

Impact of Perceived Susceptibility of COVID on Travel Intentions of Outbound Tourists: Applying the Theory of Planned Behaviour

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ABSTRACT

The study examined the impact of perceived susceptibility of COVID-19 on travel intentions of Pakistani outbound tourists by applying the Theory of Planned Behaviour (TPB). For the purpose of investigation, the data from 170 respondents were analysed to study the mediating effect of subjective norms, attitude towards behaviour and perceived behavioural control between perceived susceptibility of COVID and the travel intention of tourists for international vacation trip during the pandemic. It was found that the mediating effects of subjective norms and attitude towards behaviour were significant while the role of perceived behavioural control was insignificant. The analysis further reveals that the perceived susceptibility of COVID negatively influences the subjective norms and attitude while positively influences the behavioural control. On the other hand, all the proposed mediating factors in the model positively influence the travel intentions with varying strengths. Moreover, among the three endogenous variables influencing the intentions, subjective-norms came out to be the strongest predictor of travel intentions during pandemic. This outcome was significantly different from the commonly found results in existing literature hence highlighting the novelty of this study. Finally, study-implications for variety of stakeholders in hospitality industry were underscored, limitations were acknowledged and recommendations for future research endeavours were also discussed.

KEYWORDS

Theory of Planned Behaviour, Perceived Susceptibility of COVID-19, Subjective Norms, Attitude Towards Behaviour, Behavioural Control, Travel Intentions.

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1. Introduction

Corona Virus Disease was emerged in December 2019 in Wuhan, China and was later named as COVID-19 (Ali et al., 2021). On January 11, 2020, China announced its first death due to COVID-19 and subsequently on 11 March 2020, World Health Organization (WHO) declared COVID-19 as pandemic (WHO, 2020). It quickly spread around the world and on 26 February 2020, Govt. of Pakistan confirmed the first COVID-19 patient in the country. By the end of March, Ministry of Health reported 1,235 verified cases in Pakistan and till the end of May, the amount of COVID cases was increased to 300,955 (Abbas et al., 2021).

Measures taken by the world's governments and health organizations to prevent the spread of this pandemic have adverse effect on global tourism (Yeh, 2020). The pandemic has no-doubt affected the world's economy (Rasoolimanesh et al., 2021), but the tourism has been one of the severely affected industries due to unprecedented travel restrictions (Gössling et al., 2021; Rastegar et al., 2021) as this global pandemic crisis had affected all the facets of tourism industry (Lu & Atadil, 2021). Tourism is vulnerable to natural disasters, terrorism and sudden crisis (Huan et al., 2004; Valencia & Crouch, 2008) and one such latest crisis is the COVID pandemic which posed severe challenges to the tourism industry (UNWTO, 2020).

In case of Pakistan, few famous tourist destinations for its outbound travellers are Maldives, Spain, Greece, Italy, Turkey, Malaysia, UAE, Azerbaijan, Thailand, Sri Lanka, Portugal, Hong Kong and Egypt (Raza, 2019). Till 28 February 2022, total COVID cases per million population are 305,925 in Maldives, 234,639 in Spain, 234,234 in Greece, 211,937 in Italy, 164,130 in Turkey, 104,157 in Malaysia, 87,226 in UAE, 76,348 in Azerbaijan, 41,551 in Thailand, 29,962 in Sri Lanka, 321,522 in Portugal, 27,084 in Hong Kong and 4,584 in Egypt (Worldometer, 2022). So, the risk associated with traveling internationally for leisure and vacation during pandemic becomes the cause of stress and fear (Rivera, 2020). The negative impact of such crisis on tourism is well established (Chew & Jahari, 2014). The similar case examples are of Africa and China where there was a significant decrease in tourism after the outbreak of Ebola (Cahyanto et al., 2016) and SARS respectively (Wen et al., 2005).

Most of the research in this area is focused on finding the post-pandemic travel intentions (Han et al., 2020; Li et al., 2020; Rastegar et al., 2021) while under this uncertain and restricted environment, understanding the travel behaviours during pandemic is also of vital importance for researchers and practitioners in tourism industry. This is because, many health experts and government officials claim that it will take years before the COVID-19 ends and travellers will have to travel under new restrictions (Rohisha & Jibin, 2021). Although, many studies were done in the past that focused on travelling during H1N1 pandemic (Leggat et al., 2010; Mukherjee et al., 2010; Warren et al., 2010; Lee et al., 2012; Neatherlin et al., 2013) yet, few were found in literature that analysed the travel intentions during COVID (Gibbs et al., 2020; Parady et al., 2020; Sharun et al., 2020) and even fewer were those that used the Theory of Planned Behaviour (Hamid & Bano, 2021; Ojo et al., 2022).

In the context of pandemic, many recent studies in different countries have adopted the theory of planned behaviour and health belief model to investigate the individuals' perceived susceptibility of COVID as an influencer on their intentions to get vaccinated (Patwary et al., 2021; Ullah et al., 2021; Wolff, 2021). As the perceived risk and perceived susceptibility of COVID-19 affect the behavioural intentions (Suess et al., 2022) which may also alter the travel intentions of tourists to have international vacation trips. So, the theory of planned behaviour may be applied to analyse the travel intentions of people in the context of COVID as it has been about more than two years and living with COVID is becoming the new normal (Ateljevic, 2020; Irawan et al., 2020).

2. Literature Review

2.1 Theory of Planned Behaviour

To predict human intentions and behaviours, Theory of Planned Behaviour (TPB) is one of the widely used sociopsychology theories in literature (Guerin & Toland, 2020; Guggenheim et al., 2020). Initial work on this theory was done by Ajzen (1985). Since then, it has been applied in various disciplines and its strength to anticipate human behaviours in diverse settings has been demonstrated in various studies (McEachan

et al., 2011). The importance of this theory is also already established in the tourism industry to understand the intentions, behaviours and decision-making process of travellers (Lam & Hsu, 2004; Hsu & Huang, 2012; Ulker-Demirel & Ciftci, 2020). Moreover, unlike its predecessor i.e., the Theory of Reasoned Action (TRA) which only considered the volitional aspect of human behaviour (Ajzen & Fishbein, 1980), the TPB explains both the volitional and non-volitional facets of individuals' behaviours (Ajzen, 2001).

This theory comprises of four components i.e., subjective norms, attitude, behavioural control and behavioural intention. First three are the predictors and the fourth one is outcome variable (Han et al., 2020). Intentions to perform behaviours of different kinds can be predicted with high accuracy with the help of these three predictors (Ajzen, 1991). Perceived subjective norm is defined as the perception of individuals about the social pressure that they face to perform or not to perform a specific behaviour; perceived behavioural control indicates the humans' perception about their capability to be involved or not to be involved in a particular behaviour; attitude towards the behaviour refers to the degree by which a person has favourable or unfavourable assessment of the behaviour in question; and the behavioural intention is based on the influence of a positive attitude, perceived social pressure and the ability to carry out that action (Ajzen, 1991; Han et al., 2020). Moreover, in TPB, behavioural control is the constituent of non-volitional process while subjective norms and attitude are the parts of volitional process (Ajzen, 2001; Demirel & Ciftci, 2020). TPB also suggests that the behavioural intention was the most proximate determinant of the actual behaviour (Eom & Han, 2019).

2.2 Expanding the Theory of Planned Behaviour in Tourism

While expanding the Theory of Planned Behaviour in tourism industry, the construct of risk is widely used in the literature (Cañizares et al., 2021). In tourism, the risk is defined as the potential danger that is associated with the travel (Fuchs & Reichel, 2006) and predicts the behaviour to avoid traveling to the countries or areas that have health crisis, terrorism or political instability (Sönmez & Graefe, 1998). In the context of pandemic, perceived susceptibility of a certain disease is a type of risk that is associated with traveling which is defined as the believes of individuals about their vulnerability to get infected (D'Souza et al., 2011). This perception may change the decision to travel in instances where the risk is likely to exceed an acceptable level for individuals (Cañizares et al., 2021). When in an actual situation, each individual may perceive risk as more or less than expected but anticipated risk is highly likely to negatively affect their attitude towards a particular behaviour (Lobb et al., 2007; Quintal et al., 2010) because it implies the expectation of loss (Cañizares et al., 2021).

2.3 Hypotheses

In the context of crisis when pandemic affect the tourism, TPB has been evolved and extended to incorporate perceived psychological risk (Han et al., 2020), willingness to adopt non-pharmaceutical interventions (Lee et al., 2012), willingness to pay higher for better safety measures (Cañizares et al., 2021), destination image (Chew & Jahari, 2014), perceived severity of the situation (Das & Tiwari, 2021) and perceived uncertainty (Quintal et al., 2010). This theory has also been used to analyse the impact of individuals' perceived susceptibility of the diseases on their intentions to adopt pharmaceutical interventions i.e., to get vaccinated (Patwary et al., 2021; Wolff, 2021). One study uses TPB to investigate the effect of perceived infectability on young adults' intentions to uptake COVID-19 vaccination via mediating role of subjective norms, attitude and behavioural control (Ullah et al., 2021).

In the similar context, Suess et al. (2022) investigated the indirect relation of perceived susceptibility of COVID-19 on individuals' willingness to vaccinate before travel and the current study have utilized the same predicting variable to analyse its impact on travel intentions. Han et al. (2020) analysed the moderating role of risk associated with COVID-19 for US tourists and expanded the theory of planned behaviour but the current study fills the gap by investigating the predicting role of perceived susceptibility on travel intentions by using the same theory for Pakistani tourists. Furthermore, as mentioned earlier, this perception may also alter the decision of tourists about their choice of destination and travel behaviours (Sönmez & Graefe, 1998) by playing a central role in tourists' decision-making process (Kozak et al., 2007). Therefore, the study incorporated the perceived susceptibility into TPB as the expected adverse outcome

of traveling may change the intention of traveling during COVID pandemic thus proposing the following hypothesis:

H₁: Perceived susceptibility of COVID-19 predicts the individuals' intentions to travel during pandemic through the mediating role of subjective norms.

H₂: Perceived susceptibility of COVID-19 predicts the individuals' intentions to travel during pandemic through the mediating role of attitude towards this behaviour.

H₃: Perceived susceptibility of COVID-19 predicts the individuals' intentions to travel during pandemic through the mediating role of perceived behavioural control.

H_{1a}: The perceived susceptibility of COVID during travel is negatively related to the individuals' perceived subjective norms of traveling during pandemic.

H_{1b}: The perceived subjective norms of traveling during COVID is positively related to the individuals' intention to travel during pandemic.

H_{2a}: The perceived susceptibility of COVID during travel is negatively related to the individuals' attitude towards this behaviour.

H_{2b}: The individuals' attitude towards behaviour is positively related to their intentions to travel during pandemic.

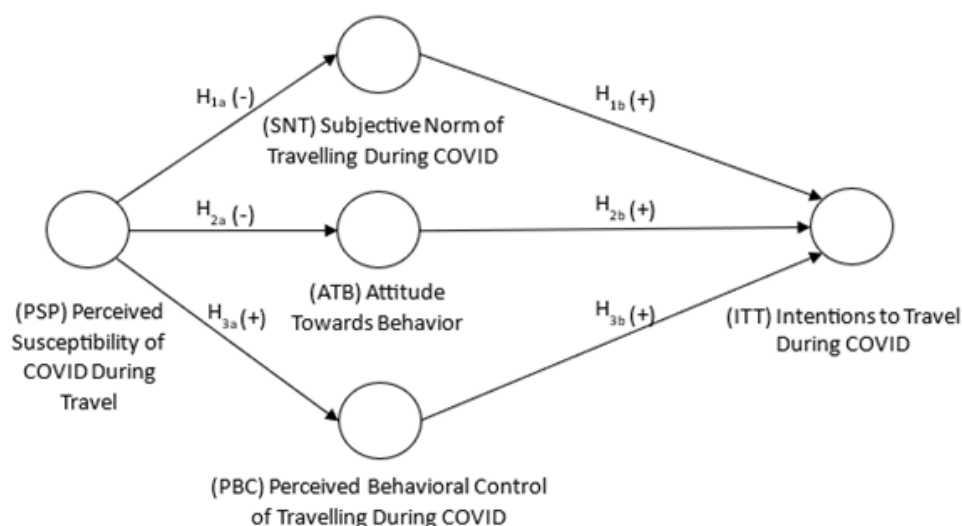
H_{3a}: The perceived susceptibility of COVID during travel is positively related to the individuals' perceived behavioural control.

H_{3b}: The individuals' perceived behavioural control is positively related to their intentions to travel during pandemic.

3. Methodology

This empirical study is based on the primary data collection through the use of a quantitative survey that is adopted to test the proposed hypothesis which is briefly summarized in the theoretical model in Figure 1.

Figure 1. Proposed Theoretical Model



Source: Own Elaboration

3.1 Survey Instrument

To ensure the validity, consistency and reliability, the survey scale was based on the previously published work in the related literature (Agag et al., 2020). According to the standard practice (Cañizares et al., 2021), each of the variable used in this study is adopted to the context of COVID-19, tourism and TPB. The research questions in the instrument are divided into five sections in accordance with the number of variables

studied in this research. Variable of Subjective Norms of Traveling during COVID-19 (SNT) comprises of three items; and Intentions to Travel during COVID-19 (ITT) comprises of four items. Both of them were adopted from Das and Tiwari (2021). Attitude Towards Behaviour (ATB) consists of three items which were taken from Han et al. (2020). Measurement of Perceived Behavioural Control on traveling during COVID-19 (PBC) was based on the study of Cañizares et al. (2021) and have two questions. Lastly, the scale of Perceived Susceptibility of COVID-19 during travel (PSP) contains three items and is borrowed from Suess et al. (2022). A seven-point Likert scale (where 1 is strongly disagree and 7 is strongly agree) was used for SNT, PBC, ITT and PSP while ATB uses seven-point semantic differential scale as (1 is bad, 7 is good), (1 is foolish, 7 is wise) and (1 is unpleasant, 7 is pleasant) for its three questions respectively. Choice of semantic scale to measure ATB was obvious because it is dominantly used to measure the attitude in wide variety of contexts (McCallon & Brown, 1971; Svidzinskaya et al., 2019; Taherdoost, 2019). Finally, one section of the questionnaire was designated to the demographics of respondents like gender, education and vaccination status to understand the profile of respondents of the research. Moreover, about 90% of study respondents have a university degree and English is the medium of instruction in the higher education institutions in Pakistan (Mahboob, 2017). Even in high schools and twelve grade education, English is taught as a compulsory subject (Khan & Khan, 2016). So, the questionnaire was administered in English language because all respondents were at least high school qualified.

3.2 Data Collection and Analysis

The population frame for this study were the residents of three metropolitan cities of Pakistan i.e., Karachi, Lahore and Islamabad, who were intended to take international vacation trip in near future during pandemic. A screening question was added in the start of the questionnaire stating 'I think, I have resources (money or sponsorship) to take an international vacation trip during COVID-19'. Respondents were asked only to continue the survey if their answer is 'Yes'. Convenience sampling technique was used and data was collected on the basis of self-administered questionnaire distributed in the form of online link on social media platforms i.e., Facebook, WhatsApp and LinkedIn which is similar to the other researchers in tourism and hospitality industries who use the online survey forms to reach broader population (Han et al., 2009; Kim & Ok, 2009). Total 170 valid responses were received between December 2021 and February 2022 which was the acceptable number according to Hair et al. (2006) considering the number of question items in this study. The data was analysed using SPSS21 for reliability, regression, correlation, factor analysis and mediation by using process function (Hayes, 2017).

3.3 Results

Descriptive analysis shows in Table 1 that male respondents outnumbered the females, most of the respondents were between 18-29 years of age, have at least a graduate degree and fully or partially vaccinated.

Table 1. Demographics

Variables	Categories	Frequencies	Percentage
Gender	Male	114	67.1%
	Female	56	32.9%
Age	18-29	120	70.6%
	30-59	45	26.5%
	60 and older	5	2.9%
Education	High school	2	1.2%
	Intermediate	14	8.2%
	Graduate	94	55.3%
	Postgraduate	60	35.3%

Vaccination Status	Not Vaccinated	5	2.9%
	Fully Vaccinated	159	93.5%
	Partially Vaccinated	6	3.5%

Source: Own Elaboration

To test the internal consistency of each of the five scales, Cronbach Alpha was calculated. As shown in the Table 2, for the constructs used in this study, the value of Cronbach ranges between 0.648 to 0.946 which is in the acceptable limits (Oh & Hsu, 2001). Table 2 also shows the results of confirmatory factor analysis which depicts strong factor loadings with all factors loaded above the level of 0.7 (Hair et al., 2006). As suggested by Schumacker and Lomax (2004), Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were run to check adequacy of sample and sample variance respectively in which the value of KMO came greater than 0.5 while the Bartlett's test was also significant (See Table 2).

Table 2. Measurement Model

Factors and Items	Standard Loading	Mean	Standard Deviation	Cronbach's Alpha
PSP - Perceived Susceptibility to COVID				0.803
PSP1: I worry a lot about getting COVID-19 from international travel	0.864	4.465	1.778	
PSP2: The chances that I will get COVID-19 if I travel internationally are great	0.798	4.582	1.688	
PSP3: My physical health makes it more likely that I will contract COVID-19 if I travel internationally	0.826	3.953	1.852	
ATB - Attitude Towards Behavior				0.904
ATB1: Traveling internationally during COVID-19 outbreak for my next vacation trip is Bad (1) — Good (7).	0.862	3.694	1.754	
ATB2: Traveling internationally during COVID-19 outbreak for my next vacation trip is Foolish (1)—Wise (7).	0.863	3.476	1.603	
ATB3: Traveling internationally during COVID-19 outbreak for my next vacation trip is Unpleasant (1)—Pleasant (7)	0.858	3.753	1.671	
PBC - Perceived Behavioural Control of Travelling During COVID				0.648
PBC1: Whether or not to travel internationally during COVID for my next vacation trip is entirely up to me	0.879	5.106	1.830	
PBC2: I have the necessary resources to travel internationally during COVID for my next vacation trip	0.753	4.388	1.888	
SNT - Subjective Norm of Travelling During COVID				0.873
SNT1: Most people who are important to me think it is okay for me to travel during COVID-19 for my next vacation trip	0.828	4.053	1.834	
SNT2: Most people who are important to me understand my travel during COVID-19 for my next vacation trip	0.838	4.471	1.745	
SNT3: Most people who are important to me agree with me about traveling during COVID-19 for my next vacation trip	0.818	4.241	1.739	
ITT - Intentions to Travel During COVID				0.946
ITT1: I intend to travel during COVID-19 for my next vacation trip in the near future	0.854	4.218	1.779	
ITT2: I am planning to travel during COVID-19 for my next vacation trip in the near future	0.884	4.082	1.873	
ITT3: I will make an effort to travel during COVID-19 for my next vacation trip in the near future	0.895	4.182	1.880	
ITT4: I will certainly invest time and money to travel during COVID-19 for my next vacation trip in the near future	0.900	4.112	1.983	

KMO = 0.843

Bartlett's Test: $\chi^2 (105) = 1678.107, p < 0.05$

Scales: A seven-point Likert scale (where 1 is strongly disagree and 7 is strongly agree) was used for SNT, PBC, ITT and PSP while ATB uses seven-point semantic differential scale.

Source: Own Elaboration

Table 3 shows the correlation between latent variables where all of the correlations are significant at least at the level of 0.05. To examine discriminant validity, average variance extracted and composite reliability, values from the factor analysis were used. As can be seen in Table 3, discriminant validity of the constructs is established as the square root of each construct's average variance have a greater value than the correlations with other latent constructs (Hair, 2014; Ab Hamid et al., 2017) and greater than the square of correlations (Fornell & Larcker, 1981). Moreover, the average variance extracted for all constructs surpasses the minimum level of 0.7 while the value for composite reliability is greater than 0.5 (Hair et al., 2006).

Table 3. Correlation Matrix

Variables	PSP	ATB	PBC	SNT	ITT	DV ^a	AVE ^b	CR ^c
PSP	1					0.830	0.689	0.869
ATB	-0.297**	1				0.861	0.741	0.896
PBC	0.157*	0.315**	1			0.819	0.670	0.801
SNT	-0.188*	0.451**	0.344**	1		0.828	0.686	0.867
ITT	-0.180*	0.413**	0.270**	0.517**	1	0.883	0.780	0.934

* Correlation is significant at the 0.05 level (1-tailed); ** Correlation is significant at the 0.01 level (1-tailed)

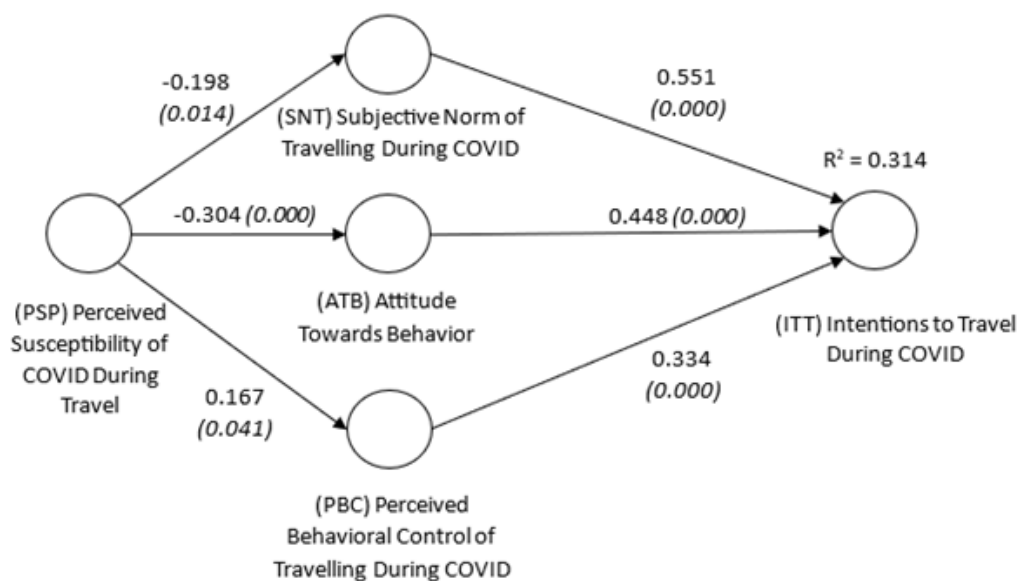
^a Discriminant Validity; ^b Average Variance Extracted; ^c Composite Reliability

Source: Own Elaboration

3.3.1 Hypotheses Testing

To test the proposed mediation model, series of regression analysis were done by using Model 4 of process of Hayes (Hayes, 2017) with level of significance as 0.05. As depicted in Table 4 and in Figure 2, all direct relations among the variables are significant as perceived susceptibility negatively relates to subjective norms and attitude towards behaviour while positively relates to perceived behavioural control.

Figure 2. Model and Values



Source: Own Elaboration

As shown in the Figure 2, PSP is negatively related to the individuals' attitude towards behaviour as $F(1,168) = 16.30, p < 0.05, R^2 = 0.08, \beta_{\text{PSP} \rightarrow \text{ATB}} = -0.304, t(168) = -4.04, p < 0.05$ which means that the ATB is a significant function of PSP. In a similar sense, PSP also negatively and significantly relates to the individ-

uals' subjective norms as $F(1,168) = 6.135, p < 0.05, R^2 = 0.035, \beta_{PSP \rightarrow SNT} = -0.198, t(168) = -2.477, p < 0.05$. On the other hand, increase in one's perceived susceptibility increases the perceived behavioural control of individuals hence depicting a positive relation as $F(1,168) = 4.257, p < 0.05, R^2 = 0.025, \beta_{PSP \rightarrow PBC} = 0.167, t(168) = 2.063, p < 0.05$ which is significant as well.

On the other hand, three predictor variables (subjective norms, attitude towards behaviour and perceived behavioural control) in the model are positively associated with intentions to travel internationally for vacation trip during pandemic ($\beta_{SNT \rightarrow ITT} = 0.551, t(167) = 7.454, p < 0.05; \beta_{ATB \rightarrow ITT} = 0.448, t(167) = 5.354, p < 0.05; \beta_{PBC \rightarrow ITT} = 0.334, t(167) = 4.175, p < 0.05$). Here R^2 for ITT is 0.314 which shows the combined effect of SNT, ATB and PBC on ITT.

Table 4. Hypothesis Testing – Direct Relation

Hypothesis		β -values	Results	Decision
H _{1a} : PSP is negatively related to SNT	PSP → SNT	-0.198	$p = 0.014 < 0.05$	Supported
H _{2a} : PSP is negatively related to ATB	PSP → ATB	-0.304	$p = 0.000 < 0.05$	Supported
H _{3a} : PSP is positively related to PBC	PSP → PBC	0.167	$p = 0.041 < 0.05$	Supported
H _{1b} : SNT is positively related to ITT	SNT → ITT	0.551	$p = 0.000 < 0.05$	Supported
H _{2b} : ATB is positively related to ITT	ATB → ITT	0.448	$p = 0.000 < 0.05$	Supported
H _{3b} : PBC is positively related to ITT	PBC → ITT	0.334	$p = 0.000 < 0.05$	Supported

Source: Own Elaboration

As stated earlier, the study expanded the theory of planned behaviour by analysing the predicting effect of perceived susceptibility of COVID on the intentions to take international vacation trip during pandemic. To test the proposed hypothesis, Model 4 for the simple mediation is opted by using the MACRO of Hayes incorporated in SPSS21 while number of bootstrap samples for bootstrap confidence intervals used for the analysis is 5000 with 95% level of confidence as used by Ferdous (2010) when applying TPB in marketing management. This method was used to estimate the proposed model as it does not depend upon the normality assumption (Hancock & Mueller, 2013).

Table 5. Hypothesis Testing – For Mediation

Hypotheses		Indirect Effect	CI ^a	Decision
			[BootLLCI, BootULCI]	
H ₁ : SNT mediates the relationship between PSP and ITT	PSP → SNT → ITT	-0.109	[-0.233, -0.003]	Supported
H ₂ : ATB mediates the relationship between PSP and ITT	PSP → ATB → ITT	-0.136	[-0.251, -0.047]	Supported
H ₃ : PBC mediates the relationship between PSP and ITT	PSP → PBC → ITT	0.056	[-0.014, 0.140]	Not Supported

^a Confidence Intervals

Source: Own Elaboration

The results of mediation related hypotheses are briefly expressed in Table 5. The relative indirect effect between perceived susceptibility of COVID and intentions to travel through subjective norm is significant as IE = -0.109, SE = 0.050, 95% CI [-0.233, -0.003]. In similar way, the indirect effect between perceived susceptibility of COVID and intentions to travel through attitude is also significant as IE = -0.136, SE = 0.052, 95% CI [-0.251, -0.047]. On the contrary, the indirect effect between perceived susceptibility of COVID and intentions to travel through perceived behavioural control is not significant as IE = 0.056, SE = 0.038, 95% CI [-0.014, 0.140]. Hence, based on the Bootstrap confidence intervals, H₁ and H₂ are supported while H₃ is not. This is in accordance with the standard as if the bootstrap confidence interval is entirely below zero, it concludes that this relative indirect effect is significant and negative (Hayes, 2017).

4. Conclusion

The model proposed in this research is based on the Ajzen's (1985) Theory of Planned Behaviour but it included a predictor variable in the form of perceived susceptibility of COVID to make addition into the existing literature hence highlighting its theoretical implication. The study also expanded the literature by using responses from Pakistani leisure travellers strengthening the validity of TPB in the context of tourism and pandemic hence adding another demographic group in existing literature as suggested by several studies on the related topics (Lam & Hsu, 2004; Hsu & Huang, 2012; Cañizares et al., 2021).

The study found that if individuals' perception about the susceptibility of COVID-19 during travel is high, their perceived subjective norms will less likely to support their traveling decisions which then decrease their intentions to travel during pandemic. Similarly, the increase in perceived susceptibility of COVID-19 among individuals will increase negative attitude towards their behaviour of traveling which ultimately decreases their intentions to take international vacation trip during this epidemic. Moreover, the indirect effect of PSP on ITT through PBC was not significantly proved which was anticipated as the perceived behavioural control is independent of the effect of the individuals' perceived susceptibility of COVID-19.

A relatively similar study in Spain by Cañizares et al. (2021) that focused on the predicting role of perceived risk of COVID-19 concluded that effect of behavioural control and attitude have influence on travel intentions with the magnitude higher than that of subjective norms but in the context of Pakistan, the effect of perceived subjective norms on travel intentions is greater following the attitude and behavioural control which may be the result of the social and cultural difference highlighting the significance of this research. Although the impact of risks associated with COVID-19 on travel intentions was previously studied (Gursoy et al., 2021; Perić et al., 2021; Boto-García & Leoni, 2022) yet, expanding the discussion beyond just analysing the direct relation between perceived susceptibility of this pandemic and travel intentions is another major contribution of this study. Moreover, previous literature found attitude to be a stronger predictor of travel intentions in comparison to the subjective norms (Ajzen, 1991; Terry et al., 1999; Armitage & Conner, 2001). But the results of this research provide evidence in which subjective-norms is the strongest determinant of intentions to travel during pandemic hence signifying its novelty.

On the other hand, study also provides practical implications for several stakeholders in hospitality industry and policy makers in government institutions. As evident by study results, perceived susceptibility is a predictor of travel intentions so, tourism operators should focus on providing and highlighting the safety measures at the tourist destinations. This may reduce travellers' perception of risks associated with traveling during this epidemic (Liu et al., 2021). To prevent potential tourists to develop an irrational fear of COVID-19 (Talwar et al., 2022), the results also suggest that government agencies are required to exert efforts to engage these tourists positively. To reduce this fear of COVID-susceptibility, governments may take strict actions to ensure that the safety protocols are being met at tourist destinations (Cahigas et al., 2022) and tour managers may need to focus on communicating the effectiveness of these measures to travellers. Finally, as the study results provide evidence that the perceived susceptibility of this disease is affecting travel intentions so tour companies may need to turn their focus on less congested destinations (Seong & Hong, 2021) and those with high level of hygiene standards (Perić et al., 2021).

4.1 Limitation and Future Recommendations

The research is not without its limitations. First, the convenient sampling used in this study may not be the representation of entire Pakistani population. The larger sample size with cluster sampling in future may reduce this error. Second, the study is done in Pakistan and the result cannot be generalized because of its specific context. So, the replication of this study is highly advisable in different demographical and geographical backgrounds. This type of replication studies will validate the model proposed in this study to expand the theory of planned behaviour. Finally, almost all of the respondents i.e., 97% are partially or completely vaccinated which may have impacted their perceived susceptibility of COVID-19 during traveling. Future research may analyse the non-vaccinated respondents and compare the results with the vaccinated ones. Another interesting study would be to incorporate the individuals past behaviour of traveling during pandemic and their perceived destination image in TPB in the context of COVID-19. Moreover, while applying TPB, health conscious people may behave differently while making travel deci-

sions (Pahrudin et al., 2021) so the moderating effect of this variable would be an interesting aspect to be explored in future studies.

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REFERENCES

- Ab Hamid, M. R., Sami, W., & Sidek, M. H. M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*, 890(1), 12163. <https://doi.org/10.1088/1742-6596/890/1/012163>
- Abbas, J., Wang, D., Su, Z., & Ziapour, A. (2021). The role of social media in the advent of COVID-19 pandemic: crisis management, mental health challenges and implications. *Risk Management and Healthcare Policy*, 14, 1917. <https://doi.org/10.2147/RMHP.S284313>
- Agag, G., Brown, A., Hassanein, A., & Shaalan, A. (2020). Decoding travellers' willingness to pay more for green travel products: closing the intention-behaviour gap. *Journal of Sustainable Tourism*, 28(10), 1551–1575. <https://doi.org/10.1080/09669582.2020.1745215>
- Ajzen, I. (1985). *From Intentions to Actions: A Theory of Planned Behavior*. In J. Kuhl & J. Beckmann (Eds.), *Action Control* (pp. 11–39). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-69746-3_2
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2001). Nature and Operation of Attitudes. *Annual Review of Psychology*, 52(1), 27–58. <https://doi.org/10.1146/annurev.psych.52.1.27>
- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall. <https://books.google.com.pk/books?id=A6AQAQAIAAJ>
- Ali, A., Ahmed, M., & Hassan, N. (2021). Socioeconomic impact of COVID-19 pandemic: Evidence from rural mountain community in Pakistan. *Journal of Public Affairs*, 21(4), e2355. <https://doi.org/10.1002/pa.2355>
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471–499. <https://doi.org/10.1348/014466601164939>
- Ateljevic, I. (2020). Transforming the (tourism) world for good and (re)generating the potential 'new normal.' *Tourism Geographies*, 22(3), 467–475. <https://doi.org/10.1080/14616688.2020.1759134>
- Boto-García, D., & Leoni, V. (2022). Exposure to COVID-19 and travel intentions: Evidence from Spain. *Tourism Economics*, 28(6), 1499–1519. <https://doi.org/10.1177/135481662199655>
- Cahigas, M. M. L., Prasetyo, Y. T., Alexander, J., Sutapa, P. L., Wiratama, S., Arvin, V., Nadlifatin, R., & Persada, S. F. (2022). Factors affecting visiting behavior to Bali during the covid-19 pandemic: An extended theory of planned behavior approach. *Sustainability*, 14(16), 10424. <https://doi.org/10.3390/su141610424>
- Cahyanto, I., Wiblishauser, M., Pennington-Gray, L., & Schroeder, A. (2016). The dynamics of travel avoidance: The case of Ebola in the U.S. *Tourism Management Perspectives*, 20, 195–203. <https://doi.org/https://doi.org/10.1016/j.tmp.2016.09.004>
- Chew, E. Y. T., & Jahari, S. A. (2014). Destination image as a mediator between perceived risks and revisit intention: A case of post-disaster Japan. *Tourism Management*, 40, 382–393. <https://doi.org/https://doi.org/10.1016/j.tourman.2013.07.008>
- D'Souza, C., Zyngier, S., Robinson, P., Schlotterlein, M., & Sullivan-Mort, G. (2011). Health Belief Model: Evaluating Marketing Promotion in a Public Vaccination Program. *Journal of Nonprofit & Public Sector Marketing*, 23(2), 134–157. <https://doi.org/10.1080/10495142.2011.572668>
- 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. <https://doi.org/10.1080/02508281.2020.1830341>
- Eom, T., & Han, H. (2019). Community-based tourism (TourDure) experience program: a theoretical approach. *Journal of Travel & Tourism Marketing*, 36(8), 956–968. <https://doi.org/10.1080/10548408.2019.1665611>
- Ferdous, A. S. (2010). Applying the theory of planned behavior to explain marketing managers' perspectives on sustainable marketing. *Journal of International Consumer Marketing*, 22(4), 313–325. <https://doi.org/10.1080/08961530.2010.505883>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Fuchs, G., & Reichel, A. (2006). Tourist Destination Risk Perception: The Case of Israel. *Journal of Hospitality & Leisure Marketing*, 14(2), 83–108. https://doi.org/10.1300/J150v14n02_06
- Gibbs, H., Liu, Y., Pearson, C. A. B., Jarvis, C. I., Grundy, C., Quilty, B. J., Diamond, C., Simons, D., Gimma, A., Leclerc, Q. J., Auzenberg, M., Lowe, R., O'Reilly, K., Quaife, M., Hellewell, J., Knight, G. M., Jombart, T., Klepac, P., Procter, S. R., ... group, L. C. C.-19 working. (2020). Changing travel patterns in China during the early stages of the COVID-19 pandemic. *Nature Communications*, 11(1), 5012. <https://doi.org/10.1038/s41467-020-18783-0>

- Gössling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1–20. <https://doi.org/10.1080/09669582.2020.1758708>
- Guerin, R. J., & Toland, M. D. (2020). An application of a modified theory of planned behavior model to investigate adolescents' job safety knowledge, norms, attitude and intention to enact workplace safety and health skills. *Journal of Safety Research*, 72, 189–198. <https://doi.org/10.1016/j.jsr.2019.12.002>
- Guggenheim, N., Taubman – Ben-Ari, O., & Ben-Artzi, E. (2020). The contribution of driving with friends to young drivers' intention to take risks: An expansion of the theory of planned behavior. *Accident Analysis & Prevention*, 139, 105489. <https://doi.org/https://doi.org/10.1016/j.aap.2020.105489>
- Gursoy, D., Can, A. S., Williams, N., & Ekinçi, Y. (2021). Evolving impacts of COVID-19 vaccination intentions on travel intentions. *The Service Industries Journal*, 41(11–12), 719–733. <https://doi.org/10.1080/02642069.2021.1938555>
- Hair, J. F. (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. SAGE Publications. <https://books.google.com.pk/books?id=IFiaryXE1PoC>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th Edition). Pearson Prentice Hall.
- Hamid, S., & Bano, N. (2021). Behavioral intention of traveling in the period of COVID-19: an application of the theory of planned behavior (TPB) and perceived risk. *International Journal of Tourism Cities*. <https://doi.org/10.1108/IJTC-09-2020-0183>
- Han, H., Al-Ansi, A., Chua, B.-L., Tariq, B., Radic, A., & Park, S. (2020). The post-coronavirus world in the international tourism industry: Application of the theory of planned behavior to safer destination choices in the case of US outbound tourism. *International Journal of Environmental Research and Public Health*, 17(18), 6485. <https://doi.org/10.3390/ijerph17186485>
- Han, H., Hsu, L.-T. (Jane), & Lee, J.-S. (2009). Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco-friendly decision-making process. *International Journal of Hospitality Management*, 28(4), 519–528. <https://doi.org/https://doi.org/10.1016/j.ijhm.2009.02.004>
- Hancock, G. R., & Mueller, R. O. (2013). *Structural Equation Modeling: A second course* (2nd ed.). IAP Information Age Publishing.
- Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Guilford Publications.
- Hsu, C. H. C., & Huang, S. (Sam). (2012). An Extension of the Theory of Planned Behavior Model for Tourists. *Journal of Hospitality & Tourism Research*, 36(3), 390–417. <https://doi.org/10.1177/1096348010390817>
- Huan, T.-C., Beaman, J., & Shelby, L. (2004). No-escape natural disaster: Mitigating Impacts on Tourism. *Annals of Tourism Research*, 31(2), 255–273. <https://doi.org/https://doi.org/10.1016/j.annals.2003.10.003>
- Irawan, M. Z., Rizki, M., Joewono, T. B., & Belgiawan, P. F. (2020). Exploring the intention of out-of-home activities participation during new normal conditions in Indonesian cities. *Transportation Research Interdisciplinary Perspectives*, 8, 100237. <https://doi.org/https://doi.org/10.1016/j.trip.2020.100237>
- Khan, T. J., & Khan, N. (2016). Obstacles in learning English as a second language among intermediate students of districts Mianwali and Bhakkar, Pakistan. *Open Journal of Social Sciences*, 4(2), 154–162. <https://doi.org/10.4236/jss.2016.42021>
- Kim, W., & Ok, C. (2009). The effects of relational benefits on customers' perception of favorable inequity, affective commitment, and repurchase intention in full-service restaurants. *Journal of Hospitality & Tourism Research*, 33(2), 227–244. <https://doi.org/10.1177/1096348008329874>
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233–242. <https://doi.org/https://doi.org/10.1002/jtr.607>
- Lam, T., & Hsu, C. H. C. (2004). Theory of Planned Behavior: Potential Travelers from China. *Journal of Hospitality & Tourism Research*, 28(4), 463–482. <https://doi.org/10.1177/1096348004267515>
- 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. <https://doi.org/10.1016/j.tourman.2011.02.006>
- Leggat, P. A., Brown, L. H., Aitken, P., & Speare, R. (2010). Level of Concern and Precaution Taking Among Australians Regarding Travel During Pandemic (H1N1) 2009: Results From the 2009 Queensland Social Survey. *Journal of Travel Medicine*, 17(5), 291–295. <https://doi.org/10.1111/j.1708-8305.2010.00445.x>
- Li, J., Nguyen, T. H. H., & Coca-Stefaniak, J. A. (2020). Coronavirus impacts on post-pandemic planned travel behaviours. *Annals of Tourism Research*. <https://doi.org/10.1016/j.annals.2020.102964>
- Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: an extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review*. <https://doi.org/10.1108/TR-09-2020-0458>
- Lobb, A. E., Mazzocchi, M., & Traill, W. B. (2007). Modelling risk perception and trust in food safety information within the theory of planned behaviour. *Food Quality and Preference*, 18(2), 384–395. <https://doi.org/https://doi.org/10.1016/j.foodqual.2006.04.004>

- Lu, Q., & Atadil, H. A. (2021). Do you dare to travel to China? An examination of China's destination image amid the COVID-19. *Tourism Management Perspectives*, 40, 100881. <https://doi.org/10.1016/j.tmp.2021.100881>
- Mahboob, A. (2017). English medium instruction in higher education in Pakistan: Policies, perceptions, problems, and possibilities. *English Medium Instruction in Higher Education in Asia-Pacific: From Policy to Pedagogy*, 71–91. https://doi.org/10.1007/978-3-319-51976-0_5
- McCallon, E. L., & Brown, J. D. (1971). A semantic differential instrument for measuring attitude toward mathematics. *The Journal of Experimental Education*, 39(4), 69–72. <https://doi.org/10.1080/00220973.1971.11011288>
- McEachan, R. R. C., Conner, M., Taylor, N. J., & Lawton, R. J. (2011). Prospective prediction of health-related behaviours with the Theory of Planned Behaviour: a meta-analysis. *Health Psychology Review*, 5(2), 97–144. <https://doi.org/10.1080/17437199.2010.521684>
- Mukherjee, P., Lim, P. L., Chow, A., Barkham, T., Seow, E., Win, M. K., Chua, A., Leo, Y. S., & Cheng Chen, M. I. (2010). Epidemiology of travel-associated pandemic (H1N1) 2009 infection in 116 patients, Singapore. *Emerging Infectious Diseases*, 16(1), 21–26. <https://doi.org/10.3201/eid1601.091376>
- Munnazzah Raza. (2019). *8 Travel Destinations you might still be able to afford*. Dawn. <https://images.dawn.com/news/1182474/8-travel-destinations-you-might-still-be-able-to-afford>
- Neatherlin, J., Cramer, E. H., Dubray, C., Marienau, K. J., Russell, M., Sun, H., Whaley, M., Hancock, K., Duong, K. K., Kirking, H. L., Schembri, C., Katz, J. M., Cohen, N. J., & Fishbein, D. B. (2013). Influenza A(H1N1)pdm09 during air travel. *Travel Medicine and Infectious Disease*, 11(2), 110–118. <https://doi.org/10.1016/j.tmaid.2013.02.004>
- Oh, H., & Hsu, C. H. C. (2001). Volitional degrees of gambling behaviors. *Annals of Tourism Research*, 28(3), 618–637. [https://doi.org/10.1016/S0160-7383\(00\)00066-9](https://doi.org/10.1016/S0160-7383(00)00066-9)
- Ojo, K. E., Ferreira, S., Salazar, J., Bergstrom, J., & Woosnam, K. M. (2022). Recreational travel behavior and COVID-19: Insights from expected utility and the theory of planned behavior. *Tourism Economics*, 13548166211059642.
- Pahrudin, P., Chen, C.-T., & Liu, L.-W. (2021). A modified theory of planned behavioral: A case of tourist intention to visit a destination post pandemic Covid-19 in Indonesia. *Heliyon*, 7(10), e08230. <https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e08230>
- Parady, G., Taniguchi, A., & Takami, K. (2020). Travel behavior changes during the COVID-19 pandemic in Japan: Analyzing the effects of risk perception and social influence on going-out self-restriction. *Transportation Research Interdisciplinary Perspectives*, 7, 100181. <https://doi.org/https://doi.org/10.1016/j.trip.2020.100181>
- Patwary, M. M., Bardhan, M., Disha, A. S., Hasan, M., Haque, M. Z., Sultana, R., Hossain, M. R., Browning, M. H. E. M., Alam, M. A., & Sallam, M. (2021). Determinants of COVID-19 Vaccine Acceptance among the Adult Population of Bangladesh Using the Health Belief Model and the Theory of Planned Behavior Model. *Vaccines*, 9(12), 1393. <https://doi.org/10.3390/vaccines9121393>
- 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. <https://doi.org/10.54055/ejtr.v27i.2125>
- Quintal, V. A., Lee, J. A., & Soutar, G. N. (2010). Risk, uncertainty and the theory of planned behavior: A tourism example. *Tourism Management*, 31(6), 797–805. <https://doi.org/https://doi.org/10.1016/j.tourman.2009.08.006>
- Rasoolimanesh, S. M., Seyfi, S., Rastegar, R., & Hall, C. M. (2021). Destination image during the COVID-19 pandemic and future travel behavior: The moderating role of past experience. *Journal of Destination Marketing & Management*, 21, 100620. <https://doi.org/10.1016/j.jdmm.2021.100620>
- Rastegar, R., Higgins-Desbiolles, F., & Ruhanen, L. (2021). COVID-19 and a justice framework to guide tourism recovery. *Annals of Tourism Research*, 91, 103161. <https://doi.org/https://doi.org/10.1016/j.annals.2021.103161>
- Rivera, M. A. (2020). Hitting the reset button for hospitality research in times of crisis: Covid19 and beyond. *International Journal of Hospitality Management*, 87, 102528. <https://doi.org/10.1016/j.ijhm.2020.102528>
- Rohisha, I. K., & Jibin, M. (2021). COVID-19-A new normal Indian community. *Journal of Family Medicine and Primary Care*, 10(1), 15–18. https://doi.org/10.4103/jfmpc.jfmpc_1043_20
- Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2021). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, 24(7), 970–984. <https://doi.org/10.1080/13683500.2020.1829571>
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Psychology Press. <https://doi.org/10.4324/9781410610904>
- Seong, B.-H., & Hong, C.-Y. (2021). Does risk awareness of COVID-19 affect visits to national parks? Analyzing the tourist decision-making process using the theory of planned behavior. *International Journal of Environmental Research and Public Health*, 18(10), 5081. <https://doi.org/10.3390/ijerph18105081>
- Sharun, K., Tiwari, R., Natesan, S., Yatoo, M. I., Malik, Y. S., & Dhama, K. (2020). International travel during the COVID-19 pandemic: implications and risks associated with "travel bubbles." *Journal of Travel Medicine*, 27(8), taaa184. <https://doi.org/10.1093/jtm/taaa184>

- Sönmez, S. F., & Graefe, A. R. (1998). Determining Future Travel Behavior from Past Travel Experience and Perceptions of Risk and Safety. *Journal of Travel Research*, 37(2), 171–177. <https://doi.org/10.1177/004728759803700209>
- Suess, C., Maddock, J., Dogru, T., Mody, M., & Lee, S. (2022). Using the health belief model to examine travelers' willingness to vaccinate and support for vaccination requirements prior to travel. *Tourism Management*, 88, 104405. <https://doi.org/10.1016/j.tourman.2021.104405>
- Svidzinskaya, G. B., Baskin, Y. G., & Mezentseva, M. E. (2019). Using the Semantic Differential Method to Assess the Learning Motivation and Attitude of First-Year Student's towards Chemistry in University of EMERCOM of Russia. *International Journal of Education and Practice*, 7(2), 88–100. <https://doi.org/10.18488/journal.61.2019.72.88.100>
- Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design; review of different lengths of rating scale/attitude scale/Likert scale. *Hamed Taherdoost*, 1–10. <https://doi.org/hal-02557308>
- Talwar, S., Srivastava, S., Sakashita, M., Islam, N., & Dhir, A. (2022). Personality and travel intentions during and after the COVID-19 pandemic: An artificial neural network (ANN) approach. *Journal of Business Research*, 142, 400–411. <https://doi.org/10.1016/j.jbusres.2021.12.002>
- Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behaviour: self-identity, social identity and group norms. *British Journal of Social Psychology*, 38(3), 225–244. <https://doi.org/10.1348/014466699164149>
- Ulker-Demirel, E., & Ciftci, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. *Journal of Hospitality and Tourism Management*, 43, 209–219. <https://doi.org/https://doi.org/10.1016/j.jhtm.2020.04.003>
- Ullah, I., Lin, C.-Y., Malik, N. I., Wu, T.-Y., Araban, M., Griffiths, M. D., & Pakpour, A. H. (2021). Factors affecting Pakistani young adults' intentions to uptake COVID-19 vaccination: An extension of the theory of planned behavior. *Brain and Behavior*, 11(11), e2370. <https://doi.org/https://doi.org/10.1002/brb3.2370>
- UNWTO. (2020). *100% of global destinations now have covid-19 travel restrictions*. <https://www.unwto.org/news/covid-19-travel-restrictions>
- Valencia, J., & Crouch, G. I. (2008). Travel behavior in troubled times: The role of consumer self-confidence. *Journal of Travel & Tourism Marketing*, 25(1), 25–42. <https://doi.org/10.1080/10548400802164871>
- Warren, A., Bell, M., & Budd, L. (2010). Airports, localities and disease: representations of global travel during the H1N1 pandemic. *Health & Place*, 16(4), 727–735. <https://doi.org/10.1016/j.healthplace.2010.03.004>
- Wen, Z., Huimin, G., & Kavanaugh, R. R. (2005). The Impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists. *Current Issues in Tourism*, 8(1), 22–38. <https://doi.org/10.1080/13683500508668203>
- WHO. (2020). *Rolling Updates on Coronavirus Disease (COVID-19)*. World Health Organization. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>
- Wolff, K. (2021). COVID-19 Vaccination Intentions: The Theory of Planned Behavior, Optimistic Bias, and Anticipated Regret. *Frontiers in Psychology*, 12, 648289. <https://doi.org/10.3389/fpsyg.2021.648289>
- Worldometer. (2022). *Reported Cases and Deaths by Country or Territory*. <https://www.worldometers.info/coronavirus/>
- Yeh, S. (2020). Tourism recovery strategy against COVID-19 pandemic. *Tourism Recreation Research*, 0(0), 1–7. <https://doi.org/10.1080/02508281.2020.1805933>

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