The impact of tourist's hygiene-safety perception on their intention to travel during the Covid-19 pandemic in Turkey

Seher Konak[1]

[1]Research Asist., Ph.D., Eskişehir Osmangazi University, Eskişehir, Turkey, ORCID: https://orcid.org/0000-0002-6847-9754

Abstract

This study examines the effects of tourists' hygiene-safety perceptions and travel concerns on their intention to travel during the Covid-19 pandemic. Study data were collected from Turkish citizens living in Turkey by online survey technique. The obtained data were analyzed with SPSS 22.0 program and Lisrel 8.80. For the construct validity of the scale, exploratory factor analysis was performed and then confirmatory factor analysis was performed. The model proposed in the study was tested with structural equation modeling. The findings show that tourists' perception of hygiene-safety increases travel anxiety related to the pandemic. Also, it was determined that the travel anxiety of the participants about the pandemic negatively affected their intention to travel.

Keywords: *Travel anxiety, Perception of hygiene-safety, Intention to travel, Covid-19 pandemic*

1. Introduction

Tourists are generally thoughtful about external threats, particularly misdemeanor, chilly weather or disease which may unexpectedly disrupt their travel or holiday (Cohen, 1986). In addition to country-specific risk perceptions, general concerns greatly affect the travel decisions, particularly in times of trouble (Fischhoff et al., 2004). Tourists avoid traveling in health-related crises as well as terrorism, war and similar crises that create security concerns (Chen et al., 2004). In general, tourists view Europe as comparatively safe in terms of health treats while they view Africa as a breeding ground for infection (Lepp & Gibson, 2003). The research of Cossens and Gin (1994) brace this information. They have found out that health risks from poor food and water quality are higher in Africa and Asia than in Europe and Australia.

Health risks arising from pandemics significantly affect the travel decisions of tourists. Due to pandemics hindering travel movements, there is a contraction in tourism demand (Baxter & Bowen, 2004). For example, past outbreaks of coronavirus-induced SARS (2003) and MERS (2003) in a couple of weeks' diseases spread to more than 30 countries in worldwide (Al-Tawfiq, Zumla, & Memish, 2014). Bird flu and swine flu have significantly affected tourism demand. Bird flu originated in Hong Kong, China and other Asian countries and spread from there to the world (Lee & Chen, 2011). Swine flu was seen in the USA in 2019 and it was easily transmitted from person to person in many countries, slowing down tourism movements (Haque & Haque, 2018).

The Ebola pandemic which occurred in Guinea in 2013 caused a decrease in tourism movements even in destinations other than the countries where it was seen (Mizrachi & Fuchs, 2006). Reports show that hotel and tour bookings have dropped significantly since the beginning of the pandemic, even in some countries that are miles away from Ebola-affected countries (Hughes, 2014).

The infectious disease SARS Covid-19, which first appeared in Wuhan, China in late 2019, has also become a global pandemic in 2020 (WHO, 2020). The Covid-19 epidemic, which is described as perhaps the biggest social crisis of the last 50 years, has both challenged health systems and changed our communication styles by affecting social life. With the spread of the epidemic to many countries of the world with the effect of globalization, countries closed their borders, cities and settlements were quarantined, people were forced to stay at home and reduce their social relations (Çobaner, 2021). In this context, tourism researchers who accept that mankind moveableness is linked to health risks

have investigated the impacts of pandemic on travel behavior (Zenker & Kock, 2020).

Health risk perception (Jonas, Mansfeld, Paz & Potasman, 2011) and general travel risk perception (Mizrachi & Fuchs, 2016) has been examined in current tourism research. However, the relationships between tourists' perception of health risks, travel anxiety and travel intention have not been studied yet much during the Covid-19 pandemic. In this study, the hygiene-security perceptions of tourists during the Covid-19 pandemic and outcome of travel anxiety related to the pandemic on their intention to travel are examined.

The Theory of Planned Behavior (TPB) is a behavior theory designed to explain or predict human behaviors which occur in a specific context (Fishbein & Ajzen, 1975). The theory was first put forward by Fishbein and Ajzen (1975). But it was later revised by Ajzen (1991). TPB suggests that three factors trigger behavior; personal attitude, subjective norm, and perceived behavioral control. The theory argues that people's social behaviors in general are under the influence of some factors which arise from certain reasons and occur in a planned way. The theory of planned behavior forms theoretical basis of this research. It is assumed that the behavior and travel intentions of potential tourists during the Covid-19 pandemic are based on the theory of planned behavior.

2. Literature Review

2.1. Risk perception and tourist behavior

Risk has been shown as a big treat for cosmopolitan travelers (Sönmez & Graefe, 1998b). The demand for security is a basic need in human nature, and security concerns seem to discourage traveling to certain places (Kozak, Crotts & Law, 2007). Roehl and Fesenmaier (1992) state that there are seven types of perceived risks in tourism. These are social risk that negatively affects the tourist's social status; financial risk which represents possible currency depreciation, psychological risk that includes the negative outcome of the travel experience, satisfaction risk is the difference between the intended and actual travel experiences, time risk the possibility of losing valuable vacation time devoted to travel, physical risk refers to possible injury or disease and equipment risk refers to the failure of tourism equipment.

As in marketing studies, in tourism studies, the concepts of risk and perceived risk are strongly associated with consumer decisions and travel behavior (Conchar et al., 2004). The available literature shows that the dimensions of perceived health risks and other perceived risks have a significant effect on tourist decisions and behavior. Adopting strategies to delay a trip, change a destination and/or reduce the perceived risk level are some of them (Lo, Cheung & Law, 2011; Sönmez, 1998). For example, Yang and Nair (2014) state that uncertainty, worry, fear and anxiety are associated with perceived risk. Kozak et al. (2007), on the other hand, pointed out that as tourists' travel experience increases, the perceived risk decreases.

These perceived risks have the potential to significantly harm tourism demand, such as after the outbreak of the swine flu pandemic in the UK (Page, Song & Wu, 20). It is also very important to understand the basic human need for safety and security and to make potential visitors feel safe before or during their vacation (Sönmez & Graefe, 1998a). For example, visitors who considered certain destinations to be "at risk" are likely to avoid them in their future travel plans (Kozak, Crotts & Law, 2007). Negative experiences can make potential tourists worry about their future travel options. Assuming that domestic destinations are perceived as safe, it is fair to assume that those who associate high risk with international travel will prefer to vacation at home. The level of perceived risk can also determine the amount of information seeking called the risk reduction strategy, undertaken by the potential tourist (Roehl & Fesenmaier, 1992).

Overseas travel and exotic destinations can often carry higher risks and uncertainties regarding personal health and safety. For example, there may be an increased risk of contracting contagious infections on public transport, on poorly sanitized beaches or through ticks or mosquitoes (Irwin, 2020). Therefore, tourism puts safety at the center of travel and the ongoing risks associated with tourism. This can be explained by the fact that insecurity cases cause a collapse in the destination image with direct economic losses (Boakye, 2012). In the study, the H_1 hypothesis given below has been tested.

H_1: During the Covid-19 pandemic, tourists' hygiene-security perceptions have a significant effect on travel anxiety.

2.2. Coronavirus (Covid-19) and anxiety

On 31 December 2019, the WHO (World Health Organization) inform the first case of coronavirus from Wuhan, China, and then Covid-19 was recognized as a global pandemic (WHO, 2020). The first case in Turkey was reported on March 11, 2020. As of November 05 2021, the total number of infected people in Turkey are 8,150,708 and the total number of deaths are 71,526. As of November 07 2021, total confirmed cases caused by Coronavirus disease worldwide are 249,743,428 and the total number of deaths are 5,047,652 (covid19.tubitak.gov.tr).

This pandemic is deeply affecting every aspect of daily life, from the way people work, live, shop, socialize and plan for the future. While the psychological impact of these changes has been well documented by the media, the mental health of those who suffering from this crisis has been largely neglected (Xiang et al., 2020). Looking at research conducted in the past years, global disease pandemic has shown that people suffering from pandemic-related anxiety have high levels of post-traumatic stress, anxiety and suicidal tendencies (Wu et al., 2009; Yip et al., 2010). Recently, the Covid-19 pandemic has received a different diagnosis called neurophobia-associated coronaphobia or coronavirus anxiety (Asmundson & Taylor, 2020). In this context, the Coronavirus Anxiety Scale (CAS) has been developed by

Lee (2020). Evren et al. (2020) has adapted Lee's scale into Turkish through an online survey of 1023 Turkish participants. In addition, a 5-item Pandemic (COVID-19) Anxiety Travel Scale (PATS) has been developed by Zenker, Braun and Gyimothy (2021). These researchers state that anxiety about Covid-19 is negatively related to intention to travel. In this context, the following H_2 hypothesis has been tested.

H_2: During the Covid-19 pandemic, travel anxiety has a significant effect on the intention to travel for tourists.

2.3. Hygiene-safety perception, travel anxiety and travel intention relations

Tourism is one of the sectors that is quickly affected by many internal and external crises due to its fragile structure based on the security factor. When pandemic occur in certain regions, the effect may remain regional, but the Covid-19 pandemic has had a global impact and tourism activities have declined since 2020 (Gümüş & Hacıevliyagil, 2020). Travel intention emerges as a result of visitors acting with different motives and enables them to visit different destinations through these motives. Travel motivation helps predict tourist behavior because what visitors have in mind significantly influences their future travel (Horng et al., 2012: 816).

Mazursky (1989) pointed out that future travel decision will be influenced both by the scope of past travel experience and by its essence. In general, it can be concluded that personal experience with travel or a destination may affect perceptions of risk or safety, which in turn may affect the likelihood of future travel and the desire to avoid that destination (Sönmez & Graefe, 1998a). For example, study conducted by Karataş (2020), it was determined that there was an average of 85-90% increase in the behaviors of individuals regarding measures such as cleaning, hygiene, mask and gloves after the pandemic and a decrease of 95% in the behaviors of being in crowded places and using public transportation vehicles.

Study conducted by Yang et al. (2020), it was determined that the health status affects the tourism mobility and the demand for tourism decreased due to the spontaneous or the bans imposed by the states on human mobility. In their study, Wen et al. (2020) pointed out that after the pandemic, participants would keep away from visiting touristic areas and would travel alone or in small groups.

"The Theory of Planned Behavior (TPB) is a theory model that explains the relationship between consumers' beliefs, attitudes, intentions and behaviors" (Ajzen, 1991). TPB has been applied to help explain the complex travel decision-making process of consumers (Lam & Hsu, 2006). In studies on the theory of planned behavior in the field of tourism, for example, Lam and Hsu (2006) applied TPB to examine the intentions of Taiwanese travelers who chose Hong Kong as a travel destination. They have found that social influence and perceived behavioral control provided a good model fit for Taiwanese travelers. Sparks and Pan (2009)

investigated international travels attitudes of tourists who is traveling abroad from China.

The findings show that social norms and perceived behavioral controls are highly effective in predicting travel intentions. The study also shows that TV shows have a major role in destination preference as a wellspring of information for people of China about a destination. Lai, Yu, and Kuo (2010) examined tourists' perception of service improvement and the relationship of these elements with their intention to revisit the theme park with the Planned Behavior Model. Research findings show that interactive justice, attitudes and subjective norms are effective in revisiting theme parks. Therefore, it is thought that Planned Behavior theory provides an important basis for understanding tourists' travel intentions and forms the theoretical basis of the research presented in this article.

With the Covid-19 pandemic, the perception of health risk has changed, contractions have occurred in the economy and consumption capacities have changed, affecting costs. In this process, experienced fear, risks and uncertainties have affected consumer behavior that the demand for touristic travel will decrease has come to the fore (Aydın & Doğan, 2020). In this context, the following hypothesis has been tested.

H_3: During the Covid-19 pandemic, the perception of hygiene and safety for tourists has a significant effect on the intention to travel.

3. Methodology

This study aims to examine the effect of tourists' hygiene-security perception and travel anxiety on their intention to travel during the Covid-19 pandemic. For this reason, the research model has been created in Figure 1.

Figure 1. Research model
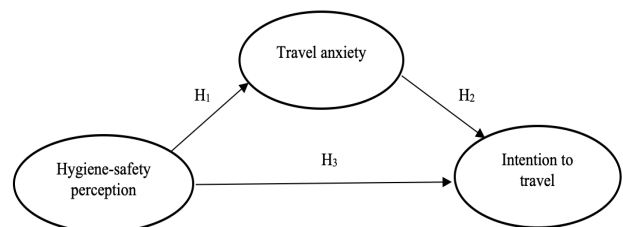
3.1. Study design and sample

The research population consists of Turkish citizens living in Ankara and Eskişehir provinces in Turkey. This study adopts convenient sample method. The questionnaire was firstly distributed to the researcher's personal network on Facebook and WhatsApp. Participants could forward the survey to their friends and families in Turkey from March 18 to April 19, 2021. While determining the sample, it was aimed to reach 384 samples representing the universe (Altunışık et al., 2007:127) with a sample error margin of 0.05 at the 95% confidence interval. A total of 384 valid questionnaires were obtained.

3.2. Data collection

As a sampling method, data were collected by convenience sampling method. Due to social distance rules during the pandemic, therefore, online survey technique was used in the data collection process. The questionnaire form used in the study consists of four sections. In the first section the questionnaire, there are 4 statements to measure the hygiene-safety perception of the participants, in the second section 5 statements to measure travel anxiety and in the third section 5 statements graded on a 5-point Likert scale to measure travel intention (1=I strongly disagree, 5= Absolutely I agree). In the last part of the questionnaire, there are 8 questions aiming to determine the personal information of the participants. In order to measure the perception of hygiene-safety, the scale by Çetinkaya et al. (2020) adapted to Turkish which they tested for validity and reliability was used. To measure travel anxiety, the Pandemic Anxiety Travel scale which is developed by Zenker, Braun and Gyimothy (2021) was translated from English to Turkish and used.

To measure the intention to travel (5 items) the scale which is used by Şengel et al. (2020) in their study is used. Validity and reliability analyzes of the scales were performed respectively. During the data collection process, a total of 389 questionnaires were obtained, five incomplete and unanswered questionnaires were excluded from the analysis. Analyzes were carried out on 384 valid questionnaires. Cronbach alpha values of the scales were checked for reliability analysis. Accordingly, the total reliability of the scale is 0.713 ($0.60 \leq \alpha < 0.80$), which is interpreted as being quite reliable (Akgül & Çevik, 2005: 435-436).

3.3. Data analysis

Frequency analysis in descriptive statistics, exploratory factor analysis for construct validity of the scale and Cronbach's alpha analysis for reliability were performed using SPSS program to determine the personal characteristics of the participants. Lisrel program was used for confirmatory factor analysis and SEM (Structural Equation Modeling). SEM was used to explore the model created in the research and the interactions between the variables.

4. Findings

In this section, first of all, the data obtained were interpreted by tabulating through descriptive statistics. Then, the results of the validity and reliability analysis of the statements in the scale were examined. Table 1 provides statistical information about the demographic characteristics of the participants.

Table 1. Statistics on demographic characteristics (N=384)

Variables	Groups	Frequency	Percent (%)
Gender	Female	160	41,7
	Male	224	58,3
Age	From 18 to 24	35	9,1
	From 25 to 34	138	35,9
	From 35 to 44	147	38,3
	From 45 to 54	50	13,0
	55 years and older	14	3,6
Education status	High school and below	26	6,8
	Associate degree	60	15,6
	Undergraduate	188	49,0
	Graduate	66	17,2
	PhD graduate	44	11,5
Marital status	Single	150	39,1
	Married	234	60,9
Income	2400 TL and below	40	10,4
	2401-4800 TL	50	13,0
	4801-7200 TL	132	34,4
	7201-9600 TL	75	19,5
	9601 TL and above	87	22,7
Did you participate in touristic activities abroad before the pandemic?	Yes	178	46,4
	No	206	53,6
Do you participate in touristic activities abroad after the restrictions related to pandemic are lifted?	Yes	214	55,7
	No	170	44,3
With whom do you usually go on a trip?	Spouse/lover	65	16,9
	Friend(s)	82	21,4
	Child(ren)	8	2,1
	Alone	48	12,5
	Spouse and children	181	47,1

According to Table 1, 58.3% (224) of the participants are men and 41.7% (160) are women. 38.3% (147) of the participants are in the 35-44 age range. When their educational status is examined, it is seen that they are mostly university graduates (49%). Considering the marital status of the participants, 60.9% (234) were married and 39.1% (150) were

single. Participants were asked about their income status. According to the income level, 34.4% of the participants were determined to be in the 4801-7200 TL income range. Did you participate in touristic activities abroad before the pandemic? (before 11 March 2020) were asked to participants. According to this, the rate of those who say yes is 44,6% and who say no is 53.6%. Do you participate in touristic activities after the restrictions related to pandemic are lifted? were asked to participants. According to this, the rate of those who say yes is 55.7%.
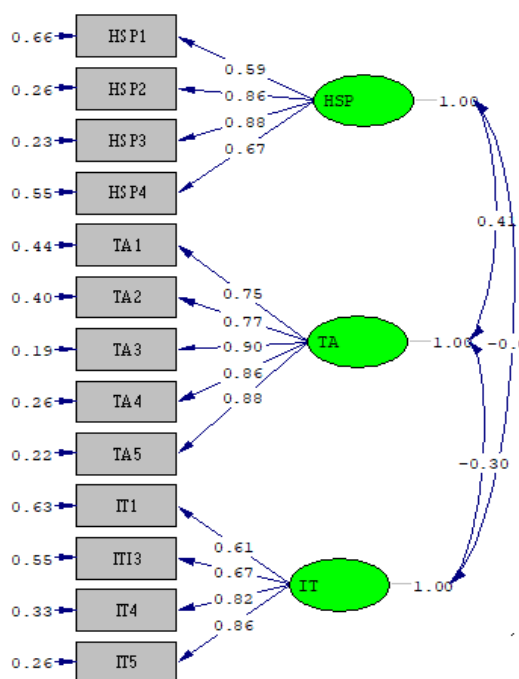
4.1. Explanatory and confirmatory factor analysis

At this stage of the analysis, firstly explanatory factor analysis and then confirmatory factor analysis were performed on the statements in the scale. Before interpreting the exploratory factor analysis, whether the data was suitable for factor analysis or not, the results of the KMO (Kaiser-Meyer-Olkin) and Bartlett's tests were examined (KMO=0.853-Bartlett's=p<0.000) and it was determined that it was suitable for factor analysis at two values.

Table 2. Results of the explanatory factor analysis (EFA)

Factors	Items	Loadings	Explained variance	Cronbach's Alpha	Mean and Std. Deviation
Hygiene-safety perception			19,372	0.83	4,72 (0.58)
	HSP1	0.67			
	HSP2	0.89			
	HSP3	0.87			
	HSP4	0.71			
Travel anxiety			27,250	0.91	4,18 (0.92)
	TA1	0.78			
	TA2	0.78			
	TA3	0.86			
	TA4	0.87			
	TA5	0.86			
Intention to travel			23,595	0.86	3,39 (1.04)
	IT1	0.82			
	IT2	0.73			
	IT3	0.85			
	IT4	0.83			
Total			70,217	0,71	4,10 (0.85)
KMO (Kaiser-Meyer-Olkin)		*,853*			
Bartlett's test chi-square		*3294,872*			
p		*,000*			

Figure 2. Confirmatory factor analysis findings

Chi-Square=166.40, df=62, P-value=0.00000, RMSEA=0.06

When the findings in Table 2 are examined, it is seen that three factors were determined in accordance with the research model and the literature. This 3-factor structure explains 70.217% of the total variance. Confirmatory factor analysis was performed on the structures that emerged after the explanatory factor analysis. In the confirmatory factor analysis, 1 (IT2) expression with a low load was excluded from the scale (Figure 2). In Figure 2, the findings of confirmatory factor analysis related to the model used in the research are given. In order to determine the accuracy of the proposed model fit values and standard fit criteria were examined (Table 3). Table 3 shows the evaluation of the model in terms of nine standard compliance criteria (Çelik & Yılmaz, 2016). Accordingly, "x2/sd", "RMSEA", "NNFI", "CFI", "GFI" values for the proposed model show acceptable fit. "NFI", "IFI", "RFI", "AGFI" and "CFI" show good compatibility.

4.2. Path analysis

Structural equation modeling was performed in order to examine the relationships between the factors in the research model. In the model, "hygiene-safety perception" as the extrinsic latent variable "pandemic travel anxiety" and "travel intention" as the internal latent variable are located (Fig. 3).

Table 3. Fit values of the proposed model and standard fit criteria

Fit Criteria	Good fit	Acceptable fit	Model Value	Fit
$\chi2$ /sd	$0\leq \chi2$ /sd ≤2	$2\leq \chi2$ /sd ≤3	2,68	Acceptable
RMSEA	0≤RMSEA≤0,05	0,05<RMSEA≤0,10	0,066	Acceptable
NFI	0,95<NFI<1	0,90≤NFI≤0,95	0,96	Good fit
IFI	0,95≤IFI≤1	0,90≤IFI≤0,95	0,98	Good fit
RFI	0,90≤RFI<1	0,90≤RFI≤0,95	0,96	Good fit
CFI	0,95≤CFI≤1	0,90≤CFI≤0,95	0,98	Good fit
GFI	0,95≤GFI≤1	0,90<GFI≤0,95	0,94	Acceptable
AGFI	0,90≤AGFI≤1	0,85≤AGFI≤0,90	0,91	Good fit
NNFI	0,97 < NNFI ≤ 1,00	0,95 ≤ NNFI ≤ 0,97	0,97	Acceptable

Figure 3. Structural equation modeling findings
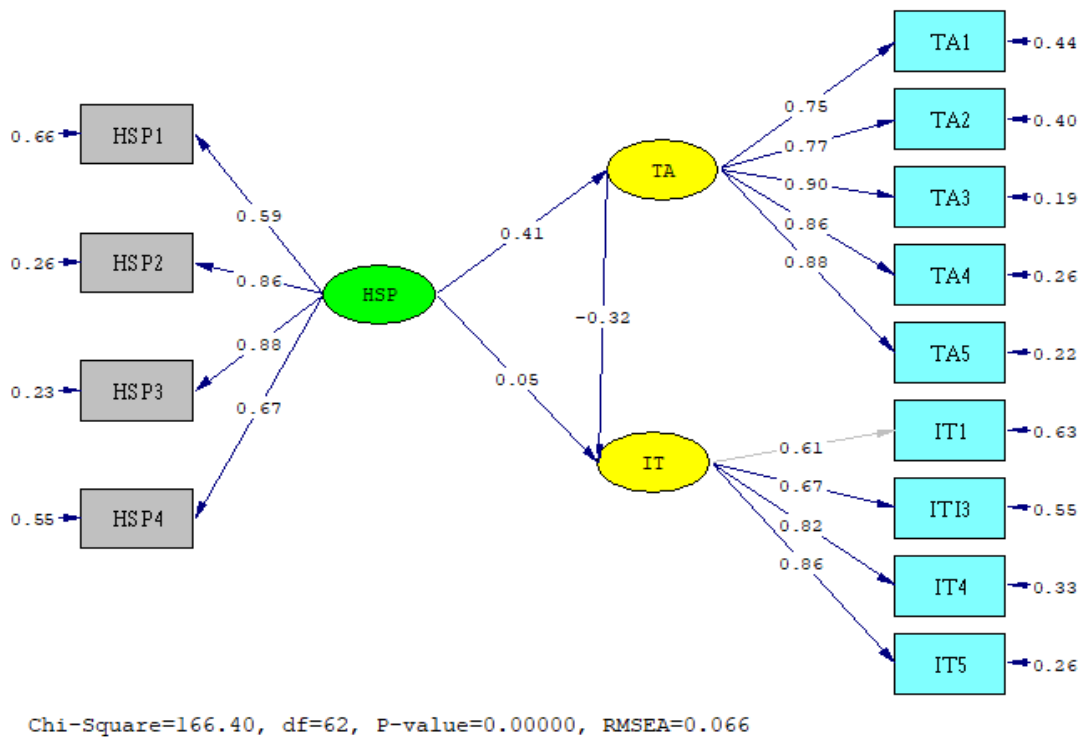

Chi-Square=166.40, df=62, P-value=0.00000, RMSEA=0.066

Table 4. Structural validity and explained variance

Factors	Standard Loads	t-value	R^2	Factor Reliability	Explained Variance (AVE)
				0,84	0,58
Hygiene-Safety	0.59	12.87***	0,3481		
Perception (HSP)	0.86	7.90***	0,7396		
	0.88	6.91***	0,7744		
	0.67	12.33***	0,4489		
				0,92	0,70
Travel Anxiety	0.75	12.55***	0,5625		
(TA)	0.77	12.32***	0,5929		
	0.90	9.34***	0,8100		
	0.86	10.76***	0,7396		
	0.88	10.14***	0,7744		
				0,83	0,56
Intention to	0.61	12.49***	0,3721		
Travel (IT)	0.67	11.96***	0,4489		
	0.82	8.76***	0,6724		
	0.86	7.06***	0,7396		
Hypotheses			Result		
H1: HSP → TA	0.41	7.26***	Supported		
H2: TA → IT	-0.32	-4.74***	Supported		
H3: HSP → IT	0.05	**0.86**	Rejected		

As a result of the structural equation modeling in Figure 3, the proposed model was accepted. The construct validity of the model and the explained variance values are given in Table 4. When Table 4 is examined, it is seen that the hypothesis H_1 and H_2, which are among the hypotheses established within the scope of the research, are supported and the H_3 hypothesis is rejected.

5. Conclusion

Health is an important risk factor that affects tourists' travel intentions and behaviors. For the last two years, the world has been struggling with Covid-19. This pandemic has deeply affected the tourism industry and is causing significant changes in the travel behavior of potential tourists.

In the study, the effects of tourists' hygiene-safety perceptions and travel anxiety on their intention to travel were examined through structural equation modeling. In this context, three hypotheses have been established. Accordingly, a positive and significant relationship has been found between hygiene-safety perception and travel anxiety. It has been observed that the travel anxiety of the participants related to Covid-19 was affected by the risk perception related to hygiene and safety. In other words, as the perception of risk regarding hygiene and safety increases travel anxiety also increases positively (See. Hajibaba et al., 2015). A negative and significant relationship has been found between travel anxiety related to the pandemic and intention to travel. In other words, as tourists' travel concerns increase, their intention to travel decreases. There are studies in the literature that support this finding (Kozak et al., 2007; Zenker & Kock, 2020). Şengel et al. (2020) study also shows that death anxiety related to Covid-19 negatively affects the intention to travel after the pandemic. On the other hand, in this study, there is no statistically significant effect of tourists' hygiene-safety perception on their intention to travel. Similarly, in the study by Luo and Lam (2020) no direct relationship was found between fear of Covid-19 and travel intention. In conclusion, H_1 and H_2 are supported but H_3 is not supported.

In this study, the effects of hygiene-safety perception and travel anxiety on potential tourists' intention to travel during the Covid-19 pandemic were examined. This research is considered important in terms of illuminating the psychological processes underlying tourist behavior during the Covid-19 pandemic, which is a health-related crisis and a better understanding of crisis-resistant tourists. More than half of the participants (N=55,7%) stated that they would like to participate in overseas trips after the restrictions related to pandemic are lifted. This finding shows that potential tourists are risk averse.

5.1. Theoretical implications and suggestions

In this study, the effect of hygiene-security perceptions of Turkish citizens on travel anxiety and travel intentions during the Covid-19 process has been examined. In the context of planned behavior theory, it has been determined that

as tourists' hygiene-safety perceptions increase, their travel anxiety increases. Also, as the travel anxiety caused by the pandemic increases, it is seen that there is a decrease in the intention to travel. Accordingly, we can say that tourists act in a planned manner while making their travel decision. As Nazneen et al. (2020) stated, hygiene-safety perception is an important factor in travel decision. For this reason, in order to increase tourism demand again, the government and businesses in the tourism sector should ensure the safety and hygiene of touristic accommodation, food and beverage and public transportation vehicles. It is thought that this research will contribute to the current tourism literature, as it is one of the few studies examining the effect of tourists on travel intentions during the Covid-19 process. For example, in the study of Godovykh, Pizam, and Bahja (2021), four main factor groups (individual factors, cognitive factors, affective and contextual factors) affecting the perception of health risk in tourism are mentioned. They suggested that the conceptual model presented in the study can be used as a framework to investigate the effects on the behavioral intentions of tourists.

Demir et al. (2021) showed that hotel managers anxiety increased according to the findings of face-to-face interviews which is done to them during the Covid-19 pandemic. In the study it is stated that the anxiety of hotel managers turns into fear, especially in April, May and June, when the pandemic is felt severely. Chua et al. (2021) in their research, which examined the factors of loyalty to the destination of US tourists in the Covid-19 pandemic and their intention to return to European and Asian destinations after the pandemic, is shown that US tourists rely on available information and coronavirus measures when making international travel decisions to reduce travel risk and uncertainty due to the pandemic.

This study is theoretically based on the theory of planned behavior in explaining the travel behavior of tourists during the pandemic. The Pandemic Travel Anxiety Scale which is developed by Zenker et al. (2021), was applied to the sample of Turkey and this scale was thought to be helpful in explaining tourist behavior while the pandemic continues. This study provides some theoretical contributions. The research results show that when hygiene-safety perception increases, people's travel anxiety increases. When travel anxiety caused by the Covid-19 decreases, intention to travel increases. These results contribute to the tourism literature regarding tourist behavior.

The results of this study provide guidance for decision makers and service marketers in the tourism industry. Tourism practitioners should measure risk perceptions for consumers who intend to travel after the pandemic restrictions are lifted and marketing techniques should develop accordingly. Tourism practitioners should investigate the factors affecting the intention to travel post-pandemic. Based on these research findings, surveys, interviews, etc. should use the techniques. It is very important for travel and tourism

companies to consistently implement hygiene and safety measures to increase tourists' perception of security (social distancing rules, mask, hand sanitizer etc).

5.2. Limitations and future research

The research has two limitations. The first is that it is limited to two cities in Turkey. The second is that the data was collected online. This is because of the necessity to comply with social distancing rules resulting from the Covid-19 pandemic. The research was done between 18.03.2021 and 19.04.2021 in the Pandemic environment.

Future research can examine the relationships between different types of risks perceived in tourism and tourists' travel behavior and travel intention. This research scale can be retested in different cultural contexts. Since the effect of Covid-19 on touristic travel behavior is not fully known, longitudinal studies are required. New research can make comparisons by examining the travel intentions of tourists before and after the pandemic.

Author contribution statements

S. Konak contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Disclosure statement

No potential conflict of interest was reported by the author.

Ethics committee approval

All responsibility belongs to the researcher. All parties were involved in the research of their own free will.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Ajzen, I., & Fishbein, M. (1975). A bayesian analysis of attribution processes, *Psychological bulletin*, 82(2), 261.

Akgül, A. & Çevik, O. (2005). *İstatistiksel Analiz Teknikleri SPPS'te İşletme Yönetimi Uygulamaları*, Emek Ofset, Ankara.

Al-Tawfiq, J.A., Zumla, A., & Memish, Z.A. (2014). Travel implications of emerging coronaviruses: SARS and MERS-CoV, *Travel Medicine and Infectious Disease*, 12(5), 422-428.

Altunışık, R., Çoşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2007). *Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı*, Sakarya: Sakarya Yayıncılık.

Asmundson, G. J. G., & Taylor, S. (2020). Coronaphobia: Fear and the 2019-nCov outbreak, *Journal of Anxiety Disorders*, 70: 102196.

Aydın, B. & Doğan, M. (2020). Yeni koronavirüs pandemisinin turistik tüketici davranışları ve türkiye turizmi üzerindeki etkilerinin değerlendirilmesi, *Pazarlama Teorisi ve Uygulamaları Dergisi,* 6(1), 93-115.

Baxter, E., & Bowen, D. (2004). Anatomy of tourism crisis: Explaining the effects on tourism of the UK foot and mouth disease epidemics of 1967–68 and 2001 with special reference to

media portrayal. *International Journal of Tourism Research*, 6(4), 263-273.

Boakye, K. A. (2012). Tourist's views on safety and vulnerability: A study of some selected towns in Ghana. *Tourism Management*, 33, 327-333.

Chen, L., Evans, T., Anand, S., Boufford, J. I., Brown, H., Chowdhury, M., ... & Fee, E. (2004). Human resources for health: overcoming the crisis. The Lancet, 364(9449), 1984-1990.

Chua, BL., Al-Ansi, A., Lee, MJ., & Han, H. (2021) Tourists' outbound travel behavior in the aftermath of the COVID-19: role of corporate social responsibility, response effort, and health prevention, *Journal of Sustainable Tourism*, 29(6), 879-906.

Cohen, E. (1986). Tourism and time. *World Leisure and Recreation*, 28 (5), 13–16.

Cossens, J., & S. Gin, S. (1994). Tourism and AIDS: The Perceived Risk of HIV Infection and Destination Choice. *Journal of Travel and Tourism Marketing,* 3(4):1–20.

Conchar, M.P., Zinkhan, G.M., Peters, C., & Olavarriete, S. (2004). An integrated framework for the conceptualization of consumers'perceived risk processing, *Journal of the Academy of Marketing Science*, 32(4).

Çelik, H.E. & Yılmaz, V. (2016). *Lisrel 9.1 ile yapısal eşitlik modellemesi*, Ankara: Anı Yayıncılık.

Çetinkaya, Ö., Özer, Y., & Kandemir Altuner, G. (2020). Covid-19 sürecinde turistik seyahat risk algısı ve hijyen-güvenlik algısının değerlendirilmesi, *Tourism and Recreation*, 2(2), 78-83.

Çobaner, A. A. (2021). Covid-19 sürecinde değişen sağlık/risk algısı ve medya tüketim pratikleri, www.researchgate.net.

Demir, M., Demir, Ş.Ş., Dalgıç, A. & Ergen, F.D. (2021). Impact of COVID-19 pandemic on the tourism industry: An evaluation from the hotel managers' perspective. *Journal of Tourism Theory and Research*, 7(1), 44-57. https://doi.org/10.24288/jttr.857610.

Evren, C., Evren, B., Dalbudak, E., Topcu, M. & Kutlu, N. (2020). Measuring anxiety related to Covid-19: A Turkish validation study of the Coronavirus Anxiety Scale, *Death Studies*, DOI: 10.1080/07481187.2020.1774969.

Fischhoff, B., De Bruin, W.B., Perrin, W., & Downs, J. (2004). Travel risks in a time of terror: Judgments and choices, *Risk Analysis*, 24(5),1301-1309.

Godovykh, M., Pizam, A., & Bahja, F. (2021). Antecedents and outcomes of health risk perceptions in tourism, following the COVID-19 pandemic. *Tourism Review*, 76(4), 737-748. https://doi.org/10.1108/TR-06-2020-0257.

Gümüş, A., & Hacıevliyagil, N. (2020). Covid-19 salgın hastalığının borsaya etkisi: Turizm ve ulaştırma endeksleri üzerine bir uygulama, *Akademik Yaklaşımlar Dergisi*, 11(1), 76-98.

Hajibaba, H., Gretzel, U., Leisch, F., & Dolcinar, S. (2015). Crisis-resistant tourists. *Annals of Tourism Research*, 53, 46-60.

Haque, T.H. & Haque, M.O. (2018). The swine flu and its impacts on tourism in Brunei, *Journal of Hospitality and Tourism Management*, 36, 92-101.

Horng, JS., Liu, CH., Chou, HY & Tsai, CY. (2012). Understanding the impact of culinary brand equity and destination familiarity on travel intentions. *Tourism Management*, *33*(4), 815-824.

Hughes, C. (2014). Canceling safaris over misplaced Ebola fear hurts Africa and its wildlife. Retrieved from http://www.latimes.com/opinion/op-ed/laoe-hughes-ebola-africa-tourism-20141203-story.html.

Irwin, N. (2020). It's the end of the world economy as we know it. Retrieved 30th of June 2020, from www.ny-times.com/2020/04/16/up shot/world- economy-restructuring-coronavirus.html.

Jonas, A., Mansfeld, Y., Paz, S. & Potasman, I. (2011). Determinants of Health Risk Perception Among Low-risk-taking Tourists Traveling to Developing Countries, *Journal of Travel Research*, 50(1), 87–99.

Karataş, Z. (2020). COVID-19 pandemisinin toplumsal etkileri, değişim ve güçlenme, *Türkiye Sosyal Hizmet Araştırmaları Dergisi*, 4(1), 1-17.

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.

Lam, T. & Hsu, C. (2006). Predicting behavioral intention of choosing a travel destination, *Tourism Management*, 27(2), 589-599.

Lee, S.A. (2020). Coronavirüs anxiety scale: A brief mental health screener for Covid-19 related anxiety. *Death Studies*, 44(7), 393-401.

Lee, C. C., & Chen, C. J. (2011). The reaction of elderly Asian tourists to avian influenza and SARS. *Tourism Management*, 32(6), 1421-1422.

Lepp, A. & Gibson, H. (2003). Tourist roles, perceived risk and international tourism, Annals of Tourism Research, 30(3), 606-624.

Lo, A.S., Cheung, C., & Law, R. (2011). Hong Kong residents'adoption of risk reduction strategies in leisure travel, *Journal of Travel & Tourism Marketing*, 28:240-260.

Mazursky, D. (1989), Past experience and future Tourism decisions, *Annals of Tourism Research*, 16(3), 333-344.

Mizrachi, I., & Fuchs, G. (2016). Should we cancel? An examination of risk handling in travel social media before visiting ebola-free destinations. *Journal of Hospitality and Tourism Management*, 28, 59-65.

Nazneen, S., Hong, X., & Ud Din, N. (2020). COVID-19 crises and tourist travel risk perceptions. Available at SSRN 3592321.

Page, S., Song, H., & Wu, D. C. (2012). Assessing the impacts of the global economic crisis and swine flu on inbound Tourism demand in the United Kingdom, *Journal of Travel Research*, 51(2),142-153.

Roehl, W., & D. Fesenmaier (1992). Risk perceptions and pleasure travel: An exploratory analysis. *Journal of Travel Research*, 2(4), 17–26.

Sönmez, S.F. (1998). Tourism, terrorism and political instability, *Annals of Tourism Research*, 25(2), 416-456.

Sönmez, S.F. & Graefe, A.R. (1998a). Determining future travel behavior from past travel experience and perceptions of risk and safety, *Journal of Travel Research*, 37, 171-177.

Sönmez, S.F. & Graefe, A.R. (1998b). Influence of terrorism risk on foreign tourism decisions. *Annals of Tourism Research*, 25(1), 112-144.

Sparks, B. & Pan, G.W. (2009). Chinese outbound tourists: Understanding their attitudes, constraints and use of information sources, *Tourism Management*, 30: 483-494.

Şengel, Ü., Işkın, M., Genç, G., & Çevrimkaya, M. (2020). Covid-19 ile ilgili ölüm kaygısının seyahat davranışına etkisi, *Gaziantep Üniversitesi Journal of Social Sciences*, 105-121.

Wen, J., Kozak, M., Yang, S., & Liu, F. (2020). COVID-19: Potential effects on Chinese citizens' lifestyle and travel. *Tourism Review*, 76(1),74-87.

World Health Organization (WHO). (2005). *International travel and health*. Geneva: WHO.

World Health Organization (WHO). (2020, March 11). WHO Director-General's opening remarks at the media briefing on COVID-19. Retrieved March 11, 2020, from https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-themedia-briefing-on-covid-19

Wu, P., Fang, Y., Guan, Z., Fan, B., Kong, J., Yao, Z., Liu, X., & Hoven, C. W. (2009). The psychological impact of the SARS epidemic on hospital employees in China: Exposure, risk perception, and altruistic acceptance of risk. *Canadian Journal of Psychiatry*, 54, 302–311.

Xiang, Y., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., & Ng, C. H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet, 7, 228–229. https://doi.org/10.1016/S2215-0366(20)30046-8.

Yang, C. L. & Nair, V. (2014). Risk perception study in tourism: Are we really measuring perceived risk?, *Procedia-Social and Behavioral Sciences*, 144, 322-327.

Yip, P. S. F., Cheung, Y. T., Chau, P. H., & Law, Y. W. (2010). The impact of epidemic outbreak: The case of severe acute respiratory syndrome (SARS) and suicide among older adults in Hong Kong. *Crisis*, 31(2), 86–92.

Yang, Y., Zhang, H., & Chen, X. (2020). Coronavirus pandemic and tourism: Dynamic stochastic general equilibrium modeling of infectious disease outbreak. *Annals of Tourism Research*.

Zenker, S., Braun, E., & Gyimothy, S. (2021). Too afraid to travel? Development of a pandemic (Covid-19) anxiety travel scale, *Tourism Management*, 84, 1-11.

Zenker, S. & Kock, F. (2020). The coronavirüs pandemic- a critical discussion of a tourism research agenda. *Tourism Management*, 81, 104164.

------- www.covid19.tubitak.gov.tr https://covid19.tubitak.gov.tr/dunyada-durum (Access at: 09.11.2021)

------- www.covid19.saglik.gov.tr https://covid19.saglik.gov.tr/TR-66935/genel-koronavirus-tablosu.html (Access at: 09.11.2021)