THE FEAR OF COVID-19 MEDIATES THE RELATIONSHIPS BETWEEN PSYCHOLOGICAL VULNERABILITY, SOCIAL SUPPORT AND PSYCHOLOGICAL DISTRESS

İbrahim Dadandı

Faculty of Education, Yozgat Bozok University, Yozgat, Turkey

SUMMARY

   Background: *Along with its physical effects, COVID-19 pandemic has brought along a rise in mental health issues in the general population. This study aims to examine the predictive effects of psychological vulnerability and social support on the psychological distress during the COVID-19 pandemic as well as the mediating role of the fear of COVID-19 in these relationships.*

   Subjects and methods: *This is a correlational study. The sample includes 783 (F=515, M=268) Turkish adults aged between 18 and 67 years ($\bar{x}$=28.76; SD= ±12.21).*

   Results: *Psychological vulnerability positively predicted both fear of COVID-19 and psychological distress. Social support positively predicted fear of COVID-19 but negatively predicted psychological distress. Moreover, fear of COVID-19 played a complementary mediating role in the relation between psychological vulnerability and psychological distress, and a competitive mediating role in the relation between social support and psychological distress.*

   Conclusion: *These results provide important evidence about psychosocial risk factors and their interactions with fear of COVID-19 in predicting mental health consequences of the COVID-19 pandemic.*

   Key words: *psychological distress - fear of COVID-19 - social support - psychological vulnerability*

* * * * *

INTRODUCTION

   The new coronavirus (COVID-19) has impacted the world suddenly in direct and indirect ways, costing lives of millions. Apart from its physical effects, the COVID-19 pandemic and its socioeconomic repercussions have affected the general population psychologically. Detrimental psychological effects of the pandemic might lead to various mental health problems (for a review, see Vindegaard & Benros 2020). Research indicates that there is specifically a dramatic increase in the symptoms of depression, anxiety and stress around the world (Ren & Guo 2020, Xiong et al. 2020). A recent meta-analysis concludes that almost half of the global population suffer from a high level of psychological distress (Necho et al. 2021). Pandemic-induced psychological distress might also bring along serious mental disorders, such as suicide, infanticide-suicide, post-traumatic stress disorder, and panic disorder (Dauglas et al. 2009, Mamun et al. 2020). Therefore, identifying psychosocial factors that contribute to elevated psychological distress is crucial for developing psychological interventions and policies to alleviate the psychological effects of the COVID-19 pandemic on the general population.

   One of the critical factors that can affect people's mental health during the current pandemic is the fear of COVID-19. The term fear refers to a physiological and psychological state of arousal triggered by the perception of a potential threat and causing defence reactions (Dias et al. 2013). In fact, fear is a functional response, as it directs individuals to take precautions against threats (Harper et al. 2021); however, it might lead to maladaptive responses and reduce coping capacity, in particular when it is experienced at a pathological level (McNamara et al. 2013). Literature review shows that higher levels of fear of COVID-19 can lead to various mental health problems including depression, anxiety and stress (Šljivo et al. 2020, Şimşir et al. 2022). Therefore, it is necessary to consider vulnerability factors that might trigger the fear of COVID-19 in predicting psychological distress experienced in the current pandemic.

   Psychological vulnerability, a form of cognitive vulnerability, is defined as a pattern of cognitive beliefs created by the interaction between temperament and learning experiences (Gudjonsson 2010, Sinclair & Wallston 2010). Researchers report that psychological vulnerability leaves individuals defenceless against stressors (Sinclair & Wallston 1999). When individuals come across situations that threaten their biological or psychological unity or that go beyond their coping capacity, psychological vulnerability schemas get activated and encourage the use of improper coping strategies that can lead to mental disorders (Sinclair & Wallston 1999). Previous studies showed a positive relation between psychological vulnerability and depression, anxiety and stress (e.g., Ouimet et al. 2009, Sinclair & Wallston 2010). Pre-pandemic research indicate that cognitive biases might also play a role in the acquisition of fear (Gabriel & Greve 2003). Therefore, maladaptive cognitive patterns related with

psychological vulnerability may increase the fear of COVID-19 by creating exaggerated judgements about the likelihood being infected or its possible results. As a result, it may lead to an increase in one's psychological distress by triggering a fear of COVID-19 during the current pandemic.

Considering the detrimental effects of the COVID-19 pandemic, social support might serve as a protective factor. Social support is defined as emotional, instrumental, tangible and informative support given to an individual by those in his/her social network (Lakey & Cohen 2000). An extensive body of research shows the effect of social support on mental health and positive sensation (Adams et al. 2016, Kerr et al. 2006). Cohen & Wills (1985) developed a buffering model that shows how social support helps regulate stress responses and alleviates the impact of stressful events on mental health. In fact, recent studies suggest a negative relation between a high level of social support and various mental health problems during the pandemic (Cao et al. 2020, Li et al. 2021). Moreover, individuals with less social support suffer from more severe stress, depression and anxiety symptoms (Grey et al. 2020, Kaya et al. 2021). Researchers report negative associations between social support and fear of COVID-19 (Adekanmbi et al. 2021). In this line, social support might indirectly promote well-being by reducing fear of COVID-19.

Although pre-pandemic literature indicates that psychological vulnerability and social support are significant predictors of mental health problems, little is known about their role in the pandemic-related psychological problems (e.g., fear of COVID-19, pandemic-induced distress). Identifying these specific links may provide a theoretical basis for community-based interventions by extending the understanding about risk factors and protective factors for mental health problems during the COVID-19 pandemic. This study aims at examining the predictive effects of psychological vulnerability and social support on the psychological distress during the COVID-19 pandemic as well as the mediating role of the fear of COVID-19 in these relationships (Figure 1).

SUBJECTS AND METHODS

Participants and Procedure

The participants in this study are 783 Turkish adults (n=515, 65.8% females; n=268, 34.2% males). The ages of the participants vary between 18 and 67 ($\bar{x}$=28.76; SD = ±12.21). There were no exclusion criteria except being younger than 18 and unwillingness. The demographic distribution of the sample is given in Table 1.

Table 1. Demographic characteristics of the sample

Variable / Level	n	%
Gender		
Female	515	65.4
Male	268	34.2
Education		
Primary	19	2.4
Secondary	76	9.7
High School	171	21.8
University Student	397	50.7
Graduate	93	11.9
Postgraduate	27	3.4
Marital status		
Single	547	69.9
Married	236	30.1
Socioeconomic Status		
Low	54	6.9
Middle	662	84.5
High	67	8.6
Receiving psychological help		
Yes	90	11.5
No	693	88.5
Infected status		
Yes	126	83.9
No	657	16.1

The participants were recruited using convenience sampling method. Data were gathered online in April 3-21, 2021 via a web-based application (Google Forms). The survey link was shared on online educational platforms of three state universities in Turkey as well as various social media platforms. Moreover, the participants were asked to share the link of the scales on their
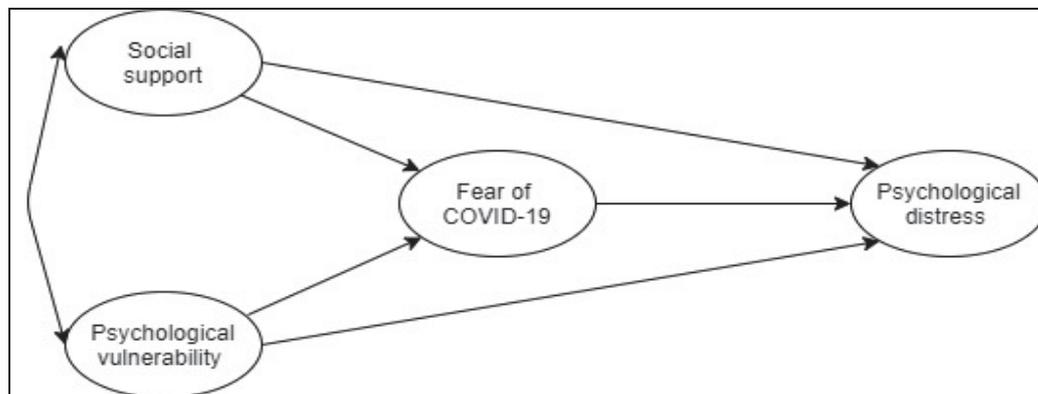
Figure 1. Hypothesized conceptual model

social media accounts. The participants received no reward for participating. The participants were informed about the purpose of the study, and they were informed that participation was voluntary. All the participants filled in an online consent form. In this study, all procedures were carried out in accordance with the Declaration of Helsinki and were approved by the ethics committee of the Yozgat Bozok University (ID: E.95799348).

Instruments

Psychological Vulnerability Scale (PVS)

This scale was developed by Sinclair & Wallston (1999) to identify cognitive patterns that cause individuals to become more vulnerable to stress. The participants respond to 6 items on a 5-point Likert-type scale with scores from 1 to 5. High scores point to an increase in the level of psychological vulnerability. The Turkish version of the PVS has provided an adequate construct validity as well as internal reliability ($\alpha=0.75$) (Akın & Eker 2011). Cronbach alfa coefficient was found to be 0.76 in this study.

Depression Anxiety Stress Scale (DASS-21)

Psychological distress was assessed using the short version (i.e. DASS-21) of the DASS (Lovibond & Lovibond 1995). It consists of three subscales (i.e. depression, anxiety and stress) seven items each. The participants responded to each item on a four-point Likert-type scale with scores from 0 to 3. Higher scores indicate more severe symptoms of depression, anxiety and stress. The reliability of the Turkish version of DASS-21 was found to be adequate with $\alpha=0.81$ for anxiety scale, $\alpha=0.82$ for depression scale and $\alpha=0.76$ for stress scale (Yılmaz et al. 2017). In this study, Conbach's alfa coefficients for the sub-scales of depression, anxiety and stress were found to be 0.91, 0.86 and 0.90, respectively.

Multidimensional Scale of Perceived Social Support (MSPSS)

This scale was developed by Zimet and colleagues (1990) to assess perceived social support in three dimensions: family, friends and significant other. The participants responded to 12 items on a Likert-type scale with scores from 1 to 7. The total sum of the scores from the sub-scales produce a total score for the whole scale. A higher total score indicates higher levels of perceived social support. Cronbach alfa internal consistency coefficient of the Turkish version of MSPSS was found to be 0.85 for the sub-scale of family, 0.88 for the sub-scale of friends, 0.92 for the sub-scale of significant other and 0.89 for the whole scale (Eker et al. 2001). In this study, Cronbach's alfa coefficients were 0.90 for the sub-scale of family, 0.94 for the sub-scale of friends, 0.94 for the sub-scale of significant other and 0.90 for the whole scale.

The Fear of Coronavirus-19 Scale (FCV-19S)

The FCV-19 is a 5-point Likert type scale consisting of seven items developed to measure the perceived fear of COVID-19 (Ahorsu et al. 2020). Higher scores point to higher levels of fear of COVID-19. The Turkish form of FCV-19S has an adequate construct validity and internal reliability ($\alpha=0.86$) (Ladikli et al. 2020). Cronbach alfa coefficient was found to be 0.86 in the current study.

Data Analysis

Data were analysed using SPSS 26.0 and AMOS 22.0 statistical programs. A data screening procedure (i.e. missing values, outliers and normality) was performed prior the analysis. There were no missing data in the data set. Eleven outliers (based on Mardia's multivariate kurtosis coefficient) were removed from the data set. Skewness and kurtosis values varied between +2 and -2 for all variables, and Mardia's value lower than 5, indicating that univariate and multivariate normality assumptions were met (Byrne 2010). The data were summarized with descriptive statistics. Bivariate correlations among study variables were examined using Pearson's correlation coefficients.

In the hypothesized model, subscales of MSPSS and DASS-21 were used as indicators of the latent variables of psychological distress and social support. For the latent variables of psychological vulnerability and fear of COVID-19, indicators were created using the item parcelling method. The hypothesized model was tested with the two-staged structural equation model (SEM) analysis using the maximum likelihood estimation method. Additionally, a bootstrapping procedure was implemented with 5.000 bias-corrected bootstrap samples and 95% confidence intervals to evaluate statistical significance of indirect effects. Model fit was evaluated through the following fit indices: ratio of χ^2 to the degree of freedom (χ^2/df, <5), goodness of fit index (GFI, >0.95), comparative fit index (CFI, >0.95), Tucker-Lewis index (TLI, >0.90), the root mean square error of approximation (RMSEA, <0.08), and standard root mean square residual (SRMR, <0.09) (Byrne 2010, Hu & Bentler 1999).

RESULTS

Pearson correlations, mean, standard deviation, values of skewness and kurtosis pertaining to the study variables were presented in Table 2. Correlation analysis revealed significant correlations among study variables. A measurement model was tested before hypothesized model analysis. The measurement model included four latent variables and 10 indicator variables. The analysis for the measurement model revealed an adequate model-data fit: $\chi^2_{(df=28, N=783)}=109.27$, p<0.05; $\chi^2/df=$ 3.90; GFI=0.97 CFI=0.97; TLI=0.96; RMSEA=0.061, p>0.05, 90% CI (0.049, 0.073); SRMR=0.035. In addition, the magnitude of factor loadings ranged from 0.45 to 0.88, and all path coefficients were significant, indicating that the latent variables were successfully represented by their indicators. These results provided the necessary statistical basis for the hypothesized structural model analysis.

**Table 2.** Descriptive statistics and corelations among study variables

Variable	1	2	3	4	5	6	7	8	9	10
1. FAM										
2. FR	0.45**									
3. SO	0.31**	0.33**								
4. FoC1	0.12**	0.10**	0.07							
5. FoC2	0.10**	0.06	0.07*	0.76**						
6. PV1	-0.23**	-0.18**	-0.12**	0.24**	0.23**					
7. PV2	-0.17**	-0.20**	-0.07*	0.23**	0.22**	0.64**				
8. DEP	-0.34**	-0.16**	-0.20**	0.20**	0.18**	0.50**	0.43**			
9. ANX	-0.14**	-0.05	-0.03	0.37**	0.39**	0.34**	0.33**	0.53**		
10. SRE	-0.24**	-0.14**	-0.10**	0.30**	0.31**	0.43**	0.45**	0.72**	0.58**	
M	21.97	21.70	16.53	10.59	6.26	9.17	8.39	7.35	5.18	8.63
SD	5.80	6.15	8.70	3.45	2.50	2.62	2.74	5.84	4.66	5.72
S	-0.98	-1.01	-0.11	0.02	0.74	0.03	0.16	0.52	0.88	0.25
K	0.33	0.19	-1.43	-0.64	-0.02	-0.40	-0.64	-0.72	0.02	-0.77

Note: *$p<0.05$; **$p<0.01$; FAM: Family Social Support; FR: Friend Social Support; SO: Significant Other Social Support; FoC1, FoC2: Parcels of Fear of Covid-19; PV1, PV2: Parcels of Psychological Vulnerability; DEP: Depression; ANX: Anxiety; SRE: Stress

Table 3. Estimated parameters and 95 CIs for the paths of final model

Model pathways					Estimated	95% CI Lower	95% CI Upper
Direct link							
P. vulnerability	→		P. distress		0.49**	0.39	0.58
P. vulnerability	→		Fear of COVID-19		0.44**	0.35	0.53
S. support	→		P. distress		-0.25**	-0.35	-0.15
S. support	→		Fear of COVID-19		0.31**	0.21	0.41
Fear of COVID-19	→		P. distress		0.25**	0.17	0.33
Indirect link							
P. vulnerability	→	Fear of COVID-19	→	P. distress	0.11**	0.08	0.16
S. support	→	Fear of COVID-19	→	P. distress	0.08**	0.05	0.12
Total link							
P. vulnerability	→		P. distress		0.60**	0.52	0.67
S. support	→		P. distress		-0.17**	-0.27	-0.07

**$p<0.001$
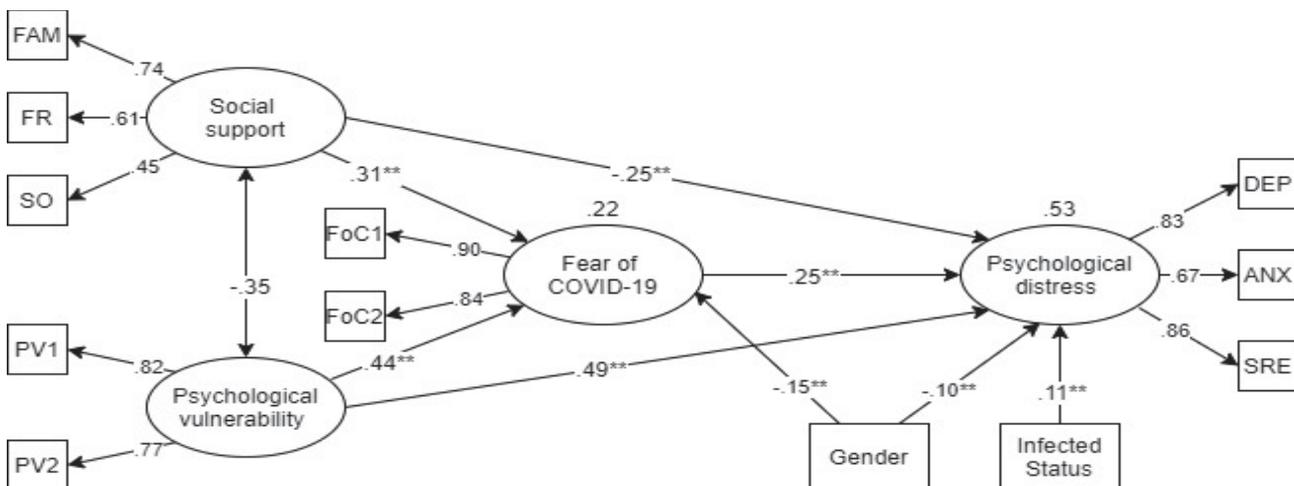
Note: ** $p<0.001$; FAM: Family Social Support; FR: Friend Social Support; SO: Significant Other Social Support; FoC1, FoC2: Parcels of Fear of Covid-19; PV1, PV2: Parcels of Psychological Vulnerability; DEP: Depression; ANX: Anxiety; SRE: Stress; Gender (1=Female, 2= Male); Infected Status (1= No, 2= Yes)

Figure 2. Final model

The hypothesized conceptual model contained four latent variables, 10 observed variables, and three control variables (age, gender, infected status). An initial analysis of hypothesized model yielded adequate fit indices: $\chi^2_{(df=56, N=783)}=222.69$, $p<0.05$; $\chi^2/df=3.98$; GFI=0.96, CFI=0.95; TLI=0.92; RMSEA=0.062, $p>0.05$, 90% CI (0.053, 0.073); SRMR=0.046. However, paths coefficients from age to psychological distress ($\beta=-0.03$, $p>0.05$) and fear of COVID-19 ($\beta=0.02$, $p>0.05$) and from infected status to fear of COVID-19 ($\beta=-0.04$, $p>0.05$) were not significant. These paths were removed step by step to obtain a more parsimonious final model. The fit indices of the final model (Figure 2) were satisfactory: $\chi^2_{(df=47, N=783)}=180.44$, $p<0.05$; $\chi^2/df=3.84$; GFI=0.96 CFI=0.96; TLI=0.94; RMSEA=0.060, $p>0.05$, 90% CI (0.051, 0.070); SRMR=0.043. This model explained 53% of the variance in psychological distress and 22% of the variance in the fear of COVID-19. Regarding model pathways, psychological vulnerability had positive direct effects on both fear of COVID-19 ($\beta=0.44$, $p<0.001$) and psychological distress ($\beta=0.49$, $p<0.001$). Social support had a positive direct effect on fear of COVID-19 ($\beta=0.31$, $p<0.001$) and a negative direct effect on psychological distress ($\beta=-0.25$, $p<0.001$). Finally, fear of COVID-19 had a positive direct effect on psychological distress ($\beta=0.25$, $p<0.001$).

To examine the significance of the mediating effect of fear of COVID-19, a bootstrapping analysis was performed with 5.000 bootstrapped samples and 95% confidence interval. The bootstrapping analysis revealed that the indirect effects of both social support and psychological vulnerability on psychological distress via fear of COVID-19 were statistically significant ($p<0.001$). Standardized direct, indirect, and total effect coefficients were presented in Table 3.

DISCUSSION

This study aimed to explain the role of psychological vulnerability, social support, and fear of COVID-19 in predicting pandemic-induced distress within the framework of a model. The SEM results showed that psychological vulnerability positively predicted both fear of COVID-19 and psychological distress. In addition, social support positively predicted fear of COVID-19 but negatively predicted psychological distress. The findings also showed that fear of COVID-19 played a complementary mediating role in the relation between psychological vulnerability and psychological distress, and a competitive mediating role in the relation between social support and psychological distress.

In accordance with the findings of pre-pandemic studies, higher levels of psychological vulnerability were positively related to more severe symptoms of anxiety, depression and stress (Sinclair & Wallston 1999, 2010). This result indicates that people who tend to be psychologically vulnerable may have a higher risk of suffering from elevated levels of distress during the pandemic. Research shows that psychological vulnerability is

negatively related to resilience (Satıcı 2016), which refers to the ability to cope effectively with adversities. Resilience plays a vital role in case of traumatic events, as it enables people to adopt the changes, recover, and grow more effectively (Jakovljevic 2017). A higher level of resilience may help people to maintain and improve their mental status during the pandemic (Finstad et al. 2021). However, maladaptive cognitive schemas, such as psychological vulnerability, may hinder individuals' resilience in the face of adverse situations (Parsons et al. 2016). Therefore, psychological vulnerability may also lead to prolonged psychological distress by reducing people's bounce back capacity from the negative effects of the pandemic.

The findings also revealed that the fear of COVID-19 has a complementary mediating role in this relationship. Accordingly, it is possible the state that a higher level of psychological vulnerability increases more the fear of getting infected, which in turn elevates psychological distress. Researchers emphasize that the sense of excessive and long-term fear might lead to depression and anxiety (McTeague & Lang 2012). This natural psychological mechanism can explain the connection between a higher level of COVID-19 fear and more severe psychological distress. The second dimension of mediating mechanism confirms the assumption that psychological vulnerability can foster the fear of COVID-19. The perception of danger, as a component of fear, refers to expectations as to the severity of the danger and potential damages and is a subjective judgement created through cognitive mechanisms (Valentiner et al. 1996). Therefore, based on the cognitive distortion, cognitive vulnerability factors can also manipulate cognitive representations of the danger stimulus. Individuals with higher vulnerability may develop much more frightening thoughts about their chances of contracting the disease and its possible consequences.

The findings showed a negative direct relation between the social support perceived during the COVID-19 pandemic and symptoms of psychological distress. Previous research showed that social support acts as an important protective factor against traumatic life experiences (Glass et al. 2009, Klarić et al. 2008), including pandemics (Cao et al. 2020). Research also revealed that social support is positively related to resilience (Killgore et al., 2020), indicating that having access to social support may mitigate the detrimental psychological effects of the pandemic by promoting psychological resilience. However, findings of this study revealed that the fear of COVID-19 has a competitive mediating role in the relation between social support and psychological distress. This means that social support can alleviate the pandemic-induced psychological distress, while it can foster the fear of getting infected with COVID-19 and hence contribute to an elevated psychological distress. In fact, this indirect effect can diminish the positive effect of social support on the symptoms of psychological distress. This conflicting case can be explained with the nature

of infectious diseases. During the pandemics such as COVID-19, people seem to worry about their own health as well as the well-being of their beloved ones (Cori et al. 2021). Therefore, people can be scared of getting infected because of the fear of transmitting the virus to their beloved ones such as family members and friends. The social support, examined in this study, refers to a type of support or help provided by people included in one's immediate social circle. In this context, the presence of strong social connections can lead to an enhanced fear of COVID-19 by fostering worries about transmitting the virus. Considering the fact that COVID-19 is mostly transmitted within the family (Yip & Chau 2020), such a kind of fear is not unforeseeable.

The current study has some limitations. First, it was carried out in Turkey, which makes it difficult to come up with cross-cultural generalizations, since cultural background can affect the way people perceive social support. Moreover, the dynamics underlying the fear as a reaction to COVID-19 can differ depending on the cultural factors (Ali et al. 2021). Hence, researchers are recommended to conduct intercultural studies including samples from different societies in order to confirm and develop the current findings. Second, as the study was based on a correlational design, the findings do not allow to necessarily establish causal relations among study variables. Therefore, longitudinal studies are necessary to develop a better understanding of the causal relations among social support, psychological vulnerability, fear of COVID-19 and psychological distress. Third, as this study focuses on the general population, it only includes age, gender and state of being infected as control variables. Future studies can focus on groups who are under risk such as health care professionals and those with chronic diseases in order to reveal the relations among the variables with different demographic groups.

CONCLUSION

The psychological consequences of the COVID-19 pandemic are among the priorities of health care systems across the world. This study contributes to the literature by revealing that a high level of psychological vulnerability and fear of COVID-19 and a low level of social support can be risk factors in terms of COVID-19-related depression, anxiety and stress symptoms. The results also show that the fear of COVID-19 can facilitate the aggravating effects of psychological vulnerability on psychological distress. Moreover, the fear of COVID-19 may undermine the healing effect of social support on psychological distress. To our best knowledge, this is the first study that demonstrates how psychological distress and social support interact with fear of COVID-19 in predicting pandemic-induced distress. These results can guide mental health professionals who deal with pandemic-related mental health problems.

References

1. *Adams TR, Rabin LA, DaSilva VG, Katz MJ, Fogel J & Lipton RB: Social support buffers the impact of depressive symptoms on life satisfaction in old age. Clin Gerontol 2016; 39:139-57*
2. *Adekanmbi FP & Ukpere WI: Promoting the mental health of healthcare workers during COVID19 pandemic: the influence of psychosomatic problems (work-related stress), social support, fear of COVID-19 and demographics. Harv Deusto Bus Res 2021; 2:346-69. doi:10.48132/hdbr.355*
3. *Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD & Pakpour AH: The fear of COVID-19 scale: Development and initial validation. Int J Ment Health Addiction 2020; 1-9. doi:10.1080/07317115.2015.1073823*
4. *Akın A & Eker H: Turkish version of the Psychological Vulnerability Scale: A study of validity and reliability. 32th International Conference of the Stress and Anxiety Research Society: July, 2011, Münster, Germany*
5. *Ali M, Uddin Z, Banik PC, Hegazy FA, Zaman S, Ambia ASM et al.: Knowledge, attitude, practice, and fear of COVID-19: An online-based cross-cultural study. Int J Ment Health Addiction 2021; 1-16. doi:10.1007/s11469-021-00638-4*
6. *Byrne BM: Structural equation modeling with AMOS: Basic concepts, applications, and programming (2nd ed.). Routledge, NewYork, 2010*
7. *Cao W, Fang Z, Hou G, Han M, Xu X, Dong J & Zheng J: The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Res 2020; 287:112934. doi:10.1016/j.psychres.2020.112934*
8. *Cohen S & Wills TA: Stress, social support, and the buffering hypothesis. Psychol Bull 1985; 98:310-57*
9. *Cori L, Curzio O, Adorni F, Prinelli F, Noale M, Trevisan C et al.: Fear of covid-19 for individuals and family members: Indications from the national cross-sectional study of the covid19 web-based survey. Int J Environ Res Public Health 2021; 18:3248. doi:10.3390/ijerph18063248*
10. *Douglas PK, Douglas DB, Harrigan DC & Douglas KM: Preparing for pandemic influenza and its aftermath: Mental health issues considered. Int J Emerg Ment Health 2009; 11:137-44*
11. *Dias BG, Banerjee SB, Goodman JV & Ressler K: Towards new approaches to disorders of fear and anxiety. Curr Opin Neurobiol 2013; 23:346-52*
12. *Eker D, Arkar H & Yaldız H: Factorial structure, validity, and reliability of revised form of the multidimensional scale of perceived social support. Turk J Psychiatry 2001; 12:17-25*
13. *Finstad GL, Giorgi G, Lulli LG, Pandolfi C, Foti G, León-Perez JM et al.: Resilience, coping strategies and post-traumatic growth in the workplace following COVID-19: A narrative review on the positive aspects of trauma. Int J Environ Res Public Health 2021; 18:9453. doi:10.3390/ijerph18189453*

14. *Gabriel U & Greve W: The psychology of fear of crime: Conceptual and methodological perspectives. Br J Criminol 2003; 43:600-614*

15. *Glass K, Flory K, Hankin BL, Kloos B & Turecki G: Are coping strategies, social support, and hope associated with psychological distress among Hurricane Katrina survivors?. J Soc Clin Psychol 2009; 28:779-95*

16. *Grey I, Arora T, Thomas J, Saneh A, Tohme P & Abi-Habib R: The role of perceived social support on depression and sleep during the COVID-19 pandemic. Psychiatry Res 2020; 293:113452. doi:10.1016/j.psychres.2020.113452*

17. *Gudjonsson GH: Psychological vulnerabilities during police interviews: Why are they important? Legal Criminol Psychol 2010; 15:161-75*

18. *Harper CA, Satchell LP, Fido D & Latzman RD: Functional fear predicts public health compliance in the COVID-19 pandemic. Int J Ment Health Addict 2021; 19:1875-88*

19. *Hu LT & Bentler PM: Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Modeling 1999; 6:1-55*

20. *Jakovljevic M: Resilience, psychiatry and religion from public and global mental health perspective dialogue and cooperation in the search for humanistic self, compassionate society and empathic civilization. Psychiatr Danub 2017; 29:238-44*

21. *Kaya H, Ayık B, Tasdelen R, Ercis M & Ertekin E: Social support promotes mental health during the COVID-19 outbreak: A cross-sectional study from Turkey. Psychiatr Danub 2021; 33:217-24*

22. *Kerr DC, Preuss LJ & King CA: Suicidal adolescents' social support from family and peers: Gender-specific associations with psychopathology. J Abnorm Child Psychol 2006; 34:99-110*

23. *Klarić M, Frančišković T, Klarić B, Krešić M, Grković J, Diminić-Lisica I et al.: Social support and PTSD symptoms in war-traumatized women in Bosnia and Herzegovina. Psychiatr Danub 2008; 20:466-73*

24. *Killgore WD, Taylor EC, Cloonan SA & Dailey NS. Psychological resilience during the COVID-19 lockdown. Psychiatry Res 2020; 291:113216. doi:10.1016/j.psychres.2020.113216*

25. *Ladikli N, Bahadır E, Yumuşak FN, Akkuzu H, Karaman G & Türkkan Z: The reliability and validity of Turkish version of coronavirüs anxiety scale. Int J Soc Sci 2020; 3:71-80*

26. *Lakey B & Cohen S: Social support theory and measurement. In Cohen S, Underwood LG & Gottlieb BJ(eds): Social Support Measurement and Intervention, 29-53. Oxford University Press, 2000*

27. *Li F, Luo S, Mu W, Li Y, Ye L, Zheng X et al.: Effects of sources of social support and resilience on the mental health of different age groups during the COVID-19 pandemic. BMC Psychiatry 2021; 21:1-14*

28. *Lovibond PF & Lovibond SH: The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales(DASS) with the Beck Depression and Anxiety Inventories. Behav Res Ther 1995; 33:335-43*

29. *Mamun MA, Bhuiyan AI & Manzar MD: The first COVID-19 infanticide-suicide case: Financial crisis and fear of COVID-19 infection are the causative factors. Asian J Psychiatr 2020; 54:102365. doi:10.1016/j.ajp.2020.102365*

30. *McNamara JM, Fawcett TW & Houston AI: An adaptive response to uncertainty generates positive and negative contrast effects. Science 2013; 340:1084-86*

31. *McTeague LM & Lang PJ: The anxiety spectrum and the reflex physiology of defense: From circumscribed fear to broad distress. Depress Anxiety 2012; 29: 264-81*

32. *Necho M, Tsehay M, Birkie M, Biset G & Tadesse E: Prevalence of anxiety, depression, and psychological distress among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. Int J Soc Psychiatry 2021; 67:892–906*

33. *Ouimet AJ, Gawronski B & Dozois DJ: Cognitive vulnerability to anxiety: A review and an integrative model. Clin Psychol Rev 2009; 29:459-70. doi:10.1016/j.cpr.2009.05.004*

34. *Parsons S, Kruijt AW & Fox E: A cognitive model of psychological resilience. J Exp Psychopathol 2016; 7:296-310*

35. *Ren FF & Guo RJ: Public mental health in post-COVID-19 era. Psychiatr Danub 2020; 32:251-55*

36. *Satici SA: Psychological vulnerability, resilience, and subjective well-being: The mediating role of hope. Pers Individ Differ 2016; 102:68-73*

37. *Sinclair VG & Wallston KA. The development and validation of the Psychological Vulnerability Scale. Cog Ther Res 1999; 23:119-29*

38. *Sinclair VG & Wallston KA: Psychological vulnerability predicts increases in depressive symptoms in individuals with rheumatoid arthritis. Nurs Res 2010; 59:140-46*

39. *Šljivo A, Kačamaković M, Quraishi I & Džubur-Kulenović A: Fear and depression among residents of Bosnia and Herzegovina during COVID-19 outbreak-internet survey. Psychiatr Danub 2020; 32:266-72*

40. *Şimşir Z, Koç H, Seki T & Griffiths MD: The relationship between fear of COVID-19 and mental health problems: A meta-analysis. Death Stud 2022; 46:515-23*

41. *Xiong J, Lipsitz O, Nasri F, Lui LM, Gill H, Phan et al.: Impact of COVID-19 pandemic on mental health in the general population: A systematic review. J Affect Disord 2020; 277: 55-64*

42. *Valentiner DP, Telch MJ, Petruzzi DC & Bolte MC: Cognitive mechanisms in claustrophobia: An examination of Reiss and McNally's expectancy model and Bandura's Self-Efficacy Theory. Cognit Ther Res 1996; 20:593-612*

43. *Vindegaard N & Benros ME: COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. Brain Behav Immun 2020; 89:531-42*

44. *Yılmaz Ö, Boz H & Arslan A: The validity and reliability of depression stress and anxiety scale (DASS21) Turkish short form. Res Fin Econ Soc Stud 2017; 2:78-91*

45. *Yip PS & Chau, PH: Physical distancing and emotional closeness amidst COVID-19. Crisis, 2020; 41:153-55*

46. *Zimet GD, Powell SS, Farley GK, Werkman S & Berkoff KA: Psychometric characteristics of the multidimensional scale of perceived social support. J Pers Assess 1990; 55:610-17*

Correspondence:
İbrahim Dadandı, MD
Faculty of Education, Yozgat Bozok University
Yozgat, Turkey
E-mail: ibrahim.dadandi@yobu.edu.tr