Malaysian Young People Travel Intention as Bus Passenger During Covid-19 Pandemic

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Abstract: This study investigates the travel intention among young people using bus service during this time of the pandemic. In particular, the study examined the variables that may influence the intentions of the young people not to travel using bus service during pandemic using Theory of Planned Behavior as underpinning theory. A survey in the form of an online questionnaire was distributed at four different local higher institutions in Malaysia. The result indicated that attitude, subjective norm, and perceived behavioural control significantly influence young people's intention not to travel using bus service during the pandemic. However, it appears that perceived behaviour control is the least significant factor to affect their intention. The study concluded with discussion and recommendations for future research.

Keywords: Travel behavior, Intention, Attitude, Subjective norm, Perceived behavioral control, Pandemic

1. INTRODUCTION

For the most part, pandemics are disease outbreaks that result from the transmission from human to human. Many significant outbreaks of disease and pandemics have indeed been reported in history, particularly Hong Kong flu, Spanish flu, H7N9, SARS, Zika, Ebola (Qiu, Rutherford, Mao & Chu, 2017). Pandemic-related crises have been associated with significant detrimental effects on the ecosystem, industries, community and the security of national and international communities. It may also contribute on a larger scale to more societal instability, economic loss, and general misery. According to World Health Organization (WHO), the Coronavirus pandemic have recorded its impact on humankind for over 1,121,843 deaths and 40,665,438 cases worldwide as of October 21, 2020, from the end of March (WHO Coronavirus Disease (COVID-19) Dashboard, 2020).

In Malaysia, the first Covid-19 case reported on January 25, 2019, followed by a period of stillness before an uptick in cases at the end of February 2020. This sudden increase in Covid-19 cases was partly attributed to a religious festival. Malaysia implemented travel restrictions and quarantine at the start of the Covid-19 outbreak. However, due to a continuous increase in new Covid-19 cases, the Movement Control Order (MCO) was finally implemented on March 18, 2020 (Tang, 2020). This MCO requiring the closure of all businesses except those that are providing essential services and items. Travel has also been restricted to the general population during the MCO. Thus, MCO in Malaysia has affected

many companies, including logistics and transport activity. Not only the air and sea transport affected by this restriction. Public transportation such as bus and train services also affected. Public transport companies need to adhere to the Standard Operating Procedures (SOP) as a guideline to prevent the virus from spreading quickly in society (i.e., social distancing and face mask-wearing). No people were using public transit, such as bus services, during this time (Reporters, 2020). The dilemma among young people, especially higher education students, occurs due to all the restrictions ordered by the government during the Conditional Movement Control Order (CMCO). CMCO requires the citizens to have police authorisation, immigration approval, employee pass or a letter of permission to travel. Furthermore, buses were not allowed to run at night and could transport only half their usual capacity of passengers under the country's stricter measures previously. For example, buses must follow the Standard Operating Procedure (SOP) for public transport service by emptying two of the middle seats between each passenger to ensure the seating configuration that allows for physical distancing (WHO, 2020).

As a result of social distancing, due to the increased level of work from home, e-learning, and even fewer public events and activities, travel demand using public transport decreases. The decreased in public transit ridership could result in less vehicle traffic and much less congestion. Additionally, people may also be more likely to receive home delivery of items bought online, including food and garments, resulting in fewer shopping trips (Parady, Taniguchi, & Takami, 2020).

Social distancing may also affect the option of the travel mode. People will avoid public transit as it could be a known breeding ground for diseases and areas whereby contact with the other travellers must be difficult to prevent (Troko et al., 2011). By travelling during off-peak hours, those who do not have other choices than using public transport may try to escape crowded buses and taxis. Of course, if public transportation providers plan to limit capacity or frequency because of low ridership, this could be impossible. It might be difficult for the passengers if the public transport operators such as busses operators decided to decrease their capacity regardless of time, passenger and the frequency of operation due to the low ridership caused by the lower demand during this time pandemic (Almlöf, Rubensson, Cebecauer, & Jenelius, 2020).

On June 11, 2020, Malaysia's public transport services, comprising buses, ferries, trains and aircraft, have become able to restore full-capacity operations without restricting their hours of operation. However, transportation operators and passengers must adhere to strict safety guidelines, including the use of face masks, the use of monitoring applications, and temperature control (Hassan, 2020). With all these SOP and Covid-19 pandemics not stopping at any time soon, new norms may change people's intention to travel, including short-distance travel. Additionally, people's travel decisions and behaviours are heavily impacted by their risk perceptions based on information that may or may not be accurate (Chew & Jahari, 2014). Positive internet comments might boost people's travel intentions (Abubakar, 2016). Still, wrong opinions and misperceptions can change their intention, especially when a place is related to a contagious disease (Rittichainuwat & Chakraborty, 2009). Due to the above reason, this study was proposed to examine young people travel intention using bus services during the Covid-19 pandemic.

2. PANDEMIC, INTENTION TO TRAVEL AND THEORY PLANNED BEHAVIOUR

Travel intentions can be described as a complex decision-making process of travellers during a journey, choice of travel mode, choice of route, the option of departure time and destination

choice (Li et al., 2019). In this study, the researcher reflects on the intentions of young people to travel. According to Varasteh et. al (2015), young people are expected to have typical travel intentions with suitable goods and services. The young people reason for travelling is to help them to see the world in various ways. In addition, travel also helps young people to gain a broad view of how other people live and what other cultures emphasise, enabling them to learn of their own lives differently (Green et al., 2012).

A previous study from an air transportation perspective has found that individuals tend to cancel or delay overseas trips or flights to prevent infection during pandemics (Piccinelli, Moro, & Rita, 2021). Not only for air travel, but even individuals also tend to stop domestic land travel due to the possibility of contracting diseases, such as public transport such as bus transport. In Turkey, the research concluded that refusing public transit was one preventive practice during Covid-19 (Yıldırım, Geçer, & Akgül, 2021). In addition, the fear of the spread of this virus, young people travel behaviour and intentions also change. The restrictions of many countries to prevent the spreading of Covid-19 affected the student lifestyles and their outdoor activities (De Haas, Faber & Hamersma, 2020).

The Theory Planned Behaviour (TBP) is one of the most widely used psychological models for explaining and predicting human behaviour and it has been applied and evaluated in a wide range of contexts, disciplines, and countries (e.g., Ang, Wei, & Arli, 2021; Koh & Mackert, 2016). The TPB offers a simple model of the relationships among beliefs, attitudes, and behaviour, where intention is considered a key factor determining an individual's action. In the TPB, behaviour is said to be determined by behavioural intention, which, in turn, is predicted by attitude, subjective norms, and perceived behavioural control (Ajzen, 1991).

According to Ajzen, I. (1991), intention refers to the subjective possibility of an entity behaving in an articulated behaviour. The definition of intention can be divided into two components. The degree is the first variable. The degree corresponds to the arbitrary possibility of behavioural occurrence. The second aspect is the direction that applies to people who wish to do something or not do something. For example, when applied to individual consumers, he or she can display varying degrees of purchasing intent, from no intention of purchasing to high purchasing intent. The author of the Theory Planned Behavior state that behaviour is affected by intention, and the three categories of perceptions are attitude, subjective norm, and perceived behavioural control. The desired goal of individuals may be changed or influenced by these model beliefs. Additionally, Ajzen (1991), the author of the Theory of Planned Behaviour stated that the intention is a forerunner of behaviour. Furthermore, the intention of people is often representative of specific motivating forces that affect their behaviour. As such, the higher the intention of an individual to commit an act, the greater the chance of the action being executed (Ajzen, 1991).

In travel behaviour studies, TPB has been used to shed light on the decision-making process leading to destination choice (Chen et al., 2019) and the differential impact of risk and uncertainty on trip decision-making (Pronello & Gaborieau, 2018). Additionally, the Covid-19 virus can be spread easily in places where people are confined in limited space such as public transport, and the discomfort of travelling on crowded buses increase the risk of becoming infected by a potentially deadly virus, people may feel reluctant to travel (Rittichainuwat & Chakraborty, 2009; Villacé-Molinero, Fernández-Muñoz, Orea-Giner, & Fuentes-Moraleda, 2021).

In the current study, the intention is defined as a person's desire to not travel in the short term, which entails not accepting the risk of Covid-19 in this movement. As a result, the following hypothesis was proposed:

H1: The TPB variables of attitude, subjective norm and perceived behavioural control will significantly predict intention not to travel using bus services during the pandemic.
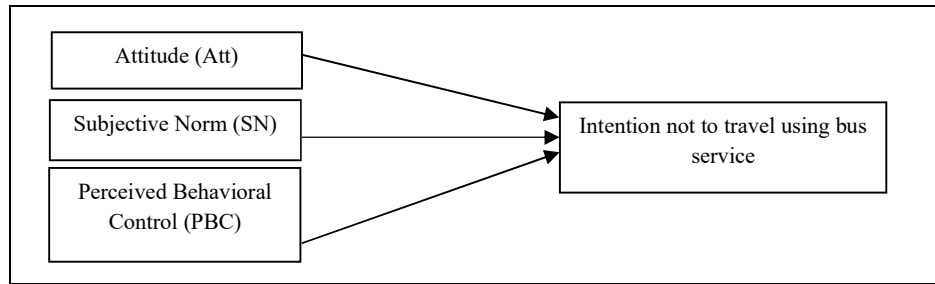

Figure 1 Research framework

3. METHOD

3.1 Research Design

This study was quantitative with hypothesis testing. The researcher used this hypothesis testing to see if there is a link between the attitude, subjective norm and perceived behavioural control with intention not to travel using bus service. A cross-sectional survey was conducted for this study in November 2020.

Local students from four different public universities in Malaysia were chosen using cluster random sampling. Some higher education students decided to study at home during the pandemic, and some were returning to the universities. Before the online survey was launched, the survey was piloted, and minor changes were made based on pilot participants' feedback. The survey's final version was then released. All of the questions were written in English as students in Malaysian universities understand English well. In November 2020 (the new semester has started), a social media invitation outlining the study and providing a link to the survey was distributed through social media like WhatsApp, Instagram and Facebook. This survey was distributed to students who choose to study at home and return to the universities. The survey questionnaire also included pledges of anonymity and secrecy. Two weeks following the initial invitation, a reminder was made on social media. The questionnaire is suited for use as a tool to elicit information and be cost-effective to gain responses from a group of people (Abdesslem, Parris, & Henderson, 2012), especially during the pandemic. Once the survey time end, in total, 412 respondents completed the online survey.

The questionnaire contains five sections that took about 5 to 10 minutes to complete. In particular, Section A consisted of demographic questions such as gender, age and bus service usage in a month during the pandemic. Section B, C, D, and E comprises direct questions related to Theory Planned Behaviour (TPB) variables (i.e., intention, attitude, subjective norm and PBC).

All TPB questions were assessed using a 6-point scale ranging from 1 (Strongly disagree) to 6 (Strongly agree). It should be noted that, for this study, all the questions were about cancelling the trip or not to travel using bus transport during the pandemic. The examples of the questions are in Table 1 below.

Table 1. Variables and example of items used in the survey

Variable	Example of items used in the survey	Total items	Adapted from
Intention to travel using bus service	I intended to cancel my travel plan using bus transport during the pandemic.	5	(Ajzen, 2006)
Attitude	For me, to take the bus for travel purposes during pandemic would overall be unpleasant.	5	Ajzen, (2006)
Subjective norm	Most people who are important to me think I should cancel my bus ticket to return to the university during the pandemic.	6	Ajzen, (2006)
Perceived behavioural control	I believe that I am able to cancel my travel plan by bus during this pandemic.	4	Ajzen, (2006)

The statistical program of SPSS Ver27 was used to analyse all the data. The data was checked for entry errors and missing values. As a result, a visual review of the data was performed. There was no missing value has been found. Thus, for the subsequent analysis, 412 data were analysed (i.e., reliability, descriptive, correlation and regression analysis) to address the research objective.

4. FINDINGS

4.1 Respondent Profile

The researcher found that females were the majority of respondents for the study (50.7%), while male 49.3%. The majority of the respondents also range from the age of 21 to 23 years old and pursue a degree level of education. Many of them admitted that they used the bus transport service one to five times a month during the pandemic (37.4%), while 141 respondents stated that they do not use the bus service (34.2%). Table 2 show the respondents' profile of the current study.

Table 2. Respondents' profile

Demographic	Category	Frequency (N=412)	Percentage (%)
Gender	Male	203	49.3
	Female	209	50.7
Age	$18-20$	19	4.6
	$21-23$	203	49.3
	$24-26$	189	45.9
	$27-30$	1	0.2
Level of Education	Diploma	35	8.5
	Degree	367	89.1
	Master	10	2.4
Higher Learning Institution	Universiti Utara Malaysia	107	26.0
	Universiti Teknologi Mara	103	25.0
	Universiti Sains Malaysia	101	24.5
	Universiti Malaya	101	24.5

Frequency of bus service usage in a month during pandemic	1 − 5	154	37.4
	6 − 10	24	5.8
	11 − 15	22	5.3
	16 − 20	71	17.2
	Not at all	141	34.2

4.2 Descriptive analysis on investigated variables

Table 3 provides information regarding the mean and standard deviation for the dependent variable and independent variables. The mean value for intention not to travel using bus transportation (DV) is more than 5. The mean value shows that the respondents were inclined to choose 6 as their answer (6 = strongly agree). Next, the mean value for the independent variables, attitude, subjective norm, and perceived behavioural control, was more than 5. It is also showing that the respondents inclined to choose 6 as their answer (6 = strongly agree).

Table 3. Descriptive Analysis on Investigated Variable

Variable	Mean	Std Deviation
Intention not to travel using bus transportation		
I intended to cancel my travel plan using bus transport during the pandemic.	5.14	.930
I am willing to cancel my plan to travel using bus transport during the pandemic.	5.15	.883
I intended to have online classes and study at home during the pandemic.	5.19	.971
Social distancing is the factor that leads to the change in my behaviour to travel by bus.	5.30	.799
I plan to postpone my plan to travel by bus during the pandemic.	5.27	.857
Attitude		
For me, to take the bus for travel purposes during pandemic would overall be unpleasant.	5.33	.941
It makes no sense for me to travel using bus transport during this pandemic.	5.10	1.015
During this pandemic, I believe it is not a good idea to travel using buses.	5.18	.952
For me, cancelling my bus ticket during pandemic is the best decision to be made.	5.01	1.046
I think social distancing is what encourage me not to use bus transport during the pandemic.	5.22	.877
Subjective norm		
Most people who are important to me would support my decision to not taking the bus to the campus during the pandemic.	5.29	.887
Most people who are important to me think I should cancel my bus ticket to return to the university during the pandemic.	5.28	.899
My friends ask me to stay at home during this pandemic.	5.14	.902
My family supports my decision to cancel my travel plan using bus transport and stay at home during the pandemic.	5.47	.796
My surroundings influence me not to take bus transport for travel purposes during the pandemic.	5.23	.836
My best friends ask me to cancel my plan to return to the university using the bus during the pandemic.	5.15	.939
Perceived behavioural control (PBC)		
I am confident that if I wanted to, I could cancel my ticket to return to the university using bus transport during the pandemic.	5.31	.900

	5.29	.864
I believe that I am able to cancel my travel plan by bus during this pandemic.	5.29	.864
It would be easy for me to cancel my travel plan by bus during this pandemic.	5.19	.975
Whether or not I travel by bus during the pandemic is completely up to me.	5.25	.969

Table 4 presents the descriptive analysis of the variables: intention not to travel using bus transport service, attitude, subjective norm, and perceived behavioural control. From the results, it shows that the respondents inclined to agree more with attitude (M=5.17, SD=.84), subjective norm (M =,5.26, SD=.74) and PBC (M =,5.26, SD=.82).

Table 4. Summary of Descriptive Analysis for Variables

Variable	Mean	Std. Deviation
Intention not to travel using bus service	5.21	.76
Attitude	5.17	.84
Subjective norm	5.26	.74
Perceived behavioural control	5.26	.82

4.3 Reliability Analysis

Based on Table 5, the result indicates that the alpha value for each variable ranges from 0.77 to 0.90. Based on Nunnally (1978), the score below 0.6 is poor, between 0.60 and 0.70 is acceptable, between 0.8 and 0.9 is good, and above 0.9 is considered excellent. Thus, the reliability of each variable of this study is good and excellent.

Table 5. Reliability test

Variables	Number of Items	Alpha Value
Intention not to travel using bus service	5	.77
Attitude	5	.90
Subjective norm	6	.84
Perceived behavioural control	4	.83

4.4 Hypothesis testing

Correlation and multiple regression analysis were performed to test the following hypothesis:

H1: The TPB variables of attitude, subjective norm and perceived behavioural control will significantly predict intention not to travel using bus services during the pandemic.

Pearson correlation analysis was performed to investigate the relationship between the variables. According to Cohen (1988), a score between 0.1 to 0.29 is considered a weak correlation, 0.3 to 0.49 is a moderate correlation, and 0.5 to 0.99 is a strong correlation. Results of the Pearson correlation (Table 6) indicated that there was a significant positive and strong association between attitude, subjective norm and perceived behavioural control and intention not to travel using bus service during the pandemic [i.e., attitude ($r = .71$, $p < .01$), subjective norm ($r = .67$, $p < .01$ and PBC ($r = .61$, $p < .01$)].

Table 6. Pearson Correlation Analysis

	Intention	Att	SNorm	PBC
Intention to travel using bus service (Intention)		.71**	.67**	.61**
Attitude (Att)			.71**	.63**
Subjective norm (SNorm)				.69**
Perceived behavioural control (PBC)				

Significant level: P < .01

Table 7. Result of regression analysis intention not to travel using bus service.

	Model	Unstandardised Coefficients		Standardised Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.078	.184		5.861	.000
	Attitude	.368	.043	.410	8.553	.000
	SNorm	.266	.052	.262	5.112	.000
	PBC	.158	.043	.173	3.712	.000
	Sig	.000				
	F	180.84				
	R Square	.571				
	Adjusted R Square	.568				

Note: Significant at *p < .01

Multiple regression was conducted to predict intention not to travel using bus service during the pandemic from attitude, subjective norm and perceived behavioural control. All the variables statistically significantly predicted intention not to travel using bus service, $F(3, 408) = 180.84$, $p < .01$, $R^2 = .571$. All three variables added statistically significantly to the prediction, $p < .01$.

In particular, when intention not to travel using bus service was predicted, it was found that attitude ($\beta = .41$, $p < .01$), subjective norm ($\beta = .26$, $p < .01$) and PBC ($\beta = 0.17$, $p < .01$) were significant predictors. Table 7 show that the p-value for all the independent variables is smaller than α value of 0.01. Therefore, the H1 is accepted.

The overall model fit was $R^2 = .571$ to which means that all the independent variables explain 57.1% of the dependent variables. The highest beta value is .41, which can be assumed that the most influential variable is attitude. It can be concluded that intention not to travel using bus service during pandemic Covid19 significantly influenced by attitude, subjective norm and perceived behavioural control.

5. DISCUSSION

As shown throughout, this study was conducted to investigate the travel intention among young people using bus service during this time of the pandemic. Based on the results, all three independence variables (i.e., attitude, subjective norm and perceived behavioural control (PBC)) added statistically significantly to the prediction, $p < 0.05$. The results indicated a significant and positive correlation among all the variables understudies.

The findings showed that the independent variables (attitude, subjective norm and perceived behavioural control) are an important factor that influences young people intention not to travel. In particular, the study observed that attitude has a strong positive correlation with intention not to travel using bus service during the pandemic. The results were in line

with Na et al. (2016) who stated that attitude was a strong positive determinant of the intention. Thus, it suggests that the stronger the attitude held by the young people, the stronger it influences their intention not to travel. So, if the students believe and have a positive attitude towards a situation like the pandemic, they agree to not travel during the pandemic. Based on the questionnaire survey, the researchers found that most students believe that it is unpleasant and makes no sense to travel by bus transportation during the pandemic and that cancelling their bus ticket during the pandemic is the best decision. Majority of the respondents also agreed that social distancing is the factors that discourage them not to use bus transportation during the pandemic.

Second, a strong correlation and positive relationship between subjective norm and intention not to travel using bus service during the pandemic with the beta value was higher than attitude and PBC. The result supported by Kuo et al. (2007) and Pan et al. (2018) claimed that if the subjective norm of a person was positive, then the person's behaviour and intention may also become positive. In other words, friends and family could influence strongly the decision or intention to travel (Peng et al., 2014), and particularly during the pandemic. The descriptive analysis also in line with the results of regression analysis. The researchers found that most people who are significant to young people, such as family and friends, influence them to not travel using bus service during the pandemic.

The third variable, perceived behavioural control (PBC), positively correlate with intention not to travel using bus service during the pandemic. It is also found that PBC has the lowest beta value compared to attitude and subjective norm. This result was consistent with Bamberg et al. (2002). In this case, PBC predicts a person's intention to use a bus service, and that intention affects the choice of behaviours, both before and after the introduction of the bus ticket. It also stated by Ajzen (2002) in the literature that PBC directly predicts the intention of a person. Based on the questionnaire survey, the researchers found that the young people could willingly take their actions to cancel their bus tickets and their travel plan during the pandemic. Furthermore, it is also proven that they can easily cancel their travel plan, and it is upon them to decide whether to travel or not.

Thus, H1 The TPB variables of attitude, subjective norm and PBC will significantly predict intention not to travel using bus services during the pandemic was accepted and supported by the results.

6. CONCLUSION

Pandemic Covid19 have impacted the transport industry severely. It has sparked unparalleled public fear of travelling, which will hamper the transport industry. The transport industry is vital as it ensures people's mobility (i.e., for working, visit/ vacation, etc) and good or cargo from one place to another and become a catalyst for the economy in a country.

The present study supports the application of Theory Planned Behaviour (TPB) in pandemic's travel behaviour research. It indicated that there was an element of wariness when travelling using bus service during the pandemic among young people. Thus, many of them choose not to travel using bus service during this time. It is something like "protection motivation" and "protective travel behaviours" following a pandemic epidemic. In the post-Covid-19 future, several techniques are suggested to reduce people's "travel phobia" and encourage travel by public transport (i.e., bus or train). Based on the results, this study suggests strengthening the belief in safe travel when wearing masks and being vaccinated. It may lead to young people adhere a safe attitude while travelling. The second suggestion will be that significant others (i.e., the family, friends, etc) could reassure the young people to travel using bus service. In the future, with the reduction of Covid19 case and the herd

communities has been established, the possibility of having normal life and activities is promising. Lastly, the role of the media and the quality and reliability of the information it disseminates, which was not examined here, could influence young people's intention and attitude towards travel using bus service.

Although this study serves to provide early insights into a Malaysian young people travel intention during the pandemic that is still ongoing, the study conducted is limited in depth and scale. Thus, a more extensive and more diverse sample is suggested for future research into this public health crisis. It could provide a better understanding of the situation. Future research also should include traffic travel behaviours, the change of travel patterns of local communities and the perception of using public transport post-pandemic. Last but not least, a qualitative study could be done to gain insight into travel behaviour, travel patterns, and public perception of public transport usage post-pandemic.

Notably, the present findings provide a basis for the direction of future research in efforts to inform strategies for the post-pandemic strategies concerning public transport.

REFERENCES

Abdesslem, F. Ben, Parris, I., & Henderson, T. (2012). Reliable online social network data collection. *Computational Social Networks*, 183–210.

Abubakar, A. M. (2016). Does eWOM influence destination trust and travel intention: a medical tourism perspective. *Economic Research-Ekonomska Istraživanja*, *29*(1), 598–611.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. Journal of applied social psychology, 32(4), 665-683.

Ajzen, I. (2006). *Constructing a TpB Questionnaire : Conceptual and Methodological Considerations*. Retrieved from https://pdfs.semanticscholar.org/0574/b20bd58130dd5a961f1a2db10fd1fcbae95d.pdf

Almlöf, E., Rubensson, I., Cebecauer, M., & Jenelius, E. (2020). Who Is Still Travelling by Public Transport During COVID-19? Socioeconomic Factors Explaining Travel Behaviour in Stockholm Based on Smart Card Data. *Socioeconomic Factors Explaining Travel Behaviour in Stockholm Based on Smart Card Data (September 8, 2020)*.

Ang, T., Wei, S., & Arli, D. (2021). Social distancing behavior during COVID-19: a TPB perspective. *Marketing Intelligence & Planning*.

Bamberg, S., Ajzen, I., & Schmidt, P. (2003). Choice of travel mode in the theory of planned behavior: The roles of past behavior, habit, and reasoned action. *Basic and applied social psychology*, 25(3), 175-187.

Chen, W., Cao, C., Fang, X., & Kang, Z. (2019). Expanding the theory of planned behaviour to reveal urban residents' pro-environment travel behaviour. *Atmosphere*, 10(8), 467.

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.

Cohen, J. (1988). Set Correlation and Contingency Tables. Applied Psychological Measurement, 12(4), 425-434. https://doi.org/10.1177/014662168801200410

De Haas, M., Faber, R., & Hamersma, M. (2020). How COVID-19 and the Dutch' intelligent lockdown' change activities, work and travel behaviour: Evidence from longitudinal

data in the Netherlands. *Transportation Research Interdisciplinary Perspectives*, 6, 100150. doi: 10.1016/j.trip.2020.100150

Green, G., Morris, J., & Wade, M. (2012). Health, sustainability and student travel. *Nurse education in practice*, 12(1), 41-45.

Hassan, H. (2020). Coronavirus: Malaysia's transport services resume at full capacity, mosques reopen. *The Straits Times*. Retrieved November 15 2020, from https://www.straitstimes.com/asia/se-asia/coronavirus-malaysias-transport-services-resume-at-full-capacity-mosques-reopen.

Koh, H., & Mackert, M. (2016). A study exploring factors of decision to text while walking among college students based on Theory of Planned Behavior (TPB). *Journal of American College Health*, *64*(8), 619–627.

Kuo HY, Hsu HM, Wang HS, Che ZH (2007). A Study of Intention of Participating in Health Promotion Training Programs for Public Health Workers Serving in Hualien and Taitung Counties. *J. National Taipei University Technol*. 40(1): 151-162.

Li, M., Zou, M., & Li, H. (2019). Urban Travel Behavior Study Based on Data Fusion Model. In Data-Driven Solutions to Transportation Problems (pp. 111-135). Elsevier.

Na, S., Onn, C., & Meng, C. (2016). Travel Intentions among Foreign Tourists for Medical Treatment in Malaysia: An Empirical Study. *Procedia - Social And Behavioral Sciences*, 224, 546-553. https://doi.org/10.1016/j.sbspro.2016.05.434

Pan, J. Y., & Truong, D. (2018). Passengers' intentions to use low-cost carriers: An extended theory of planned behavior model. *Journal of Air Transport Management*, 69, 38-48.

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/10.1016/j.trip.2020.100181

Peng, J., Zhi-cai, J., & Lin-jie, G. (2014). Application of the Expanded Theory of Planned Behavior in Intercity Travel Behavior. *Discrete Dynamics In Nature And Society*, 2014, 1-10. https://doi.org/10.1155/2014/308674

Piccinelli, S., Moro, S., & Rita, P. (2021). Air-travelers' concerns emerging from online comments during the COVID-19 outbreak. *Tourism Management*, *85*(December 2020). https://doi.org/10.1016/j.tourman.2021.104313

Pronello, C., & Gaborieau, J. B. (2018). Engaging in pro-environment travel behaviour research from a psycho-social perspective: A review of behavioural variables and theories. *Sustainability (Switzerland)*, *10*(7). https://doi.org/10.3390/su10072412

Qiu, W., Rutherford, S., Mao, A., & Chu, C. (2017). The Pandemic and its Impacts. *Health, Culture and Society*, 9, 1-11. doi: 10.5195/hcs.2017.221

Rittichainuwat, B. N., & Chakraborty, G. (2009). Perceived travel risks regarding terrorism and disease: The case of Thailand. *Tourism Management*, *30*(3), 410–418.

Tang, K. H. D. (2020). Movement control as an effective measure against Covid-19 spread in Malaysia: an overview. *Journal of Public Health (Germany)*, 17–20. https://doi.org/10.1007/s10389-020-01316-w

Troko, J., Myles, P., Gibson, J., Hashim, A., Enstone, J., Kingdon, S., … Van-Tam, J. N. (2011). Is public transport a risk factor for acute respiratory infection? *BMC Infectious Diseases*, *11*(1), 1–6.

Varasteh, H., Marzuki, A., & Rasoolimanesh, S. M. (2015). International students' travel behaviour in Malaysia. Anatolia, 26(2), 200-216.

Villacé-Molinero, T., Fernández-Muñoz, J. J., Orea-Giner, A., & Fuentes-Moraleda, L. (2021). Understanding the new post-COVID-19 risk scenario: Outlooks and challenges for a new era of tourism. *Tourism Management*, *86*(January).

https://doi.org/10.1016/j.tourman.2021.104324

WHO, (2020). Standard Operating Procedures (SOPs) for the Movement of Essential Health and Humanitarian Supplies and Personnel in the Context of the COVID-19 Pandemic in Africa. Afro.who.int. Retrieved November 5 2021, from https://www.afro.who.int/sites/default/files/Covid-19/Techinical%20documents/SOPs%20for%20the%20Movement%20of%20Essential%20Health%20and%20Humanitarian%20Supplies%20and%20Personnel.pdf.

WHO Coronavirus Disease (COVID-19) Dashboard. (2020). Retrieved October 5 2020, from https://covid19.who.int/?gclid=CjwKCAjwrKr8BRB_EiwA7eFapnjq9IEGGPGuIZkGrfsP5Wvcj7fuHvMrJwRQcYPlmug71sF6oGj5_hoCzewQAvD_BwE

Yıldırım, M., Geçer, E., & Akgül, Ö. (2021). The impacts of vulnerability, perceived risk, and fear on preventive behaviours against COVID-19. *Psychology, Health & Medicine*, *26*(1), 35–43.