

The impact of COVID-19 outbreak towards the post-pandemic leisure travel intention

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Abstract

There are studies related to COVID-19 pandemic across various sectors, including social, psychology, and specific industries, e.g., tourism. Several countries have imposed travel restrictions to prevent COVID-19 outbreaks and it may lead to travel behaviour changes for their residents. This research contributes to the existing knowledge by providing a new point of view, by extending the Theory of Planned Behaviour (TPB) along with additional determinants of travellers' post-pandemic behavioural intentions, namely cognitive and affective risk perception and non-pharmaceutical interventions. This study focused on Indonesian residents who intended to travel abroad for vacation in 2020, but their plan was postponed due to the COVID-19 pandemic. Data was collected using a convenience sampling technique and analysed using partial least squares structural equation modelling (PLS-SEM). The PLS-SEM enables us to predict the key factors that affect post-pandemic travel intentions. The results show that affective risk perception has a positive relationship with perceived behavioural control and non-pharmaceutical intervention. This research also found significant effects of cognitive risk perception on all variables. Positive significant relationships were found between attitude, subjective norms, perceived behavioural control, and non-pharmaceutical interventions with post-pandemic travel intentions.

Keywords:

COVID-19 Outbreak, Non-pharmaceutical Interventions, Perceived Risk, TPB, Travel Intention

1 Introduction

A disastrous phenomenon hit the tourism industry when the World Health Organisation categorised COVID-19 as a pandemic on 11 March 2020 (World Health Organisation [WHO], 2020). As the virus spread rapidly outside China, many countries also decided to close their boundaries. As a result, many industries suffered, especially the tourism industry (World Economic Forum, 2020). In 2020, it was predicted that 100.8 million travel and tourism jobs were lost and 30% of the travel and tourism GDP decreased as an impact of the pandemic. As tourism is one of the major sectors that is constantly growing and playing an important role in boosting the global economy, an understanding of the shifting travel intention and demand in the future may assist governments and other related stakeholders (e.g., corporates/business owners) in predicting the tourists' travel intentions post pandemic, which also supports defining strategic initiatives related to the tourism industry in the future (i.e., the 'new normal' era).

Prior to the pandemic, scholars have looked at travel behaviour and travel intentions from several psychological perspectives, such as tourist experience, motivation, and how tourist experiences impact one's well-being (Huang et al., 2020). About 70 percent of these studies adopted the theory of planned behaviour (TPB) to explain tourists' behavioural intentions (Ulker-Demirel & Ciftci, 2020). However, TPB tends to neglect the emotional element of human behaviour and fails to consider tourists' perception of health-related behaviours, such as their intention to protect their health (Conner & Abraham, 2015). The inclusion of affective elements in the analysis may enrich the comprehension of an individual's travel behaviour, including affective risk perception that is presented through worries and fears toward the COVID-19 pandemic (Bae & Chang, 2020). This affective risk perception will complement cognitive risk perception in affecting one's post-pandemic travel intention. Travellers tend to take non-pharmaceutical interventions (NPI), such as social distancing and personal hygiene protection that may affect their intention to travel during the pandemic. However, there are only a few studies looking at the effect of non-pharmaceutical intervention as antecedent of travel intention, with the notable exception of Lee et al. (2012).

This research uses TPB as a basic concept to predict traveller behaviour when making decisions to travel after the pandemic ends. According to Ajzen (1991), human social behaviour and intention are commonly predicted using TPB. This model has been discredited by some research, but in the end, it still exists and is helpful to get deeper understanding related to human behaviour (Ajzen, 2014). This research will contribute to existing knowledge by providing a new point of view, by extending TPB with additional determinants of traveller's post-pandemic behavioural intentions, namely cognitive and affective risk perception and non-pharmaceutical interventions. The main objective of this study is to examine the antecedents of individuals' intention to travel post-Coronavirus outbreak.

2 Literature Review

2.1 Theory of Planned Behaviour

The theory of planned behaviour (TPB) is used by various research topics and applied in several studies on leisure, tourism, consumer behaviour, health behaviour, among others. This theory originates from the theory of reasoned action (TRA) that only considers volitional aspects. Despite the use of this theory to provide a valuable framework for speculating human behaviour, many scholars still affirm that extension of this theory needed by adding additional variables or by making adjustment to causal relationships depends on the situations (Meng & Cui, 2020).

TPB affirms that human behaviour is affected by intention based on three basic factors, namely attitude, subjective norms, and perceived behavioural control. Attitude refers to a subjective assessment of the circumstances that are done by an individual. Subjective norms, also known as social influence, are functions of the individual's reliance that are acquired from the views of others towards the objects of attitudes that are linked with individuals. Perceived behavioural control is commonly known as control, intuition, or resistance in behaviour. In the context of travelling, if an individual favours travelling abroad, they are supported by important others to travel, and can afford to travel abroad, they will have a higher intention to travel internationally (Na et al., 2016).

Social and psychological variables are considered by TPB in the process of decision making from an individual. These variables were adopted and used to foresee the behaviours of people who are given choices such as destination and accommodation choices, and social psychology studies (Hsu & Huang, 2010). A study by Geetha (2019) shows that a strong positive correlation exists between TPB variables and behavioural intention. Another paper in China confirmed that the TPB model was applicable to explain the variability of post-pandemic travel intentions (Li, Nguyen, & Coca-Stefaniak, 2020).

2.1. Post-pandemic Travel Intention

The COVID-19 outbreak resulted in fear of travelling (Nicola et al., 2020). Tourists will be more likely to select domestic destinations and avoid mass-tourism destinations. Tourists could also be experiencing tourism xenophobia resulting in less international travel and buying travel insurance (Zenker & Kock, 2020).

A study during the MERS outbreak in Seoul reports that public fear of an outbreak resulted in a significant influence on travel behaviour (Kim et al., 2017). Recent studies related to the COVID-19 outbreak have also been conducted. Bulgarian tourists showed an optimistic travel intention as they were eager to return to their regular travelling habits by adopting the 'new' protocol (Ivanova et al., 2020). Indonesians also have a higher intention to travel immediately after the pandemic ends (Wachyuni & Kusumaningrum, 2020). Unlike these preceding studies, research in China indicates a significant relationship between intra-pandemic perception and post-pandemic travel intention. This study reported that around half of the respondents chose to travel six months or longer after the pandemic was under control and planned for shorter vacations, which may result in future negative impacts on tourism (Li et al., 2020).

2.2. Perceived Travel Risk

The perception of risk in tourism continually changes and varies, depending on the characteristics of the individual, their preferences, personality, attitude, and lifestyle. It shows that tourists' socio-demographic and psychological factors are closely associated with risk perception (Jia et al., 2018). These are in line with the concept of risk perception from a psychological perspective which states that risk perception has two dimensions, namely cognitive and affective. Cognitive risk perception refers to the perceived vulnerability and intensity of risks from an individual, whereas anxiety or worries about an individual's exposure to a risk is described as affective risk perception (Bae & Chang, 2020).

In terms of risk perception of travelling, Cahyanto et al. (2016) found that perceived travel risk impacted the tourist's attitude toward travelling that was presented through travel avoidance. International travel seemed to be riskier than domestic travel during a pandemic. They reported an indication of a positive relationship between perceived travel risk and travel avoidance, where respondents with higher risk perceptions related to travel would avoid travelling due to Ebola cases in the destination. Future travel avoidance was found as a determinant of future travel intention (Turnšek et al., 2020).

There are only limited studies that focused on health-related risk perception on travel behaviour (Turnšek et al., 2020). The COVID-19 pandemic is a critical event that may increase travellers' perceived risks to travel after the pandemic ends. Furthermore, Zenker and Kock (2020) reported that tourism xenophobia could happen during pandemics, including COVID-19. Therefore, this research looks at these two dimensions of risk perception as the antecedents of travellers' attitude, subjective norms, and perceived behaviour control related to post-pandemic travel intention.

2.3. Non-Pharmaceutical Interventions

To prevent the spread of COVID-19, two methods that can be implemented, namely pharmaceutical and non-pharmaceutical interventions (NPI). Pharmaceutical choices include the usage of medicines and vaccines. The purpose of vaccines is to train our bodies to fight the virus and know how to attack it (Gallagher, 2021). Some vaccines have been developed by scientists and approved by some countries in Asia and South America. As per March 2021 update, at least 1,460,222 Indonesians have been fully vaccinated or 0.55% of the population (Google News, 2021).

Considering that COVID-19 vaccines will not be available anytime soon to the entire population, NPI is essential for slowing the COVID-19 outbreak. NPI comprises administrative control measures and non-mandatory personal protective measures. Administrative NPI measures include separating infected patients, isolating individuals who have contact with COVID-19, hospital infection control, and border control, where personal NPI measures include social distancing and personal hygiene protection. Administrative NPI has some limitations because the COVID-19 incubation period is on average 5-6 days and asymptomatic cases, or mild symptoms might happen (World Health Organisation, 2020) and travellers may not acknowledge their condition for worry of interfering with their travel arrangements.

A research study by Liao et al. (2010) about individuals' responses to pandemic influenza A (H1N1) in Hong Kong found a relationship between worrying about contracting H1N1 and health protection behaviours such as conducting hand hygiene and social distancing. A similar result is reported by Taglioni et al. (2013), where most respondents perceived

influenza A (H1N1) as more severe than seasonal influenza and felt that the risk of infection can be reduced by having preventive actions from individuals. Another research study, however, showed a weak positive relationship between worrying and hand hygiene (Liao et al., 2010).

Sætrevik's study (2020) related to behavioural intention in response to COVID-19 shows that most people worried that COVID-19 may infect someone in the family. To limit the pandemic contagion, people believe that information from official public health, including some preventive actions including washing hands, avoiding travel and social situations, and keeping physical distance from others could help them to limit the contagion and prevent them or their loved ones from becoming sick. Most individuals believe that precautionary actions could decrease the probability of getting infected by COVID-19.

Negative effects to tourism industries happen because travellers experienced higher perceived risk and anxiety due to insufficient information about the virus. This may stimulate them to take precautionary actions. However, the effect of NPI on travel intention varies, which indicates further analysis is needed to investigate whether travellers' inclination to take precautionary actions will influence their intention to travel abroad after the pandemic as well as the relationship between travellers' perception of risk related to the COVID-19 and their personal protective NPI (Lee et al., 2012).

2.4. Hypothesis Development

Previous research suggests extending TPB by adding more variables or modifying the causal relationships. This study adds risk perception and non-pharmaceutical intervention variables into the theory. This study also intends to help the tourism industry to predict Indonesian tourists' travel intentions post-pandemic.

2.5.1. Perceived Risk, Attitude, Subjective Norms, and Perceived Behavioural Control

An individual's risk perception influences his decision-making through his behavioural intention as mentioned by Floyd et al. (2004). As a result, both cognitive and affective risk perception will have a positive influence on the TPB variables. Bae and Chang (2020) reported that a lower degree of risk perception results in a positive attitude. For example, a higher level of individuals' belief that their loved ones will show a positive attitude toward their intended behaviour will strengthen perception on their own ability to bring about an intended action.

While Bae and Chang (2020) looked at intact tourism to minimise health risks during the COVID-19 situation, this study focused on the traveller's behaviour after the pandemic is over, which means that the travellers are fully aware of the risks that may occur from COVID-19, so they decide to travel abroad for vacation only after the pandemic is over. Similarly, individuals with higher levels of perceived risks about the disease are more likely to have stronger peer pressures to conform to social norms.

As mentioned by Bae and Chang (2020) and Sánchez-Cañizares et al. (2020), higher perceived risk will lead to negative attitudes toward travelling, subjective norms, and behaviour to travel during the pandemic. Individuals tend to avoid risk, and as a result, they will take safe travel behaviour, such as do intact tourism and postpone travel plans until the pandemic is over. The definition of 'after the pandemic has ended' is a situation in which cases of COVID-19 have been handled properly and the infection rate has decreased to

below 5 percent according to WHO standards. Since this study looks at travel behaviour after the pandemic, perceived risk has a positive effect on the attitude, subjective norms, and perceived behavioural control toward travelling after the pandemic is over. The relationships are as follows:

H1a: Cognitive perceived risk has a positive influence on attitude toward travelling.

H1b: Affective perceived risk has a positive influence on attitude toward travelling.

H2a: Cognitive perceived risk has a positive influence on subjective norms.

H2b: Affective perceived risk has a positive influence on subjective norms.

H3a: Affective perceived risk has a positive influence on perceived behavioural control.

H3b: Affective perceived risk has a positive influence on perceived behavioural control.

2.5.2. Perceived Risk and Non-Pharmaceutical Interventions

Perceived risks play a critical role in changing the decision-making process of a traveller (Lee et al., 2012). Tourists who intend to travel overseas will pay attention to the health procedures and voluntarily apply personal NPI before, during, and after their trip to ease their risk perceptions. A study by Liao et al. (2010) also showed that one's worry of getting infected by the virus has a positive relationship with health protection inclination, including hand hygiene and social distancing. Similarly, Taglioni et al. (2013) reported that perceived risk influences people to take effective precautionary measures, such as washing of hands more frequently.

Based on these studies, when travellers hold higher perceived risk toward COVID-19, they are more likely to undertake non-pharmaceutical interventions (NPI). The relationship can be presented in the following hypotheses:

H4a: Cognitive perceived risk has a positive effect on non-pharmaceutical interventions.

H4b: Affective perceived risk has a positive effect on non-pharmaceutical interventions.

2.5.3. Perceived Risk and Post-Pandemic Travel Intention

Zhu and Deng (2020) found a significant negative effect of tourism risk perception on travel intention. Another study by Cui et al. (2016) also shows that risk perception has a negative relationship with travel preference. Similar findings were reported by Cahyanto et al. (2016), Lee et al. (2012), and Pappas (2017). Inconsistent results were found by Bae and Chang (2020), in which cognitive risk perception has a significant positive influence on post-pandemic travel intention, while affective risk perception negatively influenced post-pandemic travel intention. It can be predicted that perceived risk has a negative effect on the intention toward travellers. The relationship can be presented as follows:

H5a: Cognitive perceived risk has a positive effect on post-pandemic travel intention.

H5b: Affective perceived risk has a positive effect on post-pandemic travel intention.

2.5.4. Attitude, Subjective Norms, Perceived Behavioural Control and Post-Pandemic Travel Intention

Na et al. (2016) explained that an individual is more likely to travel if they possess a favourable attitude from their initial assessment to the idea of travel. Subjective norms are predicted to have a strong influence on an individual's intention to travel. Subjective norms

are likely to be more influential in a collectivist culture rather than individualist countries. Perceived behavioural control refers to an individual’s perception of available resources like time and financial resources to travel after the pandemic. When an individual has greater control over their resources, they are more likely to travel.

Based on previous studies by Geetha (2019) and Ahmad et al. (2020), attitude, subjective norms, and perceived behavioural control have significant positive effects on tourists’ travel intentions. Specifically related to the post-pandemic travel intention, Li et al. (2020) reported significant influences of attitude, subjective norms, and perceived behavioural control on post-pandemic travel intentions. Therefore, this study proposes that attitude, subjective norms, and perceived behavioural control have positive effects on tourists’ travel intentions. We propose the following hypotheses:

- H6: Attitude has a positive influence on post-pandemic travel intention.
- H7: Subjective norms have a positive influence on post-pandemic travel intentions.
- H8: Perceived behavioural control has a positive influence on post-pandemic travel intention.

2.5.5. Non-Pharmaceutical Interventions and Post-Pandemic Travel Intention

A study by Lee et al. (2012) showed that tourists tend to implement personal NPIs if they are not protected with pharmaceutical protection such as a vaccine. These NPIs include gaining more understanding about the pandemic and the disease, implementing better personal hygiene while travelling, and minimising the possibility of infection by having social distance from people and places that may spread the infection. They claimed that tourists’ risk perception related to the disease negatively affects their travel intention, so they are likely to change their destination choice, alter their travel behaviour, or obtain more information related to the disease. Furthermore, tourists who would like to travel abroad will prepare personal NPI to mitigate the risk.

As COVID-19 is highly contagious, travellers will be more likely to take NPI, which in turn positively affects their intention to travel after the pandemic is over. The hypothesis is:

- H9: Non-pharmaceutical interventions have a positive influence on post-pandemic travel intentions.

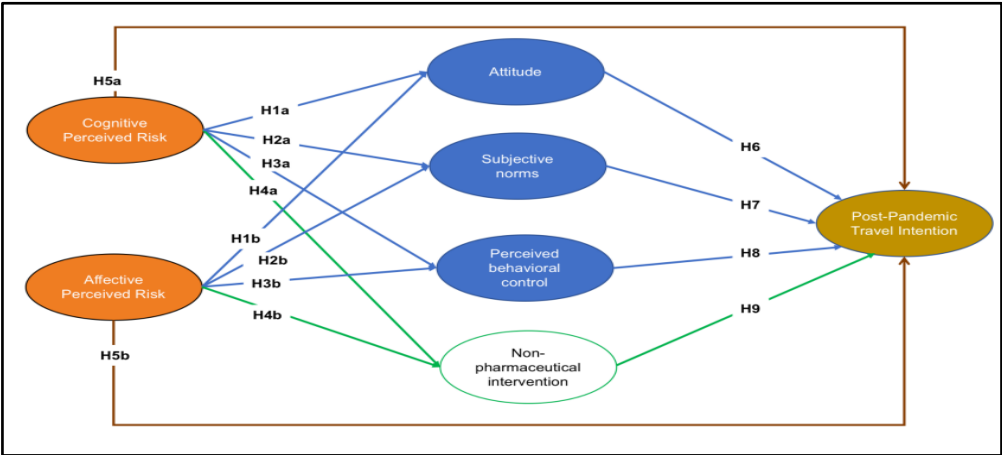


Figure 1: Conceptual Model presents the extended TPB model adopted in this study

3 Methodology

3.1 Research Context

Based on a literature review, research about risk perception for tourist destinations and post-pandemic travel intentions in Indonesia related to COVID-19 are still limited. The study will take Indonesia as a population, considering that Indonesia is one of the countries with most COVID-19 cases, and many international travel restrictions apply to Indonesian citizens. The data was collected in the situation while Indonesia faced many cases of COVID-19 (around 1,414,741 confirmed cases per 14 March 2021) and around 4 million COVID-19 vaccines were distributed (World Health Organisation, 2021).

3.2 Data Collection

This study focused on Indonesian travellers who intended to travel abroad for vacation in 2020, but their plans were postponed due to the COVID-19 pandemic. This study used a convenience sampling technique to collect results from a conveniently available pool of respondents based on the following criteria: (1) currently residing in Indonesia, (2) travelling with their own personal budget or personal income and (3) already made plans to travel abroad in 2020, but their plans were cancelled due to the COVID-19 pandemic. After discarding some irrelevant answers, the online questionnaire yielded 309 respondents for data analysis.

Information was collected through an online survey due to COVID-19 situation. Data was collected from December 2020 to March 2021. The questionnaire was distributed through social networking platforms. The questionnaire consisted of two main blocks of questions. The first part asked the respondents' profile, while the second part assessed respondents' agreement on the statement measuring the variables of interest. Before conducting the main survey, a pilot test to 45 people was performed to ensure there were no significant issues on the instruments.

3.3 Measures

The questionnaire was composed of seven sections: cognitive risk perception, affective risk perception, attitude, subjective norms, perceived behavioural control, non-pharmaceutical interventions, and post pandemic travel intention. Risk perception was measured with cognitive risk perception and affective risk perception. Five items measuring cognitive perceived risk were adopted from Bae and Chang (2020), Cahyanto et al. (2016), and Lee et al. (2012). Affective perceived risk was measured by four items from Bae and Chang (2020).

The three mediating variables were adopted from the theory of planned behaviour. Five items of attitude were adopted from Bae and Chang (2020) and Lee et al. (2012), five items of subjective norms were taken from Bae and Chang (2020), and four items of perceived behavioural control were adopted from Lee et al. (2012) and Meng and Chui (2020). Non-pharmaceutical interventions were operationalised with five items adopted from Lee et al. (2012). Post pandemic travel intention was measured by six items from Lee et al. (2012), Pappas (2017), and Bae and Chang (2020). All items were rated on a 5-point Likert scale.

This study aimed to test the extended TPB, therefore, hypotheses were tested using partial least squares structural equation modelling (PLS-SEM). The use of PLS-SEM enabled us to predict the key factors that affect post-pandemic travel intention. This method was

also selected due to the complexity of the research framework in this study, where the framework consists of many constructs and many indicators (Hair et al., 2011).

4 Results and Discussion

4.1 Profile of Respondents

We managed to collect data from 468 respondents. After deleting the unengaged responses and data from non-target respondents, we analysed 309 responses only. As presented in Table 1, most respondents are females, and almost 80 percent of respondents were between 21 and 30 years old who were at a productive age and in good physical health condition. Almost all respondents were highly educated with at least an undergraduate degree. Based on the occupation, 64.4 percent worked as private company employees, and about half of them had income of less than IDR 10 million (equivalent to US\$ 685). The number of their international trips for the past two years was 1 to 3 trips.

Table 1: Profile of Respondents

Variable	Options	Number	Percentage
Gender	Male	123	39.81
	Female	186	60.19
Age	Below 20 years old	6	1.94
	21-30 years old	245	79.29
	31-40 years old	48	15.53
	41-50 years old	5	1.62
	51-60 years old	3	0.97
	> 60 years old	2	0.65
Education Background	Secondary education or lower	1	0.32
	Higher education	21	6.80
	University education	260	84.14
	Post graduate education or above	27	8.74
Occupation	Student	20	6.47
	Private Employee	199	64.40
	Government Employee	13	4.21
	Entrepreneur	56	18.12
	Others	21	6.80
Monthly income	Less than IDR 5,000,000	39	12.62
	IDR 5,000,000 - 9,999,999	123	39.81
	IDR 10,000,000 - 14,999,999	60	19.42
	IDR 15,000,000 - 19,999,999	33	10.68
	IDR 20,000,000 - 24,999,999	20	6.47
	IDR 25,000,000 and above	34	11.00
Number of international trips in the last 24 months (2019-2020)	0 trip	74	23.95
	1-3 trips	185	59.87
	4-5 trips	32	10.36
	>= 6 trips	18	5.83

4.2. Measurement Model

Convergent validity was analysed based on factor loading and average variance extracted (AVE). One item, CRP5, was excluded from the analysis due to validity issues. The remaining items had factor loadings between 0.6546 and 0.9241 and AVE values between 0.5220 and 0.7908. The discriminant validity was identified using Fornell-Larcker criterion and HTMT, where the AVE of each latent construct had a higher value than the construct's highest squared correlation with any other latent construct. The HTMT ratios were between 0.0883 and 0.8147, below the threshold of 0.85, which indicated the data was valid (Ab Hamid et al., 2017). The reliability test using composite reliability (CR) for all variables showed values varying from 0.8134 to 0.9497, indicating the reliability of the scales. Details of these validity and reliability tests are presented in Tables 2, 3, and 4.

Table 2: Descriptive Statistics, Validity, and Reliability Results

Variable & items	Descriptive statistics		Convergent validity		Composite reliability
	Mean	Standard deviation	Factor loading	AVE	
Cognitive Risk Perception (Mean = 4.291)				0.5220	0.8134
CRP1	4.181	0.885	0.7021		
CRP2	4.492	0.657	0.7091		
CRP3	4.165	0.922	0.6962		
CRP4	4.327	0.844	0.7795		
Affective Risk Perception (Mean = 4.321)				0.6801	0.8947
ARP1	4.006	0.952	0.7810		
ARP2	4.602	0.687	0.8164		
ARP3	4.214	0.866	0.8308		
ARP4	4.427	0.792	0.8682		
Attitude (Mean = 4.432)				0.7720	0.9442
ATT1	4.576	0.873	0.8356		
ATT2	4.408	0.915	0.8870		
ATT3	4.207	1.012	0.8495		
ATT4	4.456	0.814	0.9104		
ATT5	4.515	0.807	0.9079		
Subjective Norms (Mean = 3.894)				0.7908	0.9497
SUB1	3.916	1.033	0.8907		
SUB2	3.906	1.115	0.8812		
SUB3	3.638	1.179	0.8766		
SUB4	3.955	1.045	0.9241		
SUB5	4.055	0.949	0.8728		
Perceived Behavioural Control (Mean = 4.269)				0.6218	0.8678
PBC1	4.343	0.762	0.7597		
PBC2	4.055	0.989	0.7614		
PBC3	4.239	0.918	0.7862		
PBC4	4.437	0.788	0.8439		
Non-Pharmaceutical Intervention (Mean = 4.626)				0.5702	0.8685
NPI1	4.68	0.584	0.6546		
NPI2	4.751	0.568	0.7809		
NPI3	4.505	0.795	0.7919		
NPI4	4.612	0.718	0.7542		
NPI5	4.583	0.713	0.7853		
Post-Pandemic Travel Intention (Mean = 4.324)				0.6927	0.9308
PPT1	4.324	0.892	0.8900		
PPT2	4.282	0.893	0.8713		
PPT3	4.343	0.843	0.8752		
PPT4	4.188	0.967	0.8459		
PPT5	4.388	0.823	0.7943		
PPT6	4.421	0.795	0.7018		

Table 3: Results of Discriminant Validity based on Fornell-Larcker Criterion

	ARP	ATT	CRP	NPI	PBC	PPT	SUB
Affective Risk Perception (ARP)	0.8247						
Attitude (ATT)	0.1397	0.8786					
Cognitive Risk Perception (CRP)	0.6332	0.1196	0.7225				
Non-Pharmaceutical Intervention (NPI)	0.3967	0.1987	0.3170	0.7551			
Perceived Behavioural Control (PBC)	0.1567	0.3904	0.0834	0.3065	0.7885		
Post-Pandemic Travel Intention (PPT)	0.1400	0.5948	0.1029	0.3219	0.6045	0.8323	
Subjective Norms (SUB)	0.0789	0.6225	0.0810	0.1609	0.5292	0.5887	0.8893

Table 4: Results of Discriminant Validity based on HTMT

	ARP	ATT	CRP	NPI	PBC	PPT	SUB
Affective Risk Perception (ARP)	-						
Attitude (ATT)	0.1448	-					
Cognitive Risk Perception (CRP)	0.8147	0.1479	-				
Non-Pharmaceutical Intervention (NPI)	0.4533	0.2258	0.4074	-			
Perceived Behavioural Control (PBC)	0.1767	0.4361	0.1422	0.3736	-		
Post-Pandemic Travel Intention (PPT)	0.1627	0.6414	0.1437	0.3827	0.6907	-	
Subjective Norms (SUB)	0.0883	0.6644	0.0964	0.1838	0.6033	0.6341	-

4.3. Structural Model

The hypotheses were tested using PLS Bootstrapping to evaluate the significance of the path coefficient using a subsample of 5,000 and a one-tailed test (significance level = 5%). The coefficient of determination (R^2) value was 0.5482, indicated as moderate, explaining that 54.82% of the variability of post-pandemic travel intention was explained by both dimensions of perceived risk, attitude, subjective norms, perceived behavioural control, and non-pharmaceutical interventions. The R^2 value for other variables (attitude, subjective norms, perceived behavioural control, and non-pharmaceutical interventions) was indicated as weak as presented in Figure 2. Table 5 showed that cognitive risk perception had an insignificant effect on other variables. This research confirmed that affective risk perception had a positive significant effect on perceived behavioural control and non-pharmaceutical interventions. However, no significant relationships were found between affective perceived risk to attitude, subjective norms, and post-pandemic travel intention. Lastly, all TPB variables and non-pharmaceutical intervention had significant positive effects on post-pandemic travel intention.

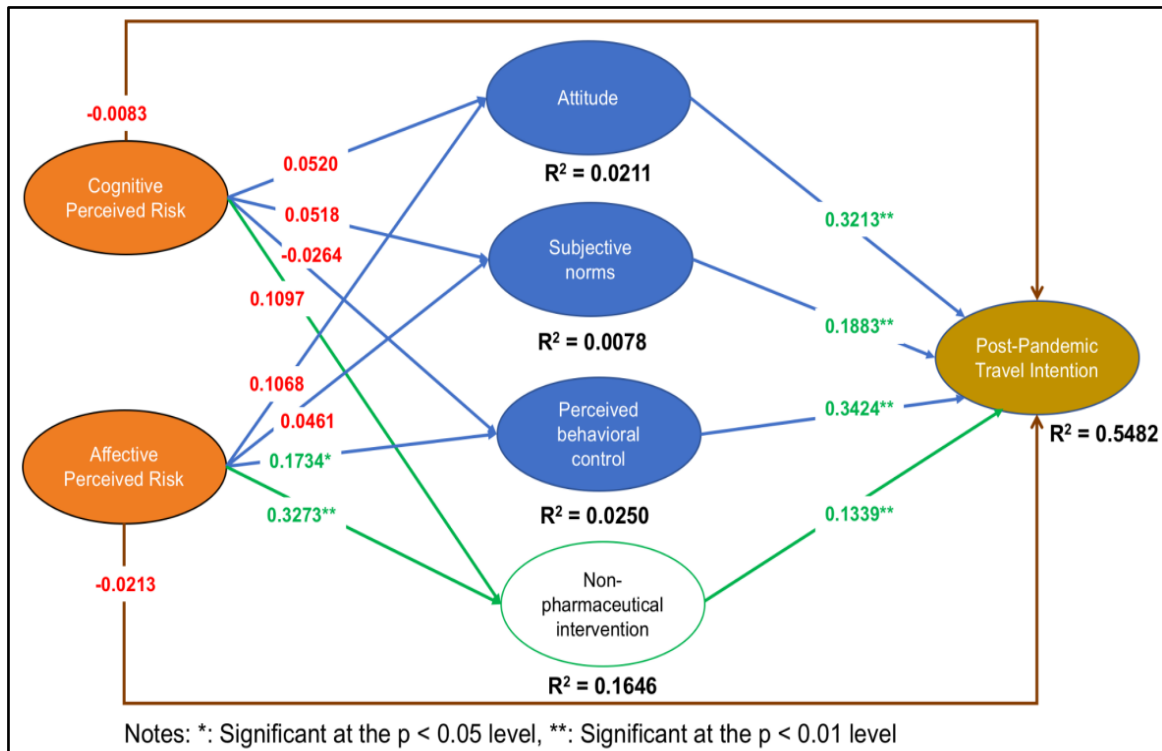


Figure 2: Path Diagram

Table 5: Results of Hypothesis Testing

Hypothesis	Relationship	Path coefficient	Standard error	T-value	P Values	Remarks
H1a	Cognitive Risk Perception → Attitude	0.0520	0.0766	0.6790	0.2486	Not supported
H1b	Affective Risk Perception → Attitude	0.1068	0.0854	1.2508	0.1055	Not supported
H2a	Cognitive Risk Perception → Subjective Norms	0.0518	0.0827	0.6265	0.2655	Not supported
H2b	Affective Risk Perception → Subjective Norms	0.0461	0.0806	0.5717	0.2838	Not supported
H3a	Cognitive Risk Perception → Perceived Behavioural Control	-0.0264	0.0904	0.2923	0.3850	Not supported
H3b	Affective Risk Perception → Perceived Behavioural Control	0.1734	0.0897	1.9326	0.0267	Supported
H4a	Cognitive Risk Perception → Non-Pharmaceutical Intervention	0.1097	0.0780	1.4069	0.0798	Not supported
H4b	Affective Risk Perception → Non-Pharmaceutical Intervention	0.3273	0.0902	3.6282	0.0001	Supported

Hypothesis	Relationship	Path coefficient	Standard error	T-value	P Values	Remarks
H5a	Cognitive Risk Perception → Post-Pandemic Travel Intention	-0.0083	0.0505	0.1646	0.4347	Not supported
H5b	Affective Risk Perception → Post-Pandemic Travel Intention	-0.0213	0.0504	0.4216	0.3367	Not supported
H6	Attitude → Post-Pandemic Travel Intention	0.3213	0.0794	4.0472	0.0000	Supported
H7	Subjective Norms → Post-Pandemic Travel Intention	0.1883	0.0511	3.6872	0.0001	Supported
H8	Perceived Behavioural Control → Post-Pandemic Travel Intention	0.3424	0.0629	5.4432	0.0000	Supported
H9	Non-Pharmaceutical Intervention → Post-Pandemic Travel Intention	0.1339	0.0478	2.8011	0.0026	Supported

4.4. Discussion

According to Cahyanto et al. (2016) and Pappas (2017), when an individual perceives the health risk is high, they are more likely to postpone their travelling plan. This risk perception will negatively shape their attitude towards travelling as an individual tends to avoid risk; or in other words, higher perceived risks will lead to lower intention to travel. Our study, however, finds that the effects of both cognitive and affective perceived risks are not significant in shaping travellers' attitudes towards travelling after the pandemic is over. This finding contradicts previous studies from Bae and Chang (2020) and Sánchez-Cañizares et al. (2020), which reported that cognitive risk perception had a significant influence towards travellers' attitude, subjective norms, and perceived behavioural control, and resulted in a decision to postpone travelling plans because of the pandemic.

Respondents in our study acknowledged the danger of COVID-19 and the potential of getting infected by the virus, but this cognitive knowledge does not necessarily direct them to hold a positive attitude toward travelling after the pandemic. This tendency may be related to the cultural value, where according to Hofstede (2021), Indonesians are more inclined to have moderate avoidance towards uncertainty. As a result, they tended to find ways to deal with uncertain outcomes in the future. Even though respondents agree with the idea to travel abroad after the pandemic and consider it to be pleasant, these perceptions are not influenced by their risk perceptions. There are two possibilities of this outcome, which are they have alternatives for travelling during the pandemic such as staycation or domestic travel, and the uncertainty of when the pandemic will be over that make them become more ignorant towards risk. Both possibilities are applied in the Indonesian context, as nowadays people get bored of staying home for months. Some people start travelling even though the number of confirmed cases is still increasing significantly, such as returning to their hometowns for the holidays despite travelling restrictions (Loasana, 2021).

Another possibility that might influence the travellers' attitude on postponing their intention for travelling abroad perhaps is because of the country's destination border regulation. When this paper was being written, most popular tourism destinations had not opened their borders for tourists; only a few countries have opened without requiring travellers to be quarantined upon their arrival, for example, Turkey also requires a negative PCR result as one of the requirements (Visaturkey.com, 2021). Other than that, travellers' financial security could also affect their travelling plans. COVID-19 significantly contributed to unemployment numbers, and many travellers might be afraid to spend their money on travelling activities.

This research confirmed that affective risk perception had a positive relationship with perceived behavioural control and non-pharmaceutical intervention. It is aligned with previous study from Bae and Chang (2020) and Sánchez-Cañizares et al. (2020), where higher affective perceived risk will lead individuals to do preventive actions such as avoid travelling in pandemic situations. The respondents agreed that they were worried that their loved ones would be infected with COVID-19, so they chose to postpone their travelling plans until the pandemic is over. They believed that they would be able to travel abroad for vacation after the pandemic ended. This study confirmed the findings of previous studies (e.g., Taglioni et al., 2013) in the context of risk perceptions and precautionary measures. In Indonesian context, it seems travellers' knowledge about the danger of the COVID-19 is not strong enough to lead them to take pre-cautious behaviour, unless they worry about the disease. As such, when travellers are afraid about the pandemic, they are more likely to undertake non-pharmaceutical interventions, including hand hygiene and social distancing. This is related to the previous study of Taglioni's study (2013) that explained the risk of infection could be reduced by having preventive actions from individuals.

Related to the relationship to post-pandemic travel intention, all variables from the theory of planned behaviour had a positive relationship with post-pandemic travel intention. These findings are aligned with previous studies from Na et al. (2016), Geetha (2019), Ahmad et al. (2020), and Li et al. (2020). Previous studies explain that a strong individual's attitude, intention, and control toward resources leads to higher post-pandemic travel intention. It explained that when an individual has a favourable attitude to the idea of travel, strong influence on travel intention, and has more control over his resources, the individual will be more likely to travel abroad. Most respondents agreed that travelling abroad after the pandemic ends was a good idea, when most people that are important to them agreed with the idea, and the travellers had confidence that they could travel after the pandemic ends. As a collectivist society, Indonesians highly depend on society, especially their family (Hofstede, 2011). They tend to conform to society's expectations, including to postpone travelling until the pandemic is over. Those items support travellers' intention to allocate their time and funds to travel abroad after the pandemic has ended.

This study also confirmed a positive significant relationship between non-pharmaceutical interventions and post-pandemic travel intention. The findings align with previous studies from Lee et al. (2012) where tourists will obtain more information and minimise the possibility of infection by implementing personal NPI. Individuals tend to implement personal NPIs to mitigate the risk that may occur when travelling abroad. As reported in this study, Indonesian travellers are more likely to implement personal non-pharmaceutical interventions when they travel in the future such as restraining from touching eyes, nose, and mouth to avoid the virus and conducting self-quarantine after travelling abroad for vacation. This aligned with the results of a previous study by Lee et al. (2012), where NPI had

a positive relationship with intention to travel abroad, where the traveller tended to apply personal NPI to minimise risks.

5 Conclusion

This research provides a new point of view from the existing knowledge, by extending the theory of planned behaviour (TPB), where this research showed a positive significant relationship between TPB and post-pandemic travel behaviour, and between TPB and non-pharmaceutical intervention (NPI). Hence, this study provides contribution to the extension of TPB by confirming a positive relationship with NPI. This research contributes to previous studies by giving an understanding of Indonesian citizens' post-pandemic leisure travel intentions within the context of facing the COVID-19 pandemic situation.

6 Managerial Implications

After identifying the key factors that affected leisure travel intention in the context of the COVID-19 pandemic, the stakeholders in the tourism sector will be able to develop proper marketing strategies for tourism destinations in the future that are focused on the aspects that hold a high level of influence. According to the results of this study, the variables that showed a positive significant relationship with post-pandemic leisure travel intention include attitude, subjective norms, perceived behavioural control, and non-pharmaceutical interventions. Additionally, there is optimism that the tourism industry will recover soon because most respondents in this study have stated their intention to travel abroad for vacation after the COVID-19 pandemic ends. Respondents showed positive responses to travel after the pandemic and negative responses to travel anxiety or risks.

Future travellers will focus on safety, cleanliness, and hygiene in general. In the future, health issues can be considered as a factor that influences destination choice. Travellers will be more likely to implement personal non-pharmaceutical interventions when they travel in the future such as learning about the destination's COVID-19 information, applying 'new normal' protocol, and social distancing. Travel agents should provide relevant information to ensure and strengthen the potential traveller's sense of security to travel abroad for vacation (leisure travel). They need to communicate the efforts to improve safety, cleanliness, and hygiene of the tourism destinations, in order to reduce the general public's risk perception towards travelling. This is also important because people have higher intention to travel if the people that are close to them (i.e., friends and relatives) also agree with the idea. Tourism advertisements also need to be able to influence travellers' attitude, so that they feel travelling abroad for vacation will be pleasant and enjoyable.

In general, this research gives insights during an on-going pandemic for the tourism industry, where related parties in the tourism industry (i.e., tourism destinations, accommodation providers, etc.) should pay more attention to non-pharmaceutical intervention by enforcing strict protocols, including provision of hand sanitisers in tourism spots, social distancing implementation, and limitations on the number of visitors. The business players in the tourism industry also could consider attracting specific segments of tourists, specifically those of 21 to 30 years old, as people in this age group are more likely to travel after the pandemic is over.

7 Suggestions for Future Research

This study has several limitations, such as limited scope (i.e., only taking one country, Indonesia, as a sample) and a limited time frame. Some suggestions for future research include taking multiple countries as samples, considering longitudinal studies of COVID-19 effect on post-pandemic travel intention, and adding other variables to the research framework such as pharmaceutical interventions (e.g., vaccines). Future research may consider looking at the travellers' perception towards the countries as their travel destination after the pandemic, for example, they can examine several countries' regulations after they open their borders or after the pandemic, and vice versa to examine the home country regulations towards their people who have intention to travel internationally. Discussion about the role of uncertainty avoidance through cross-cultural studies is also interesting to be done as it relates with travellers' risk perception. It can be one of the variable alterations from cognitive risk perception and affective risk perception to all TPB aspects. This can be explored considering the uniqueness of travellers in every country, especially on their attitude towards risks. Future studies may also consider the moderating effect of age and socioeconomic factors in the relationships discussed in this research model.

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