Tourists' risk perception, travel behaviour and behavioural intention during the COVID-19

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Abstract
Considering the coronavirus risk, the purpose of the study is to reveal the group differences in travel risk perception, travel behaviour and behavioural intention in terms of the tourists' sociodemographic characteristics – gender, age and past travel experience. A convenience sampling was used and members of the eligible travel groups on social media platforms were invited to respond to an online survey. A total of 160 responses were obtained from Turkey in January 2021. Exploratory factor analysis, independent samples t-tests and cross-tabulation analysis were performed to analyse the data. This study determined the differences in the risk perception of coronavirus, travel behaviour and travel intention of tourists in terms of gender and age of tourists. Although it is known that the higher the experience, the lower the risk perception, the study showed no differences associated with the past travel experience. This supposes that all tourists, regardless of their past experience, perceived the coronavirus risk in the same way as its influence has been tremendous globally. Consequently, tourism professionals should attract target markets at the appropriate time with compatible strategies regarding the sociodemographic factors.

Keywords: COVID-19, pandemic, travel risk perception, travel behaviour, behavioural intention

1. Introduction

There is no doubt that the novel COVID-19 has stopped all ordinary flow and disrupted the whole order of the world. In all this chaos, it was not possible to exclude travel and tourism from the devastating effects of the pandemic. While international tourist arrivals decreased by 73% in 2020, the severe decline has continued at the beginning of 2021 recording a drop of 87% (United Nations World Tourism Organization, UNWTO, 2021). However, who and how are affected still matters and how this environment will shape the future remains significant, yet unclear (Fotiadis, Polyzos & Huan, 2021).

Previous studies have shown that perceived risk affects travel preferences, travel intention and travel behaviour (Fuchs & Reichel, 2006; Lepp & Gibson, 2008; Reisinger & Mavondo, 2005). Risk perception, on the other hand, is affected by many factors including socio-demographic, behavioural, organizational or psychographic variables (Kozak, Crotts & Law, 2007; Reichel, Fuchs & Uriely, 2007; Reisinger & Mavondo, 2006; Ritchie, Chien & Sharifpour, 2017; Yang, Sharif & Khoo-Lattimore, 2015). Therefore, it is widely known that the characteristics of tourists have an impact on risk perception, travel intentions and travel behaviour (Rather, 2021; Peric, Dramicanin & Conic, 2021; Zheng, Luo & Ritchie, 2021). When it comes to health risks, especially during the COVID-19 pandemic, these factors have become more prominent in the vacation decisions and future plans that tourists will make.

In particular, past experiences, age and gender are among the most significant factors affecting the next travel plans of tourists (Karl, Kock, Ritchie & Gauss, 2021; Neuburger & Egger, 2021; Zhan, Zeng, Morrison, Liang & Coca-Stefaniak, 2020). Initially, it is thought that more experienced tourists will continue to travel during the pandemic as their risk perception is lower (Karl *et al.*, 2021; Turnsek, Gorenak, Brumen, Mekinc, Rangus & Stuhec, 2020). Besides, the travel risk perceived by young tourists during the pandemic is lower than the elderly tourists. Therefore, it is estimated that young tourists will be in more travel plans in the near future compared to older tourists (Turnsek *et al.*, 2020; Zhan *et al.*, 2020).

Women have higher perceptions of risk during the pandemic than men. Therefore, specific preferences such as private accommodation (e.g. caravans) and services have emerged that will enable women to travel more during the pandemic (Bae & Chang, 2021). On the other hand, older women find traveling more risky than younger women during the pandemic. However, there is no such difference between men (Turnsek *et al.*, 2020). Neuburger and Egger (2021) noted in their cluster analysis that younger and less traveled tourists have a high perception of travel risk and tend to change and cancel travel plans. They also found that tourists who travel more and aged over 40 have a low perception of travel risk and are less likely to avoid travel and change their travel plans. However, Pappas and Glyptou (2021) stated that the pandemic affects the preferences of tourists of all age groups. Therefore, tourists of all age groups find traveling risky and avoid travel during the pandemic.

Moreover, when tourists perceive a high security and health risk, they take more protective and preventive measures to reduce the risk of travel. In particular, women and higher-age tourists are more likely to adopt personal non-pharmaceutical interventions (Das & Tiwari, 2021). These findings lead to the hypotheses of this study:

H_1: There is a significant relationship between travel risk perception and gender.
H_2: There is a significant relationship between travel behaviour and gender.
H_3: There is a significant relationship between behavioural intention and gender.
H_4: There is a significant relationship between travel risk perception and age groups.
H_5: There is a significant relationship between travel behaviour and age groups.

H₆: There is a significant relationship between behavioural intention and age groups.
H₇: There is a significant relationship between travel risk perception and past experiences.
H₈: There is a significant relationship between travel behaviour and past experiences.
H₉: There is a significant relationship between behavioural intention and past experiences.

2. Methodology

The instrument was comprised of 27 statements in three scales –travel risk perception, travel behaviour, and behavioural intention, adopted from the existing literature. First, perceived travel risk associated with COVID-19 was measured using 11 statements, which was adapted from Cahyanto, Wiblishauser, Pennington-Gray and Schroeder (2016). Second, travel behaviour associated with COVID-19 was measured using 11 statements that was adopted from Neuburger and Egger (2021). The original travel behaviour scale contains 10 statements, however, one statement "Currently I would avoid trips by airplane / boat" was divided into two different statements in this study. Therefore, the travel behaviour scale has 11 statements in this study. Third, the behavioural intention was measured using 5 statements regarding an individual's intention associated with COVID-19 that were adopted from Lee, Song, Bendle, Kim and Han (2012). A five-point Likert scale was used on all three scales (5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree). Fourth, sociodemographic factors were measured by asking respondents their gender, education, age, frequency of national and international travel, and the time of last national and international vacation. All of the scales used in the study have been translated into Turkish. The semantic integrity of the expressions of the scales has been preserved. Two academicians who are experts in their fields assisted in the Turkish translation of the statements.

A convenience sampling method was used and members of the eligible travel groups on social media platforms were invited to participate in the study. An online survey was administered in Turkey in January 2021. First, about 600 users were asked about their intention to participate in the study through social media. After accepting to participate in the study, the authors sent a questionnaire to the respondents. In the end, a total of 160 people completed the survey. The sample of the study was calculated based on the G*Power sample calculation robot (Faul, Erdfelder, Lang & Buchner, 2007). This robot calculated the sample of the study as 111 at 95% confidence interval (Test family: t-test, statistical test: correlation: point biserial model, type of power analysis: a priori: compute required sample size-given α, power, and effect size).

The distribution of demographic characteristics of the participants in the study was revealed through frequency analysis. Besides, exploratory factor analysis was performed to determine the validity, reliability, and dimensions of the scales. Parallel test, minimum average partial analysis, and scree plot analysis were used in the exploratory factor analysis. Independent samples T-test analysis was conducted to test the hypotheses of the study. Finally, a cross-tabulation analysis was conducted to reveal the relationships between the travel experiences of the participants. SSPS 24 program was used in all analysis.

3. Findings and Analysis

3.1. Profile of Participants

Most of the participants in the study are women and the education level of the participants is high. While the majority of the participants travel at an average of two or more times a year domestically, they travel abroad once a year. Besides, the majority of the participants have not been able to international travel for more than a year while they seem to have travelled domestically within the six months. Table 1 shows the profile of participants.

Table 1. *Respondents' profile*

	N	%
Gender		
Women	94	58.8
Men	66	41.3
Education		
High-School	13	8.1
Under-graduate	109	68.1
Post-graduate	38	23.8
Age		
18-30	81	50.6
31 and over	79	49.4
Domestic Travel Average		
Inexperienced	40	25.0
Experienced	120	75.0
International Travel Average		
Inexperienced	117	73.1
Experienced	43	26.9
Latest Domestic Travel		
Within six months	97	60.6
More than six months	63	39.4
Latest International Travel		
Within a year	46	28.7
More than a year	114	71.3
Total	*160*	*100*

3.2. Exploratory Factor Analysis

Travel risk perception, travel behaviour and behavioural intention scales were used in the study. Firstly, exploratory factor analysis was performed on these scales. Horn's Parallel Analysis (1965), Velicer's (1976) Minimum Average Partial Analysis and Cattell's (1966) Scree Plot were performed in the exploratory factor analysis. In three analyzes, it was revealed that each scale used in the study had a single factor structure. Therefore, scales were restricted to one factor in the analysis. Besides, since all scales were normally distributed, the Maximum Likelihood method was used as the factor extraction method and Promax was used in the rotation method in factor analysis (Table 2) (Hair, Black, Babin & Anderson, 2014; Tabachnick & Fidell, 2012).

As a result of the factor analysis performed on the travel risk perception scale, the Kaiser-Meyer-Olkin (KMO) value, which is necessary for validity, was found to be .87. This value was found to be meritorious according to Kaiser's (1974) classification. Also, Cronbach's alpha value, which is important for reliability, was found as .90. This value is above the acceptable level according to Hair *et al.* (2014). Besides, the value is above Nunnally and Bernstein's (1994) minimum limit of .80.

Table 2. *Factor loadings, eigen-values, variance explained, and means: EFA for the scales*

Factors and Items	Mean	Factor Loadings	Eigenvalues	Variance Explained	α
Factor 1 – Travel Risk Perception	**3.70**		**5.136**	**57.067**	**0.90**
It is dangerous to travel internationally by air right now because of COVID-19.	3.81	0.888			
Because of COVID-19, international air travel should be avoided right now.	3.78	0.850			
Because of COVID-19, domestic air travel should be avoided right now.	3.38	0.842			
I am concerned about COVID-19 during travel by air right now.	3.77	0.812			
Traveling in the COVID-19 period is risky right now.	3.79	0.706			
COVID-19 is a very frightening disease.	3.68	0.583			
I am not concerned about contracting COVID-19 during travel by air right now (-).	3.54	0.574			
I would feel comfortable traveling in the COVID-19 period (-).	3.82	0.558			
Domestic travel is just as risky as international travel right now.	3.81	0.536			
Factor 1 – Travel Behaviour	**3.58**		**5.853**	**58.525**	**0.92**
Currently I would avoid trips by airplane.	3.51	0.904			
Currently I would avoid trips by train.	3.48	0.873			
Currently I would avoid domestic travel.	3.16	0.843			
I would avoid tourist attractions in my home town.	3.61	0.752			
Currently I would avoid trips by boat.	3.19	0.745			
Currently, I would cancel travel plans to countries with reported cases of coronavirus.	3.99	0.740			
I would avoid any contact with tourists in my home town.	4.00	0.654			
Currently I would avoid big events.	4.27	0.620			
Currently, I would cancel travel plans to countries with no reported cases of coronavirus.	2.81	0.601			
My travel behaviour is likely to change due to coronavirus.	3.86	0.544			
Factor 1 – Behavioural intention	**3.02**		**4.353**	**87.055**	**0.96**
I will make an effort to travel internationally in the near future.	3.10	0.947			
I am willing to travel internationally in the near future.	3.20	0.921			
I will certainly invest time and money to travel internationally in the near future.	3.01	0.918			
I am planning to travel internationally in the near future.	2.89	0.899			
I intend to travel internationally in the near future.	2.94	0.888			

Note: Extraction Method: Maximum Likelihood Factor Analysis (-) reverse statements

The total explained variance of the risk perception scale was found to be .57, which is acceptable for Hair *et al.* (2014). In addition, the formula of Norman and Streiner (1998) was used to determine the levels of factor loadings (x = 5.152 / √ (N-2)). Therefore, "People around me seem to refrain from domestic air travel right now because of COVID-19" and "People around me seem to refrain from international air travel right now because of COVID-19" statements with factor loadings lower than 0.41 were excluded from the study.

KMO value of travel behaviour scale was found as .92 and Cronbach's alpha value as .93. KMO value has emerged as marvellous (Kaiser, 1974). Cronbach's alpha is also above the desired levels (Hair *et al.*, 2014; Nunnally & Bernstein, 1994). The total explained variance of the travel behaviour scale was found to be 58.5. This value is at an acceptable level. Also, because of the formula of Norman and Streiner (1998), "If I travel to another country depends on how media is reporting about that country" statement with a factor loading lower than 0.41 was excluded from the study.

KMO value of behavioural intention scale was found as .86 and Cronbach's alpha value as .96. KMO value has emerged as meritorious (Kaiser, 1974). Cronbach's alpha is also above the desired levels (Hair *et al.*, 2014; Nunnally & Bernstein, 1994). The total explained variance of the behavioural intention scale was found to be 58.5, which is also at an acceptable level.

3.3. T-test Analysis

All three scales used in the study showed normal distribution. Kurtosis (from -1,393 to 2,581) and skewness (from -1,516 to ,314) results are at the desired values as the skewness should not exceed 2 and the kurtosis should be under 3 (Kline, 2011). Therefore, parametric tests were conducted in the study. With these analyzes, the hypotheses of the study were also tested. Table 3 and Figure 1 show the relationship of travel risk perception, travel behaviour and behavioural intention with gender.

Table 3. *Independent Sample T-Test Based on Gender*

Factors	Gender	N	Mean	Sd.	Se.	t	*Sig.*
Travel Risk Perception	Women	94	3.86	0.74	0.07	2.784	*p=0.006*
	Men	66	3.48	0.93	0.11		
Travel Behaviour	Women	94	3.70	0.84	0.08	2.028	*p=0.033*
	Men	66	3.42	0.89	0.11		
Behavioural Intention	Women	94	2.88	1.22	0.12	-1.569	*p=0.041*
	Men	66	3.22	1.43	0.17		

Figure 1. Gender Differences in Variables

As a result of the independent sample t-test based on gender, it was found that the travel risk perception and travel behaviours of women participants were higher than men participants. On the other hand, behavioural intentions of women participants are lower than men participants. This means that women perceive travel as risky and avoid traveling while the pandemic continues compared to men. However, women's intention to travel is lower than men during the pandemic. Therefore, H_1, H_2 and H_3 are supported.

Table 4. *Independent Sample T-Test Based on Age*

Factors	Age	N	Mean	Sd.	Se.	t	*Sig.*
Travel Risk Perception	18-30	81	3.40	0.89	0.09	-1.493	***p=0.044***
	31 and over	79	3.81	0.77	0.08		
Travel Behaviour	18-30	81	3.39	0.94	0.10	-2.941	***p=0.004***
	31 and over	79	3.78	0.75	0.08		
Behavioural Intention	18-30	81	3.23	1.32	0.14	2.080	***p=0.039***
	31 and over	79	2.81	1.28	0.14		
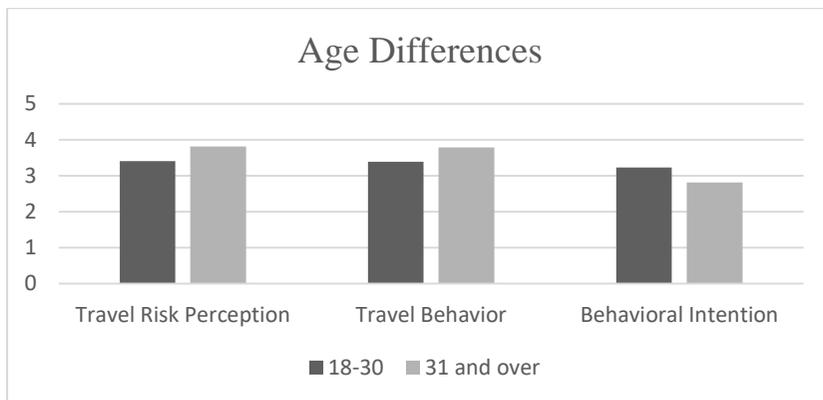
Figure 2. Age Differences in Variables

When the age groups of the participants were examined, it was concluded that the travel risk perceptions and travel behaviour of the age groups between 18-30 were lower than the older ones. As the age of the participant's increases, their perception of travel risk and avoidance travel behaviours

also increases. On the other hand, it has been concluded that the 18-30 age group is more willing to travel than the older ages while the pandemic continues (Table 4, Figure 2). Therefore, H_4, H_5 and H_6 are supported.

Table 5. *Independent Sample T-Test Based on Domestic Travel*

Factors	Domestic Travel	N	Mean	Sd.	Se.	t	*Sig.*
Travel Risk Perception	Inexperienced	40	3.63	0.83	0.13	-0.636	*p=0.526*
	Experienced	120	3.73	0.84	0.07		
Travel Behaviour	Inexperienced	40	3.46	0.88	0.13	-1.060	*p=0.291*
	Experienced	120	3.62	0.87	0.07		
Behavioural Intention	Inexperienced	40	3.35	1.25	0.19	1.826	*p=0.070*
	Experienced	120	2.91	1.32	0.12		

Figure 3. Domestic Travel Experience Differences in Variables

There was no significant difference according to the average domestic travels of the participants per year. Therefore, regarding the past experience, travel risk perceptions, travel behaviours and behavioural intentions are similar among participants who travelled domestically (Table 5, Figure 3).

Table 6. *Independent Sample T-Test Based on International Travel*

Factors	International Travel	N	Mean	Sd.	Se.	t	*Sig.*
Travel Risk Perception	Inexperienced	117	3.68	0.87	0.08	-0.666	*p=0.507*
	Experienced	43	3.78	0.76	0.11		
Travel Behaviour	Inexperienced	117	3.54	0.91	0.08	-1.013	*p=0.313*
	Experienced	43	3.70	0.76	0.11		
Behavioural Intention	Inexperienced	117	2.96	1.31	0.12	-1.057	*p=0.292*
	Experienced	43	3.20	1.33	0.20		

Figure 4. International Travel Experience Differences in Variables

There was also no significant difference according to the average international travels of the participants per year. Therefore, regarding the past experience, travel risk perceptions, travel behaviours and behavioural intentions are similar among participants who travelled internationally during the pandemic period (Table 6, Figure 4). Accordingly, H_7, H_8, H_9 were not supported.

3.4. Crosstabs Analysis

A cross-tabulation analysis was conducted to reveal the relationship between the travel experiences of the participants before the pandemic and during the pandemic. In this analysis, both domestic and international experiences of the participants were analysed. Table 7 shows Domestic Travel * Latest Domestic Travel Cross Tabulation.

Table 7. *Domestic Travel* Latest Domestic Travel Cross Tabulation*

		Latest Domestic Travel		
		Within six months	**More than six months**	**Total**
Domestic Travel	Inexperienced	11	29	40
	Experienced	86	34	120
Total		*97*	*63*	*160*

According to Table 7, it was revealed that inexperienced domestic tourists travelled less in the last six months during the pandemic compared to experienced domestic tourists. Besides, it is found that experienced domestic tourists continue to participate in domestic travels during the pandemic.

Table 8. *International Travel* Latest International Travel Cross Tabulation*

		Latest International Travel		
		Within six months	**More than six months**	**Total**
International Travel	Inexperienced	20	97	117
	Experienced	26	17	43
Total		*46*	*114*	*160*

According to Table 8, it was revealed that inexperienced international tourists travelled less in the last six months during the pandemic compared to experienced international tourists. Besides, it is found

that experienced international tourists continue to participate in international travels during the pandemic.

4. Discussion and Conclusion

As the risk perception of an individual changes due to many factors and affects both behavioural intention and travel behaviour, this study focused on the latest pandemic that has devastated human life. Understanding the travel behaviour of tourists and taking the necessary precautions is very essential in forming tourism policies. This study revealed differences in the travel behaviour of tourists according to their demographic characteristics. First, it was concluded that pandemic risk perception and travel behaviour decrease as the age of the tourists increases, and the behavioural intention increase as the age of the tourists decreases. From this point of view, it has been found that the perception of pandemic risk among young tourists is lower and they are more willing to travel than older tourists as the pandemic continues. Second, the study has shown that pandemic risk perception is higher among women tourists and women are more afraid of traveling than men tourists do. Behavioural intentions of women tourists are also less than men in the pandemic conditions. Similar results were obtained in several studies in the literature (Bae & Chang, 2021; Das & Tiwari, 2021; Turnsek *et al.*, 2020; Zhan *et al.*, 2020). For instance, a BBC report claims that due to the masculinized characteristics of the society, the COVID-19 crisis has aggravated gender inequality in Korea. Particularly, since schools were closed, working mothers got overloaded with childcare and multiple roles which resulted in severe emotional distress and depression (Bae & Chang, 2021). Similarly, Das and Tiwari (2021) attribute this differences to the social roles and responsibilities imposed on women.

The study also concluded that pandemic risk perception, travel behaviour and behavioural intention do not differ according to the past travel experiences of tourists. This result is valid for all tourists who have travelled both domestically and internationally for the last year while the pandemic has been going on. Although more than half of the participants participated in a domestic trip in the last six months, no difference emerged as a result of this study. In this case, it means that although tourists travelled under pandemic conditions, they have perceived traveling as risky. In this respect, the study differs from several studies in the literature. Because previous studies have indicated that experienced tourists will tend to travel more than inexperienced tourists during the pandemic (Karl *et al.*, 2021; Turnsek *et al.*, 2020). However, this study showed no significant differences between experienced and inexperienced tourists. It is estimated that even if the tourists intended to travel, they might have shifted their plans to domestic travel due to the official bans and quarantine practices in the countries they would go to. Similarly, Abraham, Bremser, Carreno, Crowley-Cry and Moreno (2021) revealed that although the demographics and past experiences of tourists played an important role in travel decisions and behavioural intentions, restrictions imposed by states had more impact on the travel behaviour of tourists. Accordingly, as the participants of this study did not mostly participate in international travel during the pandemic, yet they participated in domestic travels, an important reason why tourists do not participate in international travel is suggested as the restrictions of states.

It is significant for tourism practitioners to properly evaluate the risk perceptions of tourists and develop policies accordingly. By supporting the literature, this study has shown that the risk perceptions of women tourists are higher than of men during the pandemic. Therefore, tourism practitioners can give priority to the measures to reduce the risk perception of women. Tourism practitioners should ensure that these measures reach women tourists by using the correct communication tools. On the other hand, the high-risk perception of women tourists does not mean that men's risk perception is low. A significant majority of the men participants think that traveling is risky during the pandemic. Therefore, it is beneficial for tourism policy practitioners to take protective and preventive measures to reduce the

pandemic risk perception of all tourists (Del Chiappa, Bregoli & Fotiadis, 2021). In particular, the majority of pandemic studies reveal that tourists will tend to prefer less crowded destinations. Hence, tourism practitioners should assure tourists that they take necessary measures both in mass transportation (such as plane, bus, train) and accommodation facilities to reduce tourists' risk perception. These measures include ensuring the employees work with masks and conducting regular COVID-19 tests, as well as ensuring the social distance between passengers, customers, visitors and giving utmost importance to hygiene conditions.

Tourism and destination organizations should design guidelines for how tourists should behave during their travels and what measures should be taken to avoid the virus. These guides can also be designed as brochures to provide easier access for tourists. Besides, countries should specify the measures in detail through tourism websites to prevent the spread of the pandemic. In these platforms, it will also be essential for the crisis communication to provide information such as quarantine practices applied in the country, including which country citizens have travel restrictions, and how many days the tourists entering the country will remain in quarantine.

5. Limitations and Further Research

Participants in this study are not classified according to their travel patterns. Studies in the literature reveal that business travel is the least affected by the pandemic (Abdullah, Dias, Muley & Shahin, 2020; Abraham *et al.*, 2021). In fact, many tourists plan to revisit the People's Republic of China for business purposes within 12 months when the restrictions created by the pandemic expire (Abdullah *et al.*, 2020). However, in this study, the travel patterns of tourists were not questioned. Besides, participants of the study are only Turkish tourists. Therefore, the study only contains the characteristics of Turkish culture. Similarly, studies in the literature have been conducted by collecting data from a single country. For instance, several studies have been conducted on the pandemic risk perception and travel intentions of Chinese (Zhen *et al.*, 2021), Serbian (Peric *et al.*, 2021), and Slovenian tourists (Turnsek *et al.*, 2020). However, cross-cultural studies to make predictions about future tourist preferences and risk perceptions will provide more comprehensive and in-depth results.

The COVID-19 pandemic has created unprecedented fear and anxiety in people (Zheng *et al.*, 2021). This study also does not focus on tourists' fears and anxiety about the pandemic. It stills remains unclear how tourists will behave during and after the pandemic. Therefore, it is recommended to increase studies on tourist psychology and how tourists behave and which types of travel they prefer.

Finally, studies on travel risk perception revealed gender differences. However, it is hard to explain why genders perceive the risk distinctively as it may be affected from personality, psychological, sociological, cognitive and/or other characteristics. Therefore, multidisciplinary studies can enlighten the underlying reasons.

Acknowledgement

References
Abdullah, M., Dias, C., Muley, D., & Shahin, M. (2020). Exploring the impacts of COVID-19 on travel behavior and mode preferences. *Transportation Research Interdisciplinary Perspectives, 8*, 1-13. Doi: 10.1016/j.trip.2020.100255.

Abraham, V., Bremser, K., Carreno, M., Crowley-Cyr, L., & Moreno, M. (2021). Exploring the consequences of COVID-19 on tourist behaviors: perceived travel risk, animosity and intentions to travel. *Tourism Review, 76*(4), 701-717. Doi: 10.1108/TR-07-2020-0344.

Bae, S. Y., & Chang, P. J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards 'untact'tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism, 24*(7), 1017-1035. Doi: 10.1080/13683500.2020.1798895.

Cahyanto, I., Wiblishauser, M., Pennington-Gray, L., & Schroeder, A. (2016). The dynamics of travel avoidance: The case of Ebola in the US. *Tourism Management Perspectives, 20*, 195-203. Doi: 10.1016/j.tmp.2016.09.004.

Cattell, R. B. (1966). The screen test for the number of factor. *Multivariate Behavioral Research, 1*(2), 245-276. Doi: 10.1207/s15327906mbr0102_10.

Das, S. S., & Tiwari, A. K. (2021). Understanding international and domestic travel intention of Indian travellers during COVID-19 using a Bayesian approach. *Tourism Recreation Research, 46*(2), 228-244. Doi: 10.1080/02508281.2020.1830341.

Del Chiappa, G., Bregoli, I., & Fotiadis, A. K. (2021). The impact of COVID-19 on Italian accommodation: A supply-perspective. *Journal of Tourism, Heritage & Services Marketing, 7*(1), 13-22. Doi: 10.5281/zenodo.4516187.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191. Doi: 10.3758/BF03193146.

Fotiadis, A., Polyzos, S., & Huan, T.C. (2021). The good, the bad and the ugly on COVID-19 tourism recovery. *Annals of Tourism Research, 87*, 1-14. Doi: 10.1016/j.annals.2020.103117.

Fuchs, G., & Reichel, A. (2006). Tourist destination risk perception: The case of Israel. *Journal of Hospitality & Leisure Marketing, 14*(2), 83-108. Doi: 10.1300/J150v14n02_06.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (17. Edition). Edinburg: Pearson.

Horn, J. L. (1965). A Rationale and Test for the number of factors in factor analysis. *Psychometrica, 30*(2), 179-185. Doi: 10.1007/BF02289447.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36. Doi: 10.1007/BF02291575.

Karl, M., Kock, F., Ritchie, B. W., & Gauss, J. (2021). Affective forecasting and travel decision-making: An investigation in times of a pandemic. *Annals of Tourism Research, 87*, 103-139. Doi: 10.1016/j.annals.2021.103139.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press.

Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research, 9*, 233-242. Doi: 10.1002/jtr.607.

Lee, C. K., Song, H. J., Bendle, L. J., Kim, M. J., & Han, H. (2012). The impact of non-pharmaceutical interventions for 2009 H1N1 influenza on travel intentions: A model of goal-directed behavior. *Tourism Management, 33*(1), 89-99. Doi: 10.1016/j.tourman.2011.02.006.

Lepp, A., & Gibson, H. (2003). Tourist roles, perceived risk and international tourism. *Annals of Tourism Research, 30*(3), 606-624. Doi: 10.1016/S0160-7383(03)00024-0.

Neuburger, L., & Egger, R. (2021). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: a case study of the DACH region. *Current Issues in Tourism, 24*(7), 1003-1016. Doi: 10.1080/13683500.2020.1803807.

Norman, G. R., & Streiner, D. L. (1998). *Biostatistics - The Bare Essentials*. Hamilton: B.C. Decker Inc.

Nunnally J. C., & Bernstein, I. H. (1994). *Psychometric Theory* (3. Edition). USA: McGraw-Hill.

Pappas, N., & Glyptou, K. (2021). Accommodation decision-making during the COVID-19 pandemic: Complexity insights from Greece. *International Journal of Hospitality Management, 93*, 1-9. Doi: 10.1016/j.ijhm.2020.102767.

Perić, G., Dramićanin, S., & Conić, M. (2021). The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. European *Journal of Tourism Research, 27, 2705.*

Rather, R. A. (2021). Monitoring the impacts of tourism-based social media, risk perception and fear on tourist's attitude and revisiting behaviour in the wake of COVID-19 pandemic. *Current Issues in Tourism, 24*(23), 3275-3283. Doi: 10.1080/13683500.2021.1884666.

Reichel, A., Fuchs, G., & Uriely, N. (2007). Perceived risk and the non-institutionalized tourist role: The case of Israeli student ex-backpackers. *Journal of Travel Research, 46*, 217-226. Doi: 10.1177/0047287507299580.

Reisinger, Y., & Mavondo, F. (2005). Travel anxiety and intentions to travel internationally: Implications of travel risk perception. *Journal of Travel Research, 43*, 212-225. Doi: 10.1177/0047287504272017.

Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel & Tourism Marketing, 20*(1), 13-31. Doi: 10.1300/J073v20n01_02.

Ritchie, B. W., Chien, P. M., & Sharifpour, M. (2017). Segmentation by travel related risks: An integrated approach. *Journal of Travel & Tourism Marketing, 34*(2), 274-289. Doi: 10.1080/10548408.2016.1156616.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using Multivariate Statistics* (6. Edition). USA: Pearson.

Turnšek, M., Brumen, B., Rangus, M., Gorenak, M., Mekinc, J., & Štuhec, T. L. (2020). Perceived threat of COVID-19 and future travel avoidance: Results from an early convenient sample in Slovenia. *Academica Turistica-Tourism and Innovation Journal, 13*(1), 3-19. Doi: 10.26493/2335-4194.13.3-19.

UNWTO (2021). UNWTO world tourism barometer and statistical annex, March 2021. *UNWTO World Tourism Barometer (English version), 19*(2), Doi: 10.18111/wtobarometereng.2021.19.1.2.

Velicer, W. F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika, 41*(3), 321-327. Doi: 10.1007/BF02293557.

Yang, E. C. L., Sharif, S. P., & Khoo-Lattimore, C. (2015). Tourists' risk perception of risky destinations: The case of Sabah's eastern coast. *Tourism and Hospitality Research, 15*(3), 206-221. Doi: 10.1177/1467358415576085.

Zhan, L., Zeng, X., Morrison, A. M., Liang, H., & Coca-Stefaniak, J. A. (2020). A risk perception scale for travel to a crisis epicentre: Visiting Wuhan after COVID-19. *Current Issues in Tourism*, 1-18. Doi: 10.1080/13683500.2020.1857712.

Zheng, D., Luo, Q., & Ritchie, B. W. (2021). Afraid to travel after COVID-19? Self-protection, coping and resilience against pandemic 'travel fear'. *Tourism Management, 83*, 1-13. Doi: 10.1016/j.tourman.2020.104261.