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FEAR OF COVID-19 AND ONLINE SHOPPING INTENTION: THE MEDIATING ROLE ONLINE SHOPPING CONVENIENCE

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Abstract

The aim of the present study was to examine the mediating role of perceived online shopping convenience in the relationship between consumers' fear of COVID-19 and online shopping intention. The data were collected from 732 consumers via an online questionnaire. Descriptive statistics, correlation analyses, and mediation analyses were performed to analyze the data. The results showed that the fear of COVID-19 was significantly correlated with perceived online shopping convenience and online shopping intention. The results also showed that fear of COVID-19 had a direct significant effect on online shopping convenience (β = .30 [*Se* = .03, 95% CI = (0.22, 0.35)]) and online shopping intention (β = .16 [*Se*= .03, 95% CI = (.09, .22)]). Mediation analysis showed that online shopping convenience mediated the relationship between fear of COVID-19 and online shopping intention (β = .16 [*Se* = .03, 95% CI = (0.10, 0.22)]). Results confirmed the positive association between the fear of COVID-19, online shopping convenience, and online shopping intention. In addition, the results showed that both the fear of COVID-19 and online shopping convenience have a direct effect on online shopping intention. Furthermore, the mediating role of online shopping convenience provides insight into how a psychological variable indirectly affects consumers' purchasing behavior.

Keywords

Fear of COVID-19; Online Shopping Intention; Online Shopping Convenience

1. Introduction

The coronavirus disease-2019 (COVID-19) can be a cause serious illness but most individuals experience mild-to-moderate symptoms. Among those with COVID-19, severe pneumonia is seen in 15% of individuals and acute respiratory distress syndrome (ARDS), septic shock or organ failure occurs in approximately 5% of individuals (Cao, 2020). The virus has caused concern all around the world because of its spread, risk of transmission, and high mortality rate (Zhao *et al.*, 2020). In addition to its health effects, the COVID-19 pandemic has caused great changes in people's social, psychological, and economic lives (Iriani and Andjarwati, 2020). The pandemic has also deeply affected the everyday lives of individuals, causing them to change their production and consumption habits (Grashuis *et al.*, 2020; Reznik *et al.*, 2021). In addition, research has shown that the fear of COVID-19 during the pandemic has influenced consumer behavior including an increase in unusual consumer behavior, such as stockpiling (Laato *et al.*, 2020; Wang, An, *et al.*, 2020), panic buying (Billore and Anisimova, 2021; Omar *et al.*, 2021; Prentice *et al.*, 2022), impulsive and obsessive buying (Laato *et al.*, 2020) and differentiated shopping patterns (Cox *et al.*, 2020). For example, Schmidt et al., (2021) found that high levels of perceived threat of COVID-19 were associated significantly with a reported reduction in purchasing frequency and an increase in the quantity of products bought per purchase (Schmidt *et al.*, 2021). However, the fear and the accompanying restrictions of not being able to go out meant most individuals were confined to living and working from home. Consequently, many consumers turned to online shopping instead of shopping at physical stores to meet their needs. Online shopping offers consumers many types of convenience. Perhaps the most important is that online shopping enables consumers to save on time, which is extremely important in contemporary living, and it enables

individuals to engage in shopping transactions irrespective of location (Duarte *et al.*, 2018). Other advantages include having more product and service options compared to physical stores, being able to access detailed information about the product, and being able to compare prices and product features between different distributors (Pham *et al.*, 2018). Additionally, online shopping (i) has positive qualities such as reference group connection, providing digital interaction with individuals who have a similar interest or who have experienced shopping with the product that is purchased (Rohm and Swaminathan, 2004), (ii) includes detailed and easy-to-understand product descriptions, and (iii) provides the consumer the opportunity to get detailed information about the product by using various presentation features such as text, graphics and video on the websites (Jiang *et al.*, 2013).

When the COVID-19 literature is examined, there is a mixture of studies which focus on the biological and genetic structure of the virus or on the psychological, sociological and economic effects of the virus on individuals (Mofijur *et al.*, 2021; Prati and Mancini, 2021; Tsamakis *et al.*, 2021). Studies examining the effects of restrictions and fear of the virus on consumer behavior and shopping trends have shown that the concern of catching the virus increases the likelihood of digital consumer interaction (Jensen *et al.*, 2021; Moon *et al.*, 2021; Mouratidis and Papagiannakis, 2021; Svatosova, 2022). In addition, findings indicate that the fear of COVID-19 affects consumer purchasing behavior and positively affects online shopping intentions (Chopdar *et al.*, 2022; Eger *et al.*, 2021; Truong and Truong, 2022). Therefore, the present explored the mediating role of online shopping convenience in the relationship between the fear of COVID-19 and their attitudes towards online shopping.

2. Literature review

The COVID-19 pandemic has caused major problems for public health as well as negative psychosocial effects on individuals. These pandemic-related negative effects led to an increase in the levels of stress, fear, panic, depression, and anxiety among individuals (Ahorsu *et al.*, 2022). Fear is the physical response of individuals to any perceived threat and in extreme forms is a negative emotion expressed in excessive emotional avoidance levels as associated with specific stimuli (Harper *et al.*, 2021). Fear, which is a psychological reaction that can occur at any time, can cause negative effects on many individuals in many situations such as the pandemic. Indeed, a known psychological aspect of the COVID-19 pandemic is fear (Griffiths and Pakpour, 2020). In this context, it can also be said that the fear of COVID-19 which results from a pandemic threat is a relatively permanent concern or a negative emotional response to a public health event that has emerged recently (Chi *et al.*, 2022). The most important social and psychological aspect of the fear of the COVID-19 is that it affects individuals' daily life habits. Individuals can feel anxious if the living environment changes (Ren *et al.*, 2020). Fear and anxiety are major factors in staying at home in isolation from society because of the increase in COVID-19 mortality rates, environmental uncertainty of the virus, and the rapid and invisible transmission of the disease (Ahorsu *et al.*, 2022). Moreover, fear can become chronic and severe in situations like the COVID-19 pandemic where the situation is uncertain and continuous (Mertens *et al.*, 2020). Research on COVID-19 has shown that the disease causes profound social and psychological changes among individuals in addition to their physical health (Amin, 2020). For instance, Wang et al. (2020) reported that more than half of Chinese participants had psychological problems which were manifested as moderate and severe fear and anxiety in the first phase of the pandemic.

Pakpour and Griffiths (2020) noted that the psychological and economic consequences of the pandemic can cause fear, and with their colleagues they investigated whether the fear varies according to the demographic variables and different psychological factors (e.g., Ahorsu et al. 2022). Schimmenti et al. (2020) noted that accepting fear is the most effective method of dealing with it. Mertens et al. (2020) claimed the dimensions of COVID-19 fear were 'personal concern', 'security behavior', and 'primary attention'. Harper et al. (2021) used the Fear of COVID-19 Scale (FCV-19S) to identify psychological predictors of behavior change such as fear of COVID-19 and social distancing by applying the Behavioral Change and Emotional Stress Form and the Moral Basis Questionnaire. They found that there was a positive relationship between the behavior changes of individuals such as engaging in culturally and governmentally recommended public health behaviors (e.g., improved hand hygiene and spatial distancing) and fear of COVID-19.

It is well established that all consumer behavior and purchasing behavior resulting from behavioral intention varies depending on time and place (Sheth, 2020). In fact, the strict quarantine measures which were applied in many countries to prevent the spread of COVID-19 led to a change in consumer behavior and purchasing decisions. These preventive measures changed individuals' consumption habits as well as the living conditions of individuals, as well as affecting their behavioral intentions towards purchasing methods (Martínez-Lorca et al., 2020). One of the changing consumer behaviors is towards online buying because individuals had to stay in their homes and/or individuals did not want to shop outdoors to avoid catching the virus from other shoppers. However, as consumers were confined to their homes combined with a period of economic recession, this led to the bankruptcy of well-known brands in many industries worldwide (Atalan, 2020; Donthu and Gustafsson, 2020; Nikbin *et al.*, 2021).

The prevalence of internet use more generally and the convenience of online shopping are also important factors in explaining the increase in online shopping behavior (Meixian, 2015). As consumers allocate less time to

shopping and more to other endeavors, their wish for convenience has grown, and consequently, their attention has turned to online shopping (Duarte *et al.*, 2018). Consumer decision-making is significantly influenced by the convenience of shopping. Online shopping convenience can be defined as a measure of consumers' time, energy, and effort required to shop online, and has an essential role in online consumer decision-making (Saha *et al.*, 2022). Online shopping convenience is one of the primary motivations for individuals to adopt online shopping (Jiang *et al.*, 2013). In addition, shopping convenience is one of the predictive variables that affect outcome variables such as behavioral intention and customer satisfaction (Jiang *et al.*, 2013). Compared to in-store shopping, online shopping provides a shopping environment independent of time and place. Furthermore, criteria such as being flexible and transparent, being easy to use, home delivery, and after-sales support are among the variables that have influenced consumers' behavioral intentions towards online shopping platforms during the COVID-19 pandemic period (Hao *et al.*, 2020; Jensen *et al.*, 2021). In a study examining anxiety of COVID-19 and stockpiling behavior Hao et al. (2020) reported that the high level of anxiety among consumers concerning COVID-19 caused them to feel the need to stockpile various products. In addition, they found lockdowns were highly associated with the anxieties and stockpile pressure. Addo et al. (2020) examined the changes in consumers' purchasing behavior during the pandemic. They found that the decrease in human interaction, travel restrictions, and closure of traditional shops during the spread of COVID-19 increased the tendency of individuals to engage in online shopping behavior. Iriani and Andjarwati (2020) investigated the effects of perceived benefit, perceived ease of use, and perceived risk on online shopping decision behavior during the COVID-19 pandemic. They found that perceived usefulness and perceived ease of use significantly and positively affected the online shopping behavior.

2.1. The present study

Based on the aforementioned literature, the aim of the present study was to explore the relationship between fear of COVID-19 and online shopping intention. More specifically, the main aim of was to investigate the effect of the fear of COVID-19 on online shopping convenience and online shopping intention. Moreover, there is little research that has examined the fear of COVID-19 and consumer purchasing behavior. This provides the opportunity for empirical research to investigate the effect of fear of COVID-19 on consumer purchasing behavior. The present study fills a gap in the literature by examining the effects of fear of COVID-19 on online shopping behavior. The study explored the direct and indirect impacts of fear of COVID-19 on online shopping intention. The conceptual model of the hypothesized relationship is presented in Figure 1. The study's research hypotheses were:

H_1. The fear of COVID-19 will have a direct effect on online shopping convenience and online shopping intention.
H_2. Online shopping convenience will have direct effect on online shopping intention.
H_3. Online shopping convenience will mediate the relationship between fear of COVID-19 and online shopping intention.

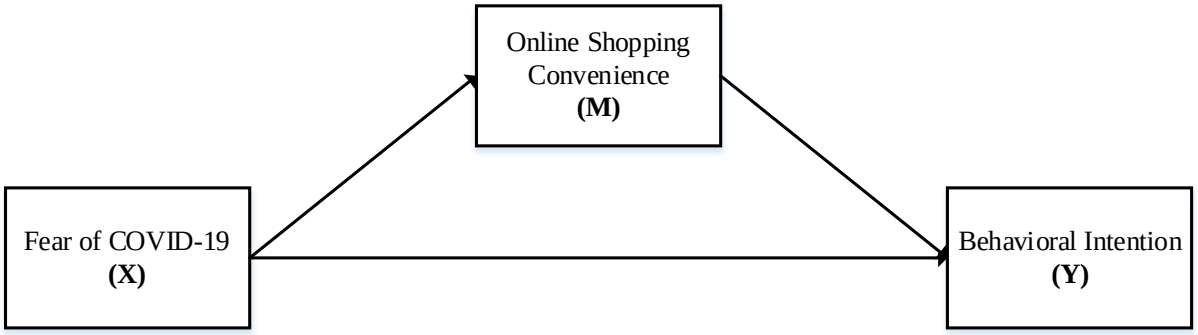


Figure 1. Conceptual framework of the structural relationship between fear of COVID-19, online shopping convenience, and online shopping intention

3. Method

In the present study, a correlational cross-sectional survey was used to examine the relationship between fear of COVID-19, online shopping convenience, and online shopping intention in Turkey.

3.1. Participants and procedure

Convenience sampling and snowball sampling methods were utilized to collect the data. For the convenience sampling method, a link to a *Google Forms*-hosted online survey was advertised on *WhatsApp, Telegram, Facebook,* and *Twitter*. For the snowball sampling method, enrolled participants were encouraged to invite their friends to participate in the study. The final sample comprised 732 Turkish participants (526 females [72%] and 206 males [28%]), aged 18–66 years (M = 27.49 years, SD = 8.13). Detailed demographic information about the

participants is presented in Table 1. The present study obtained ethical approval from the research team's university ethics committee and was carried out in accordance with the Helsinki declaration.

Characteristic	f	(%)		f	(%)
Gender			***Frequency of online shopping***		
Female	526	71.8			
Male	206	28.2	Few times a year	142	19.4
Age (years)			Few times a month	340	46.4
18-28	475	64.9	Few times a week	78	10.7
29-39	188	25.7			
40-66	69	9.5			
Educational Status					
High school	57	7.8			
Community college	59	8.0			
Undergraduate degree	487	66.5			
Postgraduate degree	129	17.6			

Table 1. Demographic characteristics of the participants

3.2. Measures

The Fear of COVID-19 Scale (FCV-19S). Turkish version of the FCV-19S was used to assess the fear COVID-19 (Satici *et al.*, 2021). The scale comprises seven items (*"When watching news and stories about COVID-19 on social media, I become nervous or anxious"*) which are rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate greater fear of COVID-19. In the present study the Cronbach's alpha was 0.85.

Online Shopping Convenience Scale (OSCS). The OSCS was used to assess perceived online shopping convenience (Jiang *et al.*, 2013). The scale comprises 18 items (e.g., *"The website is always accessible", "I am able to complete my purchases without difficulty", "I am able to find desired products quickly"*) consisting of five convenience factors (i.e., access, search, evaluation, transaction, and possession/post-purchase convenience). All items are rated on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate that the consumers perceived online shopping as more useful than offline shopping. As there was no Turkish version, the original scale was translated from English to Turkish and then back-translated following standardized international guidelines (Beaton *et al.*, 2000). Then, the 18-item and five-dimension structure of the scale was tested with confirmatory factor analysis. The results showed a good fit to the data [CFI=.96, TLI=.95, NNFI=.95, RMSEA=.06, SRMR= .05]. In the present study the Cronbach's alpha was 0.91.

Behavioral Intention Scale (BIS). The BIS was used to assess consumers' behavioral intention to online shopping (Jiang *et al.*, 2013). The scale comprises three items (e.g., *"I will use this retailer website more often for online purchases", "I will continue to shop online at this retailer"*) loading on one factor. Items are rated on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). As there was no Turkish version, the original scale was translated into Turkish following the same process outlined above (Beaton *et al.*, 2000). Then, the three-item scale was tested with confirmatory factor analysis. The results showed a good fit to the data [CFI=.99, TLI=.99, NNFI=.98, RMSEA=.01, SRMR= .01]. In the present study the Cronbach's alpha was 0.80.

3.3. Data analysis

Prior to conducting the analyses, survey responses were examined. The data were checked for outliers, skewness and kurtosis, and missing values. The checks indicated that the data were approximately normally distributed with no violations of the assumptions of linearity, multicollinearity, independence of residuals, and homoscedasticity of residuals. Descriptive statistics were calculated along with Cronbach alpha coefficient reliability for the psychometric scales, and Pearson correlation coefficients were calculated to assess the bivariate relationships between the study variables.

PROCESS macro by Hayes (2018) was used to test the hypotheses. To examine the significance of indirect effects, 95% confidence intervals (CIs) were calculated based on a bias-corrected bootstrap estimation approach with 5000 samples (Hayes, 2018). A bootstrap-confidence interval that does not include zero provides evidence of a significant indirect effect. Bias-corrected bootstrapping is considered an exceptionally accurate method to estimate mediation effects (Taylor *et al.*, 2008). The bias-corrected bootstrap estimation approach enables the generation of bootstrap sampling distributions of the total and specific indirect effects through a resampling process (Preacher and Hayes, 2008). Additionally, to estimate the size of the mediation effect, the ratio of the indirect to the total effect (P_M) was calculated, as recommended by Wen and Fan (Wen and Fan, 2015). The closer P_M is to 1, the more of the effect of the independent variable on the dependent variable can be said to operate through a mediator

variable, and the closer P_M is to 0, the less of the effect of the independent variable on the dependent variable is due to the indirect process through the mediator (Hayes, 2018).

4. Results

4.1. Descriptive statistics and correlational analysis

Table 2 shows the reliabilities, means, standard deviations, and bivariate correlations among the study variables. All measures displayed adequate reliability, ranging from a low of α = .80 for online shopping intention to a high of α = .91 for online shopping convenience. In addition, the skewness of the variables ranged from -0.89 to 0.47. The kurtosis of the variables ranged between -0.79 and 0.74. The results showed that the observed variables did not significantly violate normality.

Variable	*M*	*SD*	*Skewness*	*Kurtosis*	*1*	*2*	*3*
1. Fear of COVID-19	2.73	0.79	0.47	-0.79	(.85)	.28**	.30**
2. Online shopping convenience	4.12	0.59	-0.60	-0.24		(.91)	.61**
3. Online shopping intention	3.91	0.85	-0.36	-0.72			(.80)

Notes: Ratings for fear of COVID-19, online shopping convenience, and behavioral intention based on five-point scales; α= internal consistency reliability; SD = standard deviation; n = 732. Cronbach's alphas are shown in parentheses on the diagonal.

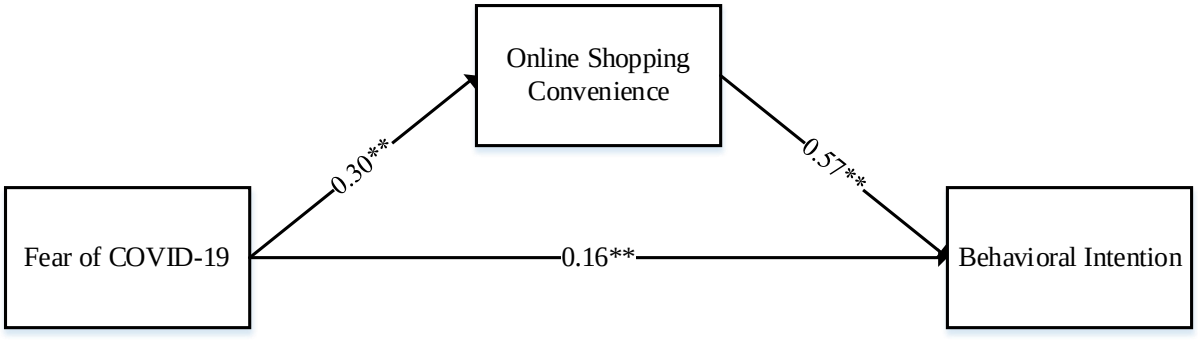
Table 2. Means, standard deviations, and correlations among the study variables

As seen in Table 2, the Pearson correlation coefficients showed that fear of COVID-19 was significantly and positively correlated with online shopping convenience (r = .28, p < .01) and online shopping intention (r = .30, p < .01). In addition, Table 2 shows that online shopping convenience was significantly and positively correlated with online shopping intention (r = .61, p < .01).

4.2. The mediation models

In order to examine the mediation model, and to see if online shopping convenience mediated the association between fear of COVID-19 and online shopping intention, a mediation analysis was performed. Results of the mediation analysis are presented in Table 3. The standardized regression coefficients are presented in Figure 2. The preliminary results showed that the fear of COVID-19 and online shopping convenience accounted for 40% of the variance of online shopping intention (R^2 = 0.40, p < .001).

H_1 posited that individuals' fear of COVID-19 would have a direct effect on online shopping convenience and online shopping intention. Figure 2 shows that the direct effect of fear of COVID-19 was significant and positive for both online shopping convenience: β = .30 [*Se* = .03, 95% CI = (0.22, 0.35)], and online shopping intention: β = .16 [*Se*= .03, 95% CI = (.09, .22)]. Therefore, H_1 was supported. H_2 posited that individuals' perceptions of online shopping convenience would have direct effect on online shopping intention. Figure 2 shows that the direct effect of online shopping convenience on online shopping intention was significant and positive: β = .57 [*Se* = .04, 95% CI = (0.50, 0.79)]. Therefore, H_2 was supported.



Notes: **p<0.01, All pathways presented are standardized regression coefficients.

Figure 2. The results of the mediating model

H_3 posited that online shopping convenience would mediate the relationship between fear of COVID-19 and online shopping intention. Table 3 presents the results of the analyses for H_3. The results showed that the total effect of fear of COVID-19 and online shopping convenience on online shopping intention was β = .33 [*Se* = .03, 95% CI = (0.26, 0.41)]. A bias-corrected bootstrap 95% CI indicated that the indirect effect was significant: β = .16 [*Se* = .03,

95% CI = (0.10, 0.22)]. Bootstrapped confidence intervals were above zero. The results showed that online shopping convenience mediated the relationship between fear of COVID-19 and online shopping intention. The size of the mediation effect was P_M= .50, meaning that the indirect effect explained 50% of the variance. Therefore, H_3 was supported.

	Estimates			Bias-corrected bootstrapping 95% CI	
	β	*Se*	*p*	Lower	Upper
Total effect	.33**	0.03	.001	0.26	0.41
Indirect effects[1]	.17**	0.02	.001	0.12	0.21
Direct effects	.16**	0.03	.001	0.10	0.22
P_M	.51				

Notes: [1]Confidence intervals and standard errors for the indirect effect were based on bootstrap estimation approach with 5000 samples. CI= Confidence Intervals. P_M = Effect size. Standardized coefficients are reported. *p<.01; **p<.001.

Table 3. Online shopping convenience as a mediator in the relationship between fear of COVID-19 and behavioral intention

5. Discussion

The purpose of the present study was to explore the relationships between fear of COVID-19, online shopping convenience, and online shopping intention. More specifically, it aimed to clarify the effects of fear of COVID-19 on online shopping intention and the mediating role of online shopping convenience in the relationship between fear of COVID-19 and online shopping intention. The results of the study showed that fear of COVID-19 has a direct effect on online shopping convenience and online shopping intention. In addition, the results implied that online shopping convenience is important for increasing online shopping intention during the COVID-19 pandemic.

The COVID-19 pandemic, which has been globally detrimental, has had a major impact on public health, as well as negatively affecting individuals economically, sociologically and psychologically (Brodeur *et al.*, 2021; Grasso *et al.*, 2021; Jassim *et al.*, 2021; Matthewman and Huppatz, 2020). The pandemic has led to an increase in the level of stress, fear, panic and anxiety in many individuals, and due to the fear of the virus has led to social isolation for some members of society (Luo *et al.*, 2020; Pedrosa *et al.*, 2020). Given how the pandemic has deeply affected social life, it has made it necessary for individuals to change their daily living habits and adapt to this new situation (Prati and Mancini, 2021; di Renzo *et al.*, 2020). In addition, it has brought drastic changes with people's lives being carried out intensively online including shopping, working, and education. The pandemic has also had great impact on global marketing as well as on consumers' attitude and behavior. More specifically, the COVID-19 pandemic has led to a change in the purchasing behavior of many consumers (Erjavec and Manfreda, 2022; Nguyen *et al.*, 2020).

The present study posited three hypotheses to explore the relationships between study variables. The first hypothesis posited that fear of COVID-19 would have a direct effect on online shopping convenience and online shopping intention and this was confirmed. The results indicated that the degree of consumer's fear of COVID-19 was positively related to online shopping convenience and online shopping intention. In short, the greater the fear of COVID-19, the greater the perceived convenience of online shopping and the greater the intent to shop online. These results showed that fear of COVID-19 effects consumer purchasing behavior. Moreover, online shopping intention has increased because of reasons such as fear of being infected while shopping in-store, and fear of death from contracting the virus (Mouratidis and Papagiannakis, 2021). In order to avoid the possibility of the COVID-19 infection and decrease health concerns, consumers have gravitated towards online shopping (Baarsma and Groenewegen, 2021). Studies have found that when consumers think the circumstances of the COVID-19 pandemic are severe and they are vulnerable, in-store shopping decreases and online shopping increase (Grashuis *et al.*, 2020; Moon *et al.*, 2021). Eger et al. (2021) found that health fears during the Covid-19 era have a significant influence on purchasing behavior. Pantano et al. (2020) reported that because of the health concerns of older individuals, even the less digitally-savvy consumers have started discovering and enjoying online shopping due to the safety offered by online shopping.

The second hypothesis posited that online shopping convenience would have a direct effect on online shopping intention and this was also confirmed. The results indicated that the degree of consumer's online shopping convenience was positively related to online shopping intention. In short, the greater the perceived convenience of online shopping, the greater the intent to shop online. This suggests that when consumers perceive online shopping as more convenient, consumers are likely to have a higher level of intent to shop online. Studies have shown that online shopping convenience is a vital antecedent of online shopping intention, and that it

enhances behavioral intention to shop online (Duarte *et al.*, 2018; Raman, 2019). In addition, Pham et al.(2018) found that convenience directly influences consumers' repurchasing intentions. The results of the present study concur with the findings reported in previous studies conducted which found that online shopping convenience and online shopping intention are significantly related (Arora and Aggarwal, 2018; Jiang *et al.*, 2013; Yeo *et al.*, 2017).

The third hypothesis posited that online shopping convenience would mediate the relationships between fear of COVID-19 and online shopping intention. The results of the mediation model analysis confirmed the hypothesis. Findings obtained from the model showed that the fear of COVID-19 predicted online shopping intention both directly and indirectly through online shopping convenience. This appears to suggest that an increase in fear of COVID-19 leads to increased perception that online shopping is convenient. Consequently, an increase in perceived online shopping convenience was associated with a slight increase in the intent to shop online. The indirect effect of fear of COVID-19 on online shopping intention explained 50% of the variance. In brief, the results showed that fear of COVID-19 has a direct and indirect effect on the online shopping intention of the customers. The results imply that the circumstances of COVID-19 ensured that consumers became aware of the benefits of online shopping such as safety, wide product variety, ease of access, and availability. In addition, these findings imply that circumstances of COVID-19 such as isolation, lockdown, fear of getting infected from in-store, fear, and anxiety from COVID-19 led to consumers to shop online.

6. Limitations and recommendations for future research

The present study has several limitations that should be considered when interpreting the research findings. First, the study was cross-sectional, and no causal inferences can be made. Further studies might consider adding a longitudinal aspect in order to study causal relationships between the variables studied here. Second, all the data were self-report and are therefore subject to well-established methods biases. Third, all the data were collected online which means those without internet access or those who use the internet infrequently were unable (or less likely) to participate. The study's findings may therefore only apply to those who are already regular online users. Fourth, because the data used in the present study were collected during the COVID-19 pandemic in Turkey, it is possible that results may differ among samples from other countries and cultures. The cultural context in which data were collected may have affected the study's findings because culture may shape people's response to the pandemic and the way people construe fear and stressors. For example, Ji et al. (2021) and Yap et al. (2021) found that cultural differences make a difference in psychological response to COVID-19 and how to cope with stressors related to COVID-19. In addition, Faqih (2022) reported that cultural differences affect consumers' intention to adopt online shopping during COVID-19. Therefore, the generalization of the current findings beyond the Turkish sample should be made with caution. Future research could validate the findings by studying these variables in other countries during the pandemic and post-pandemic.

7. Conclusion

The present study provides an important contribution to the literature by presenting and testing a model suggesting the direct and indirect effects of fear of COVID-19 on purchasing behaviors. The results of the study suggest that the COVID-19 pandemic has changed purchasing behavior of many consumers because of benefits of the online shopping and the unprecedented circumstances of the pandemic. Results confirmed the positive association between the fear of COVID-19, online shopping convenience, and online shopping intention. In addition, the results showed that both the fear of COVID-19 and online shopping convenience have a direct effect on online shopping intention. Furthermore, the mediating role of fear of COVID-19 provides insight into how a psychological variable indirectly affects consumers' purchasing behavior.

References

Addo, P.C., Jiaming, F., Kulbo, N.B. and Liangqiang, L. (2020), "COVID-19: fear appeal favoring purchase behavior towards personal protective equipment", *Service Industries Journal*, Vol. 40 No. 7–8, doi: 10.1080/02642069.2020.1751823.

Ahorsu, D.K., Lin, C.Y., Imani, V., Saffari, M., Griffiths, M.D. and Pakpour, A.H. (2022), "The Fear of COVID-19 Scale: Development and Initial Validation", *International Journal of Mental Health and Addiction*, Vol. 20 No. 3, doi: 10.1007/s11469-020-00270-8.

Amin, S. (2020), "The psychology of coronavirus fear: Are healthcare professionals suffering from corona-phobia?", *International Journal of Healthcare Management*, doi: 10.1080/20479700.2020.1765119.

Arora, N. and Aggarwal, A. (2018), "The role of perceived benefits in formation of online shopping attitude among women shoppers in India", *South Asian Journal of Business Studies*, Vol. 7 No. 1, doi: 10.1108/SAJBS-04-2017-0048.

Atalan, A. (2020), "Is the lockdown important to prevent the COVID-19 pandemic? Effects on psychology, environment and economy-perspective", *Annals of Medicine and Surgery*, Vol. 56, doi: 10.1016/j.amsu.2020.06.010.

Baarsma, B. and Groenewegen, J. (2021), "COVID-19 and the Demand for Online Grocery Shopping: Empirical Evidence from the Netherlands", *Economist (Netherlands)*, Vol. 169 No. 4, doi: 10.1007/s10645-021-09389-y.

Beaton, D.E., Bombardier, C., Guillemin, F. and Ferraz, M.B. (2000), "Guidelines for the process of cross-cultural adaptation of self-report measures", *Spine*, doi: 10.1097/00007632-200012150-00014.

Billore, S. and Anisimova, T. (2021), "Panic buying research: A systematic literature review and future research agenda", *International Journal of Consumer Studies*, doi: 10.1111/ijcs.12669.

Brodeur, A., Gray, D., Islam, A. and Bhuiyan, S. (2021), "A literature review of the economics of COVID-19", *Journal of Economic Surveys*, Vol. 35 No. 4, doi: 10.1111/joes.12423.

Cao, X. (2020), "COVID-19: immunopathology and its implications for therapy", *Nature Reviews Immunology*, doi: 10.1038/s41577-020-0308-3.

Chi, X., Chen, S., Chen, Y., Chen, D., Yu, Q., Guo, T., Cao, Q., *et al.* (2022), "Psychometric Evaluation of the Fear of COVID-19 Scale Among Chinese Population", *International Journal of Mental Health and Addiction*, Vol. 20 No. 2, doi: 10.1007/s11469-020-00441-7.

Chopdar, P.K., Paul, J. and Prodanova, J. (2022), "Mobile shoppers' response to Covid-19 phobia, pessimism and smartphone addiction: Does social influence matter?", *Technological Forecasting and Social Change*, Vol. 174, doi: 10.1016/j.techfore.2021.121249.

Cox, N., Ganong, P., Noel, P., Vavra, J., Wong, A., Farrell, D., Greig, F., *et al.* (2020), "Initial impacts of the pandemic on consumer behavior: Evidence from linked income, spending, and savings data", *Brookings Papers on Economic Activity*, Vol. 2020 No. Special Edition, doi: 10.1353/eca.2020.0006.

Donthu, N. and Gustafsson, A. (2020), "Effects of COVID-19 on business and research", *Journal of Business Research*, doi: 10.1016/j.jbusres.2020.06.008.

Duarte, P., Costa e Silva, S. and Ferreira, M.B. (2018), "How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM", *Journal of Retailing and Consumer Services*, Vol. 44, doi: 10.1016/j.jretconser.2018.06.007.

Eger, L., Komárková, L., Egerová, D. and Mičík, M. (2021), "The effect of COVID-19 on consumer shopping behaviour: Generational cohort perspective", *Journal of Retailing and Consumer Services*, Vol. 61, doi: 10.1016/j.jretconser.2021.102542.

Erjavec, J. and Manfreda, A. (2022), "Online shopping adoption during COVID-19 and social isolation: Extending the UTAUT model with herd behavior", *Journal of Retailing and Consumer Services*, Vol. 65, doi: 10.1016/j.jretconser.2021.102867.

Faqih, K.M.S. (2022), "Internet shopping in the Covid-19 era: Investigating the role of perceived risk, anxiety, gender, culture, and trust in the consumers' purchasing behavior from a developing country context", *Technology in Society*, Vol. 70, p. 101992, doi: 10.1016/j.techsoc.2022.101992.

Grashuis, J., Skevas, T. and Segovia, M.S. (2020), "Grocery shopping preferences during the COVID-19 pandemic", *Sustainability (Switzerland)*, Vol. 12 No. 13, doi: 10.3390/su12135369.

Grasso, M., Klicperová-Baker, M., Koos, S., Kosyakova, Y., Petrillo, A. and Vlase, I. (2021), "The impact of the coronavirus crisis on European societies. What have we learnt and where do we go from here?– Introduction to the COVID volume", *European Societies*, Vol. 23 No. S1, doi: 10.1080/14616696.2020.1869283.

Griffiths, M.D. and Pakpour, A.H. (2020), "The fear of COVID-19 and its role in preventive behaviors.", *Journal of Concurrent Disorders*, Vol. 2 No. 1.

Hao, N., Wang, H.H. and Zhou, Q. (2020), "The impact of online grocery shopping on stockpile behavior in Covid-19", *China Agricultural Economic Review*, Vol. 12 No. 3, doi: 10.1108/CAER-04-2020-0064.

Harper, C.A., Satchell, L.P., Fido, D. and Latzman, R.D. (2021), "Functional Fear Predicts Public Health Compliance in the COVID-19 Pandemic", *International Journal of Mental Health and Addiction*, Vol. 19 No. 5, doi: 10.1007/s11469-020-00281-5.

Hayes, A.F. (2018), *Introduction to Mediation, Moderation, and Conditional Process Analysis, Second Edition: A Regression-Based Approach, The Guilford Press*, Vol. 46.

Iriani, S.S. and Andjarwati, A.L. (2020), "Analysis of perceived usefulness, perceived ease of use, and perceived risk toward online shopping in the era of Covid-19 pandemic", *Systematic Reviews in Pharmacy*, Vol. 11 No. 12, doi: 10.31838/srp.2020.12.50.

Jassim, G., Jameel, M., Brennan, E., Yusuf, M., Hasan, N. and Alwatani, Y. (2021), "Psychological impact of covid-19, isolation, and quarantine: A cross-sectional study", *Neuropsychiatric Disease and Treatment*, Vol. 17, doi: 10.2147/NDT.S311018.

Jensen, K.L., Yenerall, J., Chen, X. and Yu, T.E. (2021), "US Consumers' Online Shopping Behaviors and Intentions during and after the COVID-19 Pandemic", *Journal of Agricultural and Applied Economics*, Vol. 53 No. 3, doi: 10.1017/aae.2021.15.

Ji, L.J., Khei, M., Yap, S., Wang, X., Zhang, Z. and Hou, Y. (2021), "Cultural Differences in the Construal of Suffering and the COVID-19 Pandemic", *Social Psychological and Personality Science*, Vol. 12 No. 6, doi: 10.1177/1948550620958807.

Jiang, L. (Alice), Yang, Z. and Jun, M. (2013), "Measuring consumer perceptions of online shopping convenience", *Journal of Service Management*, Vol. 24 No. 2, doi: 10.1108/09564231311323962.

Laato, S., Islam, A.K.M.N., Farooq, A. and Dhir, A. (2020), "Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach", *Journal of Retailing and Consumer Services*, Vol. 57, doi: 10.1016/j.jretconser.2020.102224.

Luo, M., Guo, L., Yu, M. and Wang, H. (2020), "The psychological and mental impact of coronavirus disease 2019 (COVID-19) on medical staff and general public – A systematic review and meta-analysis", *Psychiatry Research*, doi: 10.1016/j.psychres.2020.113190.

Martínez-Lorca, M., Martínez-Lorca, A., Criado-Álvarez, J.J., Armesilla, M.D.C. and Latorre, J.M. (2020), "The fear of COVID-19 scale: Validation in spanish university students", *Psychiatry Research*, doi: 10.1016/j.psychres.2020.113350.

Matthewman, S. and Huppatz, K. (2020), "A sociology of Covid-19", *Journal of Sociology*, Vol. 56 No. 4, doi: 10.1177/1440783320939416.

Meixian, L. (2015), "Convenience and online consumer shopping behavior: A business anthropological case study based on the contingent valuation method", *Anthropologist*, Vol. 21 No. 1–2, doi: 10.1080/09720073.2015.11891788.

Mertens, G., Gerritsen, L., Duijndam, S., Salemink, E. and Engelhard, I.M. (2020), "Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020", *Journal of Anxiety Disorders*, Vol. 74, doi: 10.1016/j.janxdis.2020.102258.

Mofijur, M., Fattah, I.M.R., Alam, M.A., Islam, A.B.M.S., Ong, H.C., Rahman, S.M.A., Najafi, G., *et al.* (2021), "Impact of COVID-19 on the social, economic, environmental and energy domains: Lessons learnt from a global pandemic", *Sustainable Production and Consumption*, doi: 10.1016/j.spc.2020.10.016.

Moon, J., Choe, Y. and Song, H. (2021), "Determinants of consumers' online/offline shopping behaviours during the COVID-19 pandemic", *International Journal of Environmental Research and Public Health*, Vol. 18 No. 4, doi: 10.3390/ijerph18041593.

Mouratidis, K. and Papagiannakis, A. (2021), "COVID-19, internet, and mobility: The rise of telework, telehealth, e-learning, and e-shopping", *Sustainable Cities and Society*, Vol. 74, doi: 10.1016/j.scs.2021.103182.

Nguyen, H.V., Tran, H.X., van Huy, L., Nguyen, X.N., Do, M.T. and Nguyen, N. (2020), "Online Book Shopping in Vietnam: The Impact of the COVID-19 Pandemic Situation", *Publishing Research Quarterly*, Vol. 36 No. 3, doi: 10.1007/s12109-020-09732-2.

Nikbin, D., Iranmanesh, M., Ghobakhloo, M. and Foroughi, B. (2021), "Marketing mix strategies during and after COVID-19 pandemic and recession: a systematic review", *Asia-Pacific Journal of Business Administration*, doi: 10.1108/APJBA-06-2021-0243.

Omar, N.A., Nazri, M.A., Ali, M.H. and Alam, S.S. (2021), "The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety", *Journal of Retailing and Consumer Services*, Vol. 62, doi: 10.1016/j.jretconser.2021.102600.

Pakpour, A.H. and Griffiths, M.D. (2020), "The fear of COVID-19 and its role in preventive behaviours", *Journal of Concurrent Disorders*, Vol. 2 No. 1, doi: 10.54127/wcic8036.

Pantano, E., Pizzi, G., Scarpi, D. and Dennis, C. (2020), "Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak", *Journal of Business Research*, Vol. 116, doi: 10.1016/j.jbusres.2020.05.036.

Pedrosa, A.L., Bitencourt, L., Fróes, A.C.F., Cazumbá, M.L.B., Campos, R.G.B., de Brito, S.B.C.S. and Simões e Silva, A.C. (2020), "Emotional, Behavioral, and Psychological Impact of the COVID-19 Pandemic", *Frontiers in Psychology*, doi: 10.3389/fpsyg.2020.566212.

Pham, Q.T., Tran, X.P., Misra, S., Maskeliunas, R. and Damaševičius, R. (2018), "Relationship between convenience, perceived value, and repurchase intention in online shopping in Vietnam", *Sustainability (Switzerland)*, Vol. 10 No. 1, doi: 10.3390/su10010156.

Prati, G. and Mancini, A.D. (2021), "The psychological impact of COVID-19 pandemic lockdowns: A review and meta-analysis of longitudinal studies and natural experiments", *Psychological Medicine*, doi: 10.1017/S0033291721000015.

Preacher, K.J. and Hayes, A.F. (2008), "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models", *Behavior Research Methods*, Vol. 40, doi: 10.3758/BRM.40.3.879.

Prentice, C., Quach, S. and Thaichon, P. (2022), "Antecedents and consequences of panic buying: The case of COVID-19", *International Journal of Consumer Studies*, Vol. 46 No. 1, doi: 10.1111/ijcs.12649.

Raman, P. (2019), "Understanding female consumers' intention to shop online: The role of trust, convenience and customer service", *Asia Pacific Journal of Marketing and Logistics*, Vol. 31 No. 4, doi: 10.1108/APJML-10-2018-0396.

Ren, S.Y., Gao, R.D. and Chen, Y.L. (2020), "Fear can be more harmful than the severe acute respiratory syndrome coronavirus 2 in controlling the corona virus disease 2019 epidemic", *World Journal of Clinical Cases*, Vol. 8 No. 4, doi: 10.12998/wjcc.v8.i4.652.

di Renzo, L., Gualtieri, P., Pivari, F., Soldati, L., Attinà, A., Cinelli, G., Cinelli, G., *et al.* (2020), "Eating habits and lifestyle changes during COVID-19 lockdown: An Italian survey", *Journal of Translational Medicine*, Vol. 18 No. 1, doi: 10.1186/s12967-020-02399-5.

Reznik, A., Gritsenko, V., Konstantinov, V., Khamenka, N. and Isralowitz, R. (2021), "COVID-19 Fear in Eastern Europe: Validation of the Fear of COVID-19 Scale", *International Journal of Mental Health and Addiction*, doi: 10.1007/s11469-020-00283-3.

Rohm, A.J. and Swaminathan, V. (2004), "A typology of online shoppers based on shopping motivations", *Journal of Business Research*, Vol. 57 No. 7, doi: 10.1016/S0148-2963(02)00351-X.

Saha, S.K., Duarte, P., Silva, S.C. and Zhuang, G. (2022), "The Role of Online Experience in the Relationship Between Service Convenience and Future Purchase Intentions", *Https://Doi.Org/10.1080/15332861.2022.2045767*, Routledge, doi: 10.1080/15332861.2022.2045767.

Satici, B., Gocet-Tekin, E., Deniz, M.E. and Satici, S.A. (2021), "Adaptation of the Fear of COVID-19 Scale: Its Association with Psychological Distress and Life Satisfaction in Turkey", *International Journal of Mental Health and Addiction*, Vol. 19 No. 6, doi: 10.1007/s11469-020-00294-0.

Schimmenti, A., Billieux, J. and Starcevic, V. (2020), "The four horsemen of fear: An integrated model of understanding fear experiences during the COVID-19 pandemic", *Clinical Neuropsychiatry*, Vol. 17 No. 2, doi: 10.36131/CN20200202.

Schmidt, S., Benke, C. and Pané-Farre, C.A. (2021), "Purchasing under threat: Changes in shopping patterns during the COVID-19 pandemic", *PLOS ONE*, Public Library of Science, Vol. 16 No. 6, p. e0253231, doi: 10.1371/JOURNAL.PONE.0253231.

Sheth, J. (2020), "Impact of Covid-19 on consumer behavior: Will the old habits return or die?", *Journal of Business Research*, Vol. 117, doi: 10.1016/j.jbusres.2020.05.059.

Svatosova, V. (2022), "Changes in Online Shopping Behavior in the Czech Republic During the COVID-19 Crisis", *Journal of Competitiveness*, Vol. 14 No. 1, pp. 155–175, doi: 10.7441/joc.2022.01.09.

Taylor, A.B., MacKinnon, D.P. and Tein, J.Y. (2008), "Tests of the three-path mediated effect", *Organizational Research Methods*, Vol. 11 No. 2, doi: 10.1177/1094428107300344.

Truong, D. and Truong, M.D. (2022), "How do customers change their purchasing behaviors during the COVID-19 pandemic?", *Journal of Retailing and Consumer Services*, Vol. 67, doi: 10.1016/j.jretconser.2022.102963.

Tsamakis, K., Tsiptsios, D., Ouranidis, A., Mueller, C., Schizas, D., Terniotis, C., Nikolakakis, N., *et al.* (2021), "COVID-19 and its consequences on mental health (Review)", *Experimental and Therapeutic Medicine*, Vol. 21 No. 3, doi: 10.3892/etm.2021.9675.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C.S. and Ho, R.C. (2020), "Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China", *International Journal of Environmental Research and Public Health 2020, Vol. 17, Page 1729*, Multidisciplinary Digital Publishing Institute, Vol. 17 No. 5, p. 1729, doi: 10.3390/IJERPH17051729.

Wang, E., An, N., Gao, Z., Kiprop, E. and Geng, X. (2020), "Consumer food stockpiling behavior and willingness to pay for food reserves in COVID-19", *Food Security*, Vol. 12 No. 4, doi: 10.1007/s12571-020-01092-1.

Wen, Z. and Fan, X. (2015), "Monotonicity of effect sizes: Questioning kappa-squared as mediation effect size measure", *Psychological Methods*, Vol. 20 No. 2, doi: 10.1037/met0000029.

Yap, S., Lee, A., Ji, L.J., Li, Y. and Dong, Y. (2021), "Cultural Differences in People's Psychological Response to COVID-19", *Frontiers in Psychology*, Vol. 12, doi: 10.3389/fpsyg.2021.636062.

Yeo, V.C.S., Goh, S.K. and Rezaei, S. (2017), "Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services", *Journal of Retailing and Consumer Services*, Vol. 35, doi: 10.1016/j.jretconser.2016.12.013.

Zhao, D., Yao, F., Wang, L., Zheng, L., Gao, Y., Ye, J., Guo, F., *et al.* (2020), "A comparative study on the clinical features of coronavirus 2019 (COVID-19) pneumonia with other pneumonias", *Clinical Infectious Diseases*, Vol. 71 No. 15, doi: 10.1093/cid/ciaa247.