives. Upon analysis, it was determined that gender did not exert a significant influence on the model. Considering the collective findings of this study, it seems reasonable to conclude that behaviors and practices rooted in faith, regardless of gender differences, promote a deliberate cultivation of heightened awareness, allowing individuals to confront unexpected challenges in their daily lives with greater mindfulness and attentiveness. More specifically, individuals who practice mindfulness and have positive religious attitudes may have an additional layer of resilience and coping strategies that allow them to manage their fear and anxiety related to Covid-19 more effectively.

Mainly, the results of this research imply that mindfulness and religious attitudes could be valuable resources for individuals struggling with fear and anxiety related to the pandemic. Future research could investigate the potential benefits of integrating mindfulness and religious involvement techniques into interventions in the face of adversity, particularly during times of crisis. Nonetheless, additional research is required to gain a deeper comprehension the complex relationships between mindfulness, religious attitude, and fear of Covid-19, Moreover, there is a need to explore potential factors that may moderate these relationships.

## 5. LIMITATIONS AND FUTURE DIRECTIONS

While the findings of the current study instruct valuable insights into the relationships between mindfulness, religiosity, and Covid-19 distress, there are some limitations worth highlighting. One potential drawback of the present study may be related to the characteristics of the sample utilized. This study was conducted among a sample of Turkish adults (predominantly university students and females), so caution should be taken about the representativeness of the findings when generalizing the findings to other populations with different cultural, religious, and socioeconomic backgrounds. An added constraint of the study is its cross-sectional design, which restricts the capacity to establish causality between the variables. Future research using longitudinal designs could help to deeper understand the links between religious behaviors and mindful approaches to Covid-19 exposure. Another weakness is self-report instruments used, which are subject to response biases and may not accurately reflect actual levels of mindfulness, fear of Covid-19, and religious attitude. Moreover, there may be limitations related to the choice of mediator in this study. Especially, the use of religious attitude as a mediator may not fully capture the complexity of the relationship between religion, mindfulness, and fear of Covid-19. Other strategies, such as spiritual coping may also play a role in this relationship (Gireyhan, 2022; Gülerce and Maraj, 2021). Future studies could incorporate objective measures of these constructs, such as physiological measures or behavioral tasks, to provide a more comprehensive assessment. Finally, the study did not assess other potential variables that may influence the relationships between mindfulness, fear of Covid-19, and religious attitude, such as social support (Saud, Ashfaq, and Abbas, et al., 2020), resilience (Angın, 2021), and personality traits (Deniz, Bektaş-Aydın, Birni, and Karağaç, 2023; Karşlı, 2020). Future research could explore these variables to deliver a more meaningful mechanisms underlying the relationships between these constructs.

Overall, while the study makes a valuable contribution to the literature on the relationships between mindfulness, fear of Covid-19, and religious attitude, it is important to acknowledge these potential limitations when interpreting the results.

## 6. CONCLUSION

In the literature, religiosity has been outlined as a multifaceted system of attitudes and values that is often linked to enhanced mental health and well-being (Koenig, 2020; Pargament, 2011). This study contributes to the perception of how health crisis strikes individuals internally and divinely, especially given the necessity for cross-cultural research on such effects. Considering the assumed effects, the standing evidence highlights that religiosity can function positively as a useful personal coping resource in the management of stressful life events such as the Covid-19 crisis. As a matter of fact, investigating to what extent the proposed coping strategies work in the individuals' lives is of great significance in terms of shaping future welfare concerns for the public services.

To sum up, the conclusions of the present research underscore the fundamental role played by mindfulness and religious attitudes in coping with coronavirus fear among Turkish population. More research is necessary to profit a deeper meaning of the complex relationships among these variables and to identify effective strategies for promoting mental well-being during times of uncertainty and stress.

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## The Mediating Effect of Religious Attitude on the Relationship Between Mindfulness and Covid-19 Fear

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## The Mediating Effect of Religious Attitude on the Relationship Between Mindfulness and Covid-19 Fear

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## The Mediating Effect of Religious Attitude on the Relationship Between Mindfulness and Covid-19 Fear

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