

Post Covid-19: Cautious or Courageous Travel Behaviour?

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Abstract

This paper focuses on post-pandemic travel behaviour. It examines the relationship between destination-risk image and pre-travel behaviour using health-protective behaviour and media engagement as mediators. It empirically tests the model proposed by Bhati et al. (2020) based on the protection motivation theory (PMT) to predict and explain the pre-travel behaviour of those who have changed, or postponed travel plans to Southeast Asia due to COVID-19. The researchers adopt a pragmatist paradigm and utilise mixed methods to develop and test the adapted PMT framework. The research consists of two parts: a sentiment analysis of travel-related blogs and a PLS-SEM analysis of survey data. The findings confirm that, in the COVID-19 pandemic context, destination health-risk image has an effect on pre-travel behaviour via media engagement and health protective behaviour. Respondents preferred destinations that handled the pandemic crisis effectively, implemented hygiene and safety protocols, and had robust healthcare systems. The paper offers implications for tourism researchers, practitioners and those seeking to influence and manage post-pandemic travel behaviour.

Keywords: COVID-19; destination-risk image; media; travel intention; tourism planning; mixed method; Southeast Asia

1. Introduction

The COVID-19 pandemic is an unprecedented global health crisis, that has led to 507,501,771 confirmed cases and 6,220,390 deaths globally, as of April 2022, according to the World Health Organisation (WHO) COVID-19 dashboard (WHO, 2022). Countries closed borders, restricted mobility, reduced business, social activities and implemented complete lockdowns, due to the pandemic, disrupting lives, magnifying social problems and affecting economies. According to the world economic forum, the world is facing a surge in economic inequality and inflation due to the pandemic. Post COVID-19 economic collapse is predicted as the worst economic downfall ever (Welfens, 2020). Tourism industry in particular has been the most affected, due to closure of borders and restricted mobility (Gossling et al., 2020; Seyfi et al., 2021). By 2020, the pandemic had caused a decline of over 1.1 billion international tourist arrivals and placed 100-120 million jobs at risk (UNWTO, 2020). Throughout 2020 and early 2021, international travel was severely impacted by the pandemic, resulting in plummeting revenues and questions about tourism industry's future. Borders started reopening slowly, with mitigation measures in the late 2021 and early 2022, witnessing slight recovery, the pandemic had by then impacted consumer attitudes, behaviour pertaining to travel (Asian Development Bank (ADB) and United Nations World Tourism Organization (UNWTO), 2022). The perceived risk and health crises heightened tourist anxieties, resulting in travel avoidance and other risk mitigation behaviours (Matiza & Slabbert, 2021).

The change in travel behaviour is rooted in the theory of human action, which postulates that humans engage in purposeful behaviour based on the knowledge acquired in the process of consumption (Greve, 2001; Scheiner, 2018). Travel motivators and factors influencing tourist behaviour and destination choice are essential to tourism planning and development (Lam & Hsu, 2006). Challenging conditions such as the pandemic and subsequent government

measures may influence tourism flow, future travel behaviour, and destination choice (Li, et al., 2021; Williamson et al., 2021). The varied perceptions of health-related risks among tourists, they are still viewed as significant in travel decision-making (Reisinger & Mavondo, 2005).

The protection motivation theory (PMT) has been recommended as a suitable model to study the effects of perceived destination health-risk image on travel behaviour (Wong & Yeh, 2009; Bhati et al., 2020; Rasoolimanesh et al., 2021; Seyfi et al., 2021). PMT was originally used to predict health-related behaviour based on fear appeal or consciousness of a threat to an individual's wellbeing leading to a change in attitude and behaviour. It is now refined and widely accepted as a model for cognitive behavioural change (Bhati et al., 2020). Hygiene and physical health are the most vital aspects of health-protective behaviour, though mental health has also been increasingly recognised as important (Zheng et al., 2021). While, health-risk perceptions are considered crucial in influencing tourists' behaviour, extensive media coverage of different countries coping strategies, responses, expert insights are primary source of information during the crisis and that media exposure influences risk perceptions; the research on the role of media in mediating has been limited (Rasoolimanesh et al., 2021; Seyfi et al., 2021). Media engagement as a mediator is congruent with praxeological theories of human action and behaviour (Rigg, 2014). The adapted PMT model proposed by Bhati et al. (2020) includes both mental health aspect as well as media as a mediator. While there are a few studies that reference the management of health risk behaviours in tourism, few focus on consumer-related health risks post pandemic (Neuburger and Egger, 2021, Novelli et al., 2018).

This research focuses on post-pandemic travel behaviour by examining the relationship between destination-risk image and travel behaviour using health-protective behaviour and media engagement as mediators. It utilises the model proposed by Bhati et al. (2020) based on PMT to examine the pre-travel behaviour in the Southeast Asian context due its inclusion

mental health and media as mediator. Prior to the pandemic, the Asia Pacific region became biggest market for aviation sector, booming in tourism with immense increase in tourists' arrivals (7% growth in 2018), increased revenue and generating millions of jobs (ADB & UNWTO, 2022). Asia Pacific region contributed to 26% of global growth in tourism in 2019, out of which 70% was from the Southeast Asian sub-region (ADB & UNWTO, 2022). However, in 2020 and early 2021, due to lock downs, continued travel restrictions and increase in COVID-19 variants, Southeast Asia witnessed a sharp decline (98%) in tourist arrivals (ADB & UNWTO, 2022). Asia Pacific region and in particularly Southeast Asia was the most affected sub-region globally due to pandemic's impact, responses, prolonged closures of borders and mobility restrictions (ADB & UNWTO, 2022).

The paper begins with a review of scholarly and grey literature on factors affecting travel behaviour post COVID-19 in Southeast Asia. Further, it adopts a mixed methods approach to support the adapted PMT model using a qualitative study and test it using a quantitative study. Study one tests the framework using survey data collected from 627 potential tourists who cancelled their visits due to COVID-19 and study two consists of a blog analysis of travellers' comments on social media using the framework as informed lens. The research concludes two studies, offering implications for tourism researchers, practitioners and those seeking to influence and manage post-pandemic travel behaviour.

2. Literature review

COVID-19 pandemic, beginning in early 2020 brought about crucial changes in economies, society, prompting a shift in priorities, creating inequalities and challenges. Stringent measures especially closure of borders and restrictions on mobility, taken to control the pandemic in the consequent year (2021) has further damaged economies and industries. Given tourism's need for mobility and its vulnerabilities, the tourism industry has witnessed

the most damage, wherein the damage to tourism and hospitality is considered worse than the damage caused by World War II (Gössling et al., 2020; UNWTO, 2020; da Silva Lopes, 2021). The pandemic is exclusive as it has impacted the entire world and not just regions, prompting the worst economic collapse, surrounded by uncertainty when it would end; travel and mobility being attributed as the cause for its spread (UNWTO, 2020; Welfens, 2020). While 2020 and 2021 witnessed sharp decline in tourist arrivals, tourism receipt, bringing tourism to an abrupt halt; late 2021 and early 2022 did show signs of quick and slow recovery in some regions in the world with easing of restrictions (ADB & UNWTO, 2022). Despite, the damage to tourism industry, the pandemic has driven crucial changes in tourism

A review of scholarly and grey literature (industry survey reports and trade publications) highlights a shift in travel intentions, attitudes, and behaviour, owing to the pandemic. Scholarly literature in tourism suggests that destination image and tourists' behaviour are greatly influenced by the perception of risk and safety (Qiu, Park, Li, & Song, 2020; Rasoolimanesh, Seyfi, Rastegar, & Hall, 2021). Potential tourists may postpone or cancel trips to a destination that is affected by the pandemic. As such, it is imperative to examine the factors that influence travel behaviour and destination choice formation.

2.1. Factors affecting future travel behaviour

Destination image – both cognitive and affective – has gained popularity as an effective tool for identifying future travel behaviours (Afshardoost and Eshaghi 2020). The perception of destination image with associated risk factors can influence future travel behaviour (Bhati et al., 2020, Neuburger & Egger, 2021; Rasoolimanesh et al., 2021; Seyfi et al., 2021). Risks may be physical, health related, psychological, social, or financial, based on the conditions that encourage it, such as wars, political turmoil, natural disasters, and health related disasters (epidemics or pandemic) (da Silva Lopes, 2021). Tourists' perception of health-related risks due to the COVID-19 pandemic are crucial in influencing their travel behaviour (Bhati et al.,

2020, Rasoolimanesh et al., 2021; Seyfi et al., 2021). These intended travel behaviours have increasingly been used to measure tourism destinations' success, particularly during health crises. Tourists' attitude towards health and hygienic conditions (Frost et al., 2019; Park and Almanza, 2020) and the effect of psychological factors such as fear, discomfort and even discrimination add to the risk perception (Wen et al., 2020). Besides, other industry associations and think tanks also conducted early survey studies to understand post-pandemic travel behaviour. For instance, as per the study conducted by McKinsey & Company report (2020), 85-90% of Chinese travellers felt "not safe at all" to travel for leisure in April 2020. Health, hygiene, cleanliness, and safety protocols were top priority concerns while planning future travel in a study conducted by Pacific Asia Travel Association (PATA) (PATA Survey Report, 2020). There is high fear of contracting the disease (HVS COVID-19 report, 2020), spreading it again (PATA Survey Report, 2020) and a strong perception of contracting it, especially in international travel (McKinsey & Company 2020). According to the PATA Survey Report (2020), majority were concerned about the destination's handling of COVID-19 infections, fatalities, and their social responsibility in averting its spread. Destinations and businesses handling the pandemic well, have been a strong influence on consumer sentiments and 85% of respondents would prioritize travel preparations as per reputation and measures applied by governments and the destination's hygiene, safety, and healthcare system (HVS COVID-19 report 2020). Chinese respondents would consider travelling only if the pandemic is controlled effectively, while some had mental health concerns regarding racial discrimination against Chinese due to COVID-19 (PATA Survey Report 2020). In addition to health-protective behaviour, factors such as a destination reputation, trust and safety have a significant impact on future travel behaviour post pandemic (Bhati, 2021; Hassan and Soliman, 2021). Trust or confidence would be increased by effective pandemic precautionary measures

taken by destinations, which will influence consumers' choices (HVS COVID-19 report 2020; PATA Survey Report 2020).

Destination's reputation is closely linked to media reporting, especially in the post COVID-19 era (Gretzel et al., 2020). Exposure to mass media and social media coverage of a crisis can play a significant role in shaping destination image (Bhati, 2021). Similarly, extensive COVID-19 coverage in media may influence tourists' perception of risk, thus altering their perceptions, attitudes, and behaviours (Huynh 2020; Zheng et al., 2021). Media communication or news saw increased trust in 11 countries surveyed in May 2020 by Edelman Trust Barometer Spring Update (2020). Despite fearing fake news, trust in media for information during the pandemic increased, wherein the government's voice was most trusted (61%), especially via traditional media, and social media least trusted (Edelman Trust Barometer Spring Update 2020). In January 2021, the global report of 27 countries indicated a drop in trust, with 61% trusting media communications from business (employers) over government (53%) (Edelman Trust Barometer 2021) and within media, 57% watched news coverage on TV more, 42% spent longer time on social media but only 18% read newspapers. Destinations that clearly communicated hygiene, safety changes and how the pandemic has been controlled were well placed to succeed in the post-COVID-19 era (PATA report 2020). As a mediator, media not only facilitates intended travel behaviour but also shapes the perception of severity, probability, and response efficacy (Bhati et al., 2020, Rasoolimanesh et al., 2021; Seyfi et al., 2021). Many industry survey reports indicated 60% and more intended to adopt a cautious behaviour (McKinsey & Company 2020; PATA survey report 2020; PATA report 2020). Few resulted in more conscious behaviour (HVS COVID-19 report 2020). Courageous behaviour due to pent-up travel intention was also noted (PATA report 2020; TTG Asia article 2 2020). Pent-up travel intention was seen especially in Asia, with Singapore topping the list of travel destinations for people living in India, Indonesia, Thailand, Hong

Kong, and the Philippines (TTG Asia article 2 2020). Health-protective behaviour and media engagement factors play a critical role in tourists' destination choice. A better understanding of how these factors influence destination image formation and travel behaviour is of particular importance for post pandemic recovery.

2.2. Southeast Asian regional context

The most affected region due to the COVID-19 pandemic globally is the Asia Pacific and within the region, Southeast Asian sub-region saw the sharpest decline in tourist arrivals despite being a major aviation hub (UNWTO, 2022) Prior to the pandemic, Asia Pacific region was booming in tourism increasing from 208 million tourists in 2010 to 360 million tourists in 2019 (ADB & UNWTO, 2022). Tourism is crucial for Southeast Asia, which includes many popular tourist destinations due to its tropical environment, climatic conditions, diverse food and culture, and affordable prices. Tourism in Southeast Asia has been severely impacted by the pandemic, placing millions of tourism practitioners' lives and livelihoods into limbo as they wait for tourists to return (Adams, Choe, Mostafanezhad, & Phi, 2021). Countries within the region have handled the crises differently owing to their sizes and resources. Restart of tourism and easing of borders was slower and more cautious in Southeast Asia, resulting in slower recovery compared to other global regions (ADB & UNWTO, 2022), though Southeast Asia is claimed to have immense pent-up travel intentions that may increase with more borders opening (PATA report 2020; TTG Asia article 2 2020).

The reports coming from Southeast Asia regarding the handling of the pandemic have the potential to influence international travel attitude, perceptions, and intentions. In a study on the impact of diseases such as Severe Acute Respiratory Syndrome (SARS) and bird flu on Thailand's hospitality industry, Rittichainuwat and Chakraborty (2009) found that media coverage can create unnecessary fear among tourists and even exaggerate the extent of

perceived risks. Media participation in forming destination travel image should not be underestimated.

Regarding health-protective behaviour, a study by Promsivapallop and Kannaovakun (2017) found that travellers have a varied perception of risk depending on the destination image. For example, for German tourists travelling to Singapore or Thailand, the influence of risk factors on travel intention was insignificant. However, the opposite was true for Vietnam which had a less favourable image in connection to hygiene and infrastructure quality. Chinese tourists also pay attention to transport infrastructure and safety when visiting certain Southeast Asian destinations (Guntoro and Hui 2013).

Despite the ongoing struggle with COVID-19, Southeast Asian countries are slowly opening their borders. It is crucial to consider factors that influence travel behaviour during health crises to predict health-protective behaviour patterns that impact destination choice. COVID-19 increased the importance of health-related risk in tourism and the application of PMT model to examine health related risk to predict future travel behaviour (Wong & Yeh, 2009; Bhati et al., 2020; da Silva Lopes, 2021; Rasoolimanesh et al., 2021; Seyfi et al., 2021).

2.3. Integrating PMT theory to predict future travel behaviour post COVID-19

PMT initially suggested by Rogers (1975) is a cognitive model of behaviour used to examine health-related behaviours. It has been adapted to and perceived as useful in the COVID-19 context (Wong & Yeh, 2009; Bhati et al., 2020; Zheng et al., 2021; da Silva Lopes, 2021; Rasoolimanesh et al., 2021; Seyfi et al., 2021). PMT helps predict health-related behaviour and recognizes individuals' decisions to adopt preventive behaviours (Bhati et al., 2020; Janmaimool 2017; da Silva Lopes, 2021; Rasoolimanesh et al., 2021; Seyfi et al., 2021). The use of PMT theory provides a theoretical basis for the analysis of measurements such as perceived threats and the related coping characteristics, as well as protection motivation in a pandemic context. Literature suggests that tourists' protection motivation and role of media

during a pandemic are still not well empirically established (Qiao et. al. 2021) and require further investigation.

Recent tourism studies that employ PMT theory in the context of COVID-19 include protection motivation and the influence of mass media on tourists' travel intentions (Qiao et. al., 2021); tourists' risk perception and behaviour during COVID-19 (da Silva Lopes, 2021); impact of perceived risk, fear and social media on tourists' attitude, engagement, and revisit intention (Rather, 2021); trust, fear, and perceived threat in travel decision-making (Zheng et al., 2021), and effects of cognitive destination image on post-pandemic travel intention based on tourists' prior destination experience (Rasoolimanesh et al., 2021). Each of these studies highlights significant aspects of post-pandemic travel behaviour, such as destination image, risk perception, protection motivation, and influence of mass and social media. Given that they are related significant aspects, there is a need to consider them together, within a single framework to highlight the linkages between them (Bhati et al., 2020; Qiao et al., 2021).

Bhati et al. (2020) proposed the adaptation of the PMT theory using media engagement (mass media, social media, destination promotion media) and health-protective behaviour (hygiene measures, physical and mental health) as mediators of travel behaviour. The inclusion of mental health in the PMT framework emphasises the increasing importance of social and wellbeing factors in tourism (PATA Survey Report, 2020; Bhati et al., 2020). The adapted PMT framework acknowledges that preventive behavioural decisions are the expression of protective motivation against threats (Rogers & Prentice-Dunn, 1997; Janmaimool, 2017; Bhati et al., 2020). An individual's perceived capability to display behaviour (self-efficacy), perception of recommended risk-preventive behaviour (response efficacy) and the cost of carrying out the recommended risk-preventive behaviour (response cost) are part of the coping appraisal (Rogers, 1997; Janmaimool, 2017).

Health-protective behaviour is understood as a prerequisite for travelling safely during and post pandemic. Physical health and hygiene are most vital in health-protective behaviour. Recently, mental health has been increasingly emphasised in health-protective behaviour driven by the negative impacts of lockdowns and social distancing on mental wellbeing (Zheng et al., 2020). It is hypothesized that people who value hygiene, physical and mental health factors highly, will have a higher perception of current health risks, leading to increased health protective behaviour (Bhati et al., 2020). Furthermore, a recent study by Ivanova et al. (2020) suggests that not only hygiene but also a dependable healthcare system are significant factors affecting destination choice. The adapted PMT framework proposed by Bhati et al. (2020) considers these factors, recognises the influence of the two mediators (media engagement and health-protective behaviour) and recommends a pragmatic paradigm approach in empirical studies in the future.

The literature review showed that studies that adopt the PMT framework mostly focus on online surveys and quantitative data analysis methods (Kothe et al., 2019). This highlights the need for a qualitative perspective or mixed-methods approach for deeper insights into behaviour dynamics (Khoo-Lattimore et al., 2019; Gretzel et al., 2020; Qiao et al., 2021; Rasoolimanesh et al., 2021; Zheng et al., 2021). Rasoolimanesh et al. (2021) suggest going beyond country-based characterisations and perspectives and adopting a longitudinal research design.

This research offers a pragmatic approach to testing and extending the PMT framework to predict and explain pre-travel behaviour (Figure 1). It employs two qualitative studies (extant data and blog analysis) to understand the mediating effect of health-protective behaviour and tourist media engagement on destination health-risk image and post-COVID-19 travel behaviour. Given that the adapted PMT framework has not been tested, two qualitative studies were undertaken to explore the framework by

focusing on the three key problems identified in the literature. (Wong & Yeh 2009; Janmaimool 2017; Bhati et al., 2020; Dillette et al., 2020; Ivanova et al., 2020), namely: 1) how will travel behaviour change post COVID-19 pandemic? 2) what factors will impact travel behaviour post COVID-19 pandemic? 3) how do media and health protective behaviour influence post pandemic travel behaviour?

2.4 Hypotheses development

Tourists' pre-travel behaviour is influenced by the perception of health risk and safety of a destination (Bhati et al., 2020; Dillette et al., 2020; Ivanova et al., 2020; Wong and Yeh 2009). Hygienic considerations, sanitary conditions and safety are some of the basic expectations of tourists in post health crisis travel (Liu et al., 2014). Insufficient sanitation facilities and hygienic conditions may increase potential health risks, which in turn may increase tourist anxiety and avoidance behaviours (Bhati et al, 2014; PATA Survey Report, 2020; da Silva Lopes, 2021; Rasoolimanesh et al., 2021; Seyfi et al., 2021). High perceived risk is associated with diminishing tourism demand followed by alterations in travel behaviour (Matiza & Slabbert, 2021). As such, we hypothesise that:

H1: Destination health-risk image has an effect on travel behaviour.

A higher perception of severity and vulnerability will motivate an individual towards higher risk-preventive behaviour (Bhati et al., 2020; Janmaimool 2017; Wen et al., 2020). Hygiene, physical health, mental health together with psychological factors such as fear, anxiety, distress, and discrimination add to the perception of risk, affecting post pandemic travel behaviour (Wen et al., 2020). Health protective behaviour becomes a prerequisite based on risk perception; where physical health, hygiene and recently mental health have become vital aspects in risk perception, besides reliable health facilities, cleanliness, and disinfection measures of destination influence travel related decisions (Zheng et al., 2020; Bhati et al., 2020;

Ivanova et al., 2020; Matiza & Slabbert, in press; PATA Survey Report, 2020; TTG Asia article 2 2020). All considered, we hypothesise that:

H2: Health-protective behaviour mediates the relationship between the destination health-risk image and travel behaviour.

Information is vital during a crises and media are the main source of information throughout the crisis, moreover, news media and other media platforms frame destination image during a crisis (Rasoolimanesh et al., 2021). There is limited attention given to the role of media exposure in tourists' travel behaviour, despite the noteworthy increase in research on perceived health related risk and post COVID-19 tourists travel behaviour (Seyfi, 2021). Mass and social media influence perceptions and intentions (Buhalis and Law 2015), perhaps even more so during a crisis (Bhati et al., 2020; Huynh 2020). Even in a post COVID-19 environment, media updates and coverage may influence travel behaviour (Gretzel et al., 2020). As travellers increasingly turn to media for information, we hypothesise that

H3: Tourist media engagement mediates the relationship between the destination health-risk image and travel behaviour.

Insert Figure 1

3. Methodology and Findings

The research presented and reported in this project was conducted within the guidelines for research ethics outlined in the National Statement on Ethics Conduct in Research Involving Humans (1999), the Joint NHRMC/AVCC Statement and Guidelines on Research Practice (1997), the James Cook University Policy on Experimentation Ethics, Standard Practices and Guidelines (2001), and the James Cook University Statement and Guidelines on Research Practices (2001). The research methodology received clearance from the James Cook

University Experimentation Ethics Review Committee (Human Ethics Approval Number: H8091).

Philosophical ideas also referred to as ‘paradigms’ or ‘worldviews,’ influence the research approaches, research design, sampling methodologies and the different data collection methods employed to answer research questions (Creswell and Clark 2011). Studies adopting the pragmatic paradigm have used mixed methods of data collection to answer research questions in both formal and informal rhetoric (Creswell and Clark 2011). This research is grounded in a pragmatic paradigm and utilizes a mixed method approach to validate the proposed model of pre-travel behaviour via supporting three primary research questions (a) what is the effects of destination risk image on travel behaviour, (b) what is the mediating role of health protective behaviour on the relationship between destination health risk image and travel behaviour, and (c) what is the mediating role of tourist media engagement on the relationship between destination health risk image and travel behaviour. The research approach in this study takes advantage of the differences in quantitative and qualitative research techniques. The use of mixed methods has been acknowledged and widely accepted in several research fields for some time (Jennings 2010; Khoo-Lattimore et al., 2019). A key factor to consider in the design of mixed methods is the complementarity of the techniques. The structural equation modelling (SEM) approach is used in this study to quantitatively validate the model using a qualified sample of potential tourists who cancelled their visit due to COVID-19, as well as a supportive qualitative study involving a sentiment analysis of travel-related blog comments from those concerned about travelling after COVID. Both studies are concerned with travel behaviour possibilities and probabilities, as well as with the same geographic region of interest, namely Southeast Asia. The project findings and conclusions are based on the above-mentioned studies. Detailed methodology accompanies each study presented.

3.1. Structural Equation Modelling

Method

Participants. Two criteria were set for random sampling. First, travellers from top tourist-generating markets (Australia, China, India, Indonesia, Japan, and USA) to Southeast Asia were targeted. Second, only those who had changed or postponed any of their travel plans to Southeast Asia (Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam) in 2020 due to COVID-19 were selected. Samples are recruited from Qualtrics' research panel. This panel is a group of individuals chosen from a pre-arranged pool of respondents who have consented to be approached by Qualtrics as a research organisation to participate in surveys. The online survey was distributed by Qualtrics and a total of 627 completed surveys were collected in the second quarter of 2020- after a time had passed since the outbreak's start- to assess how individuals perceived the risk and what the possible consequences on travel behaviour were. Participants were 57.1 % male and 42.3% female, 78.3% educated in college or higher, mainly having a full-time job and are frequent travellers (Appendix A).

Measures and procedures. A questionnaire is designed by the researcher based on the dependant and independent variables of the proposed model which are derived from the literature followed by demographic questions. Four factors were developed to assess the "destination health risk image" based on the TMP model: perceived severity and perceived probability, referred to as "threat appraisal," which anticipates that individuals will act in response to their perception of the risk, and perceived self-efficacy and perceived response-efficacy, referred to as "coping appraisal," which focus on the ability of the self to manage and cope with the treat, and were assessed using 16 items (Rogers & Prentice-Dunn, 1997;

Janmaimool, 2017). In this study, the ability of both the self and the government to observe how covid rules and regulations may affect future travel intentions to the destination was assessed. The measures for “health protective behaviour” with three factors and 14 items were adapted from Wen et al., (2005). For evaluating “the tourist media engagement,” questions are focused on the frequency of the daily engagement with all three types of media (mass media, social media, and websites) during COVID-19 pandemic that constructed three factors and 13 items. Regarding risk perception and reactionary behaviours, three risk-based behaviours are adopted from Kovačić et al. (2019) and Thapa et al. (2013) consists of 14 items. All the items were measured on a Likert scale either from strongly disagree (1) to strongly agree (7) or from not at all (1) to a great deal (5). All scales obtained reliabilities above 0.74.

SPSS version 25.0 was used for descriptive statistics and Smart PLS 3.3 software was used to employ PLS and examine the outer (i.e., validity and reliability) and inner (i.e., hypotheses testing) models. PLS-SEM is a method increasingly used in several disciplines to assess structural models (Hair et al. 2013). In addition, a second order analysis was utilized because the conceptual model encompassed several linked components, each of which is measured by multiple items. The second-order model postulates that these apparently dissimilar but related constructs can be explained by one or more common higher-order structures (Gould, 2015). When researchers anticipate that higher order elements underlie their data, this type of analysis provides a better insight (Chen et al., 2005). Such second order models work better with Smart software than LISREL or AMOS. PLS is a second-generation multivariate technique that can simultaneously evaluate the measurement model (the relationships between constructs and their corresponding indicators) and the structural model to minimize the error variance (Gil-Garcia 2008). We used the bootstrapping method (500 resamples) to determine the significance levels for factor loadings and path coefficients (Gil-Garcia 2008). Missing data were recognized for only one of the mediator variables, which was treated by case-wise replacement.

Results

According to the results obtained, all indicators had a factor load greater than 0.5 and were significant ($t > 1.96$) at a 95% confidence level (Table 1). The VIF (variance inflation factor) index was used to examine the alignment between the indices. If the value of this index is less than 4, it implies that the alignment between the indicators is at a desirable and acceptable level. All indicators had a VIF value of less than 4. On testing data for deviation from normality, the absolute values of skewness and kurtosis for all items were acceptable, although the PLS method is not sensitive to the normality of the data (appendix B).

Insert Table 1

Convergent validity is the degree to which multiple items used to measure the same concept are in agreement. Following Hair et al. (2013), we used the factor loadings, composite reliability and average variance extracted to assess convergent validity. With recommended values for loadings set at > 0.5 , the average variance extracted (AVE) should be > 0.5 , the ρ_A should be > 0.5 and the composite reliability (CR) should be > 0.7 . All AVE and CR values were above the threshold (Table 1). In data reliability analysis, values of Cronbach's α ranging from 0.6 to 0.7 are regarded as sufficient and a value of more than 0.7 is regarded as good (Nawi et al., 2020). The value for each scale was above 0.7. From Figure 2, we have tourist media engagement, travel behaviour, destination health-risk image and health-protective behaviour as second-order constructs. Thus, we followed the method suggested in the PLS literature which is the repeated indicator approach to model the second-order factors in the PLS analysis. From Table 2, the results of the measurement model exceeded the recommended values, thus indicating sufficient convergent validity.

Insert Table 2

The discriminant validity is assessed using the Fornell and Larcker (1981) method. Discriminant validity is the degree to which items differentiate among constructs or measure

distinct concepts. The criterion is that if the square root of the AVE shown in the diagonals is greater than the values in the row and columns on that particular construct, then we can conclude that the measures are discriminant. From Table 3, the values in the diagonals are greater than the values in their respective rows and columns, thus indicating the measures used in this study are distinct. Therefore, the results presented in Tables 1 and 2 demonstrate adequate discriminant and convergent validity.

Insert Table 3

Table 4 and Figure 2 show the structural model analysis. The results of SEM show that health-protective behaviour (β -0.277; $P < 0.01$), tourist media engagement (β -0.164; $P < 0.01$) and destination health-risk image (β -0.377; $P < 0.01$) have a negative effect on travel behaviour. Thus, hypotheses H1, H2 and H3 are confirmed. Overall, the model explained 48.8% of the variance in travel behaviour ($R^2=0.488$). So, we tested the mediating effect of destination health-risk image in health-protective behaviour and tourist media engagement on travel behaviour relationships. We used the bootstrapping procedure which has been suggested in the literature to test the indirect effect and the results show that the indirect effect of health-protective behaviour ($\beta =-0.175$, $p < 0.01$) and indirect effect of tourist media engagement ($\beta =-0.086$, $P < 0.01$) were significant, indicating that there was a mediating effect.

Insert Figure 2

Insert Table 4

3. 2. Blog analysis

Hence, this previous study offers quantitative test of the adapted framework, it is important to validate the framework quantitatively, as done in the second study. This study focused on social media platforms and online blogs. Social media has become a powerful tool to convey netizens' opinions, sentiments, and emotion dynamics towards social events (Luo & Zhai, 2017). The analysis of online travel community members' travel attitudes and emotions can provide a real

time understanding of tourists' risk perception during a rapidly changing and unprecedented pandemic situation. Many recent studies have used online social media data to examine various stakeholders' response towards COVID-19 in the tourism and hospitality industry (Hao, Park, & Chon, 2022; Le & Phi, 2021). This study used the Bhati et al. (2021) framework as lens to analyse the online comments by netizens wherein the components of the framework were considered as topics within the sentiment analysis (Cresswell, 2013).

Tripadvisor was the main source as it is one of the largest travel social networking sites with substantial user-generated content (UGC) and search criteria can be specified for relevant research questions. Some other popular websites were also used because comments from China and Japan are relatively scarce on Tripadvisor (for example, www.weforum.org; www.euro.who.int; www.scmp.com). The selection of these websites was made on the following criteria: 1) ability to exchange multi-media information including text, pictures, and videos 2) no character limit imposed while posting comments like Twitter and 3) the netizens had a choice to reveal or conceal their identity. UGC was collected in the form of comments/quotes or responses to a query or someone else's comments. Kozinets (2015) defined this process as 'Netnography': in a Netnography study, a "significant" amount of data collection "originates in and manifests through the data shared freely on the internet". For the current study, the sentiment analysis was done on two parent topics and three sub-topics under each. In terms of the study's goals, the comments for the last quarter of 2020 were chosen to determine how the outbreak's impact on travel behaviour is represented in online comments. For consistency, a maximum of 10 entries was extracted for each topic from the six countries in the quantitative survey. The total number of comments extracted was 226 (in English language only). Similar approaches have been employed in previous studies as getting an effective sample size is a challenge given the huge data set available online (Le & Phi, 2021, Luo & Zhai, 2017). There is an abundance of social media data available, however, a limited

number of entries were accepted to effectively utilize the data collection and processing resources.

Qualtrics Text iQ is used to analyze the text. Text iQ enables sentiment analysis to be performed. Sentiment analysis is a technique that makes use of computer software to determine the sentiment represented by a text (Liu 2012). It began as a research tool for gathering internet product reviews but has since expanded to include text data analysis in academic research (Thirumaran et al., 2021). Sentiment analysis can be accomplished in two ways: through deep learning or using sentiment lexicons. Qualtrics employs the second. Qualtrics automatically assigns a Very Negative, Negative, Neutral, Positive, Very Positive, or Mixed sentiment to a text response after it is imported into Text iQ. This sentiment is determined by the language used in the response, the wording of the question, and the analyst's adjustments to the sentiment analysis. When the sentiment is weaker, the Text iQ model is trained on a large and diverse set of real-world experience data in order to greatly enhance classification quality and minimize ambiguity. Each sentiment is given a numerical value, referred to as the sentiment score. At the sentence level, sentiment is defined as the sum of all non-neutral terms in a statement. It is frequently sufficient for aggregating sentiment and identifying areas of text with a high degree of positivity or negativity.

For the current study, analysis was done at two levels. First, all the comments were reviewed carefully and categorized manually into six topics: websites, mass media, social media, physical health, mental health, and hygiene based on the hypothetical model. Second, Qualtrics software was used to run the sentiment analysis for each topic.

The results of the sentiment analysis are presented in Figure 3. Each bubble in the figure represents one topic and bubbles are positioned by the mean sentiments. Each parent topic represents the main factors of the hypothetical model. The sentiments of each factor range from very positive to very negative, mixed, and neutral which are colour coded on each pie chart.

The respective percentages for each category are included in Figure 3 as well. Except for the hygiene and social media factors, the perception for all the rest showed more than 70% towards negativity. The commentators had negative sentiments towards the websites (government advisory) with the mean sentiment value of -.97. The online comments indicated that mass media ($m=-.82$) had more negative sentiments than what was published on social media ($m=-.14$). Looking at health-protective factors, the impact of COVID-19 on physical ($m=-.05$) and mental health ($m=-1.00$) was perceived more negatively than hygiene ($m=-.4$).

Insert Figure 3

The comments included under positive and negative categories by sentiment analysis were further examined to understand key themes and trends. The sentiment in websites indicated that governments are posting advisories that affect travel intention and behaviour at large. The tone of government advisories is cautious, thus discouraging people from travelling, as seen in the 80% negative sentiments; an example being: *“As more countries close their borders or introduce travel restrictions, overseas travel is becoming more complex and difficult. You may not be able to return to Australia when you had planned to...”* (Australia). These advisories may not be clear to the general population and often cause confusion. However, some comments indicated more positive sentiment and expressed an understanding of governments taking such actions. *“...as far as I am concerned, they are doing the best they can do in the current situation. I'd rather they do something to discourage New York being overrun again with the virus.”* (USA). Mass media comments indicated that people are using mass media to keep updated on the fast-changing situation, as seen in this comment: *“In line with the increase of COVID-19 cases, health issues are becoming the major concern of the public. This drives industry players ...increasing advertising spots and budgets both in electronic media such as TV, and digital media.”* (USA).

Social media's sentiment indicated that the engagement has increased during COVID-19 and people are looking to social media for updated information, as seen in this comment: *"The optimistic view is that social media could prove useful at a time when many of us are otherwise isolated from one another."* (USA). However, there were some negative sentiments about social media regarding negativity, fake news and misinformation being widely spread through various social media channels. For example: *"Social media is more scary than Covid-19. That's what we're really afraid of that hate crimes could mushroom from social media... We need to focus on the real problem, the virus."* (China).

The sentiment in physical health indicated that COVID-19 has a strong effect that deters people from travelling or any other unnecessary movement. *"I can't believe we have been living with this virus for 8 months already. Life has changed ... I miss my friends. I miss my family. I miss going out to eat... I miss all of the little things that I took for granted before Covid-19 came along. I hope life returns to normal soon."* (USA). The comments also showed that following physical safety guidelines is the way to protect physical health and be able to travel in future. *"If we are able to have good behaviour in terms of physical distancing and masks, maybe by early next year we should be able to come to a new normal."* (India).

The fifth theme of mental health had comments that mental health has strong consequences due to the pandemic situation. However, mental health is one aspect of overall health and well-being that is often not taken seriously. *"We think that this is a forgotten aspect of COVID-19, in a sense, part of the challenges that we face is that this is an under-funded area historically."* (Japan) and another similar comment: *"That kind of prolonged stress is compounded by social distancing measures that fray the emotional ties that bind people together... I think we might see a general increase in all sorts of mental health problems."* (China). Commentators were very much aware of the possible impact of the pandemic on

mental health and especially for vulnerable groups such as students, elderly and those living alone.

For the sixth and last theme of hygiene, views indicated that hygiene measures are crucial while travelling during a pandemic and following good hygiene is not always possible during travel. *“Social distancing and hygiene are the only weapons we have to slow the COVID-19 contagion rate and shorten the duration of the pandemic... Air travel does not fit into SOCIAL DISTANCING any more than mass gatherings.”* (USA). The respondents mentioned cancellation or change of travel plans due to hygiene issues during travel in the COVID-19 situation. One comment read: *“We have plans to travel on April 2 - April 20. I haven't cancelled anything but let's say our government raises the travel advisory from Level 2 to Level 3, we would definitely cancel the trip.”* (Japan).

To recap, this study focuses on two mediators, ‘health-protective behaviour’ and ‘tourist media engagement,’ in the conceptual framework of the PMT model. The qualitative blog analysis was further tested with the SEM analysis to understand if these two factors mediate the extent of immediate and future travel intentions. Health-protective behaviour factors such as hygiene, mental health and physical health were found as strong predictors of travel intentions. Similarly, various media engagement channels such as websites, mass media and social media helped people to stay updated on the current situation and share information. Findings based on the analysis of online blogs also indicated that the *perceived severity of health-related risk* for travel during COVID-19 is extremely high. The comments included sentiments such as following the best health and safety measures to avoid health risks and an individual’s perceived vulnerability to make a behavioural change such as cancellation or change of travel plans. Examples of *perceived self-efficacy* and *perceived response-efficacy* were also evident in the online blog conversations. They reported low self-efficacy due to the increasing number of positive cases reported in the media and global travel restrictions.

Another noteworthy observation is that perceived response-efficacy was high where commentators suggested the need for better management of health and safety standards.

4. Discussion

The conceptual model by Bhati et al. (2020) suggests tourists' perceived destination image is influenced by their perception of severity and probability of health risk, self-efficacy, and response efficacy. Perceived risks are recommended as strong predictors of avoiding some destinations for future travel. Hence, the adapted conceptual model explores if health-related destination image affects pre-travel behaviour of tourists. Findings from the quantitative study tested the hypotheses relationships proposed in H1, H2 and H3, while the qualitative study supported the hypotheses to confirm the findings (Refer to Table 5). Based on the findings of the two studies, destination health-risk image did have an influence on pre-travel behaviour in the COVID-19 context. Destinations that handled the pandemic crisis well, implemented hygiene, safety protocols and had good healthcare systems were preferred by respondents. This confirms prior studies indicating that destination image – both cognitive and affective – can influence future travel behaviour (Afshardoost and Eshaghi 2020; Bhati et al., 2020).

Awareness of such destinations was available through media engagement. According to PATA (2020), findings, destinations that clearly communicated hygiene and safety protocols and established travellers' trust were well-positioned to win in the post-COVID-19 travel era. Health-protective behaviour was another clear mediator as noted in study one, wherein respondents also mentioned cancellation or change of travel plans due to hygiene issues in COVID-19 situations. This protection motivation increases due to fear, while fear is increased or reduced through media coverage (Zheng et al., 2021). Hygiene, physical health, and mental health are the most vital aspects of health-protective behaviour (Zheng et al., 2021).

The findings from the two studies confirm perceived higher risk leading to cautious travellers. Study one findings further indicate a shift in confidence and sentiment from cautious to conscious behaviour for some due to pent-up travel desires noted in the later reports. In addition, the percentages of traveller's intention to reschedule their cancelled trips to any of the Southeast Asian countries post COVID 19 are reflected in figure 4. This adds support to the discussion by illustrating their higher willingness to reschedule their cancelled trips to the countries with higher hygienic conditions, safety, better handling of crisis and healthcare system reported via media, e.g., Singapore as a preferred destination in Southeast Asia. This confirms prior studies, which indicate hygienic destinations with a reliable healthcare system would strongly influence the traveller's decision-making (Ivanova et al., 2020).

Insert Figure 4

Besides supporting the hypotheses, Industry reports and trade publications surveys indicated preferences for domestic tourism, staycations, short-haul foreign vacations, international hotel brands for accommodation (perceived as more hygienic), tropical islands or beach destinations (safer), nature-based tourism or outdoor locations (safer) followed by culturally themed tourism products, self-driving, or rental options for transportation (safer) and increased priority for sustainable tourism. Challenges to travel that emerged include quarantine requirements the need for better healthcare, hygiene protocol and safety measures. This research contributes to theory by exploring the relationships between perceived threat, coping strategy and protection motivation using two mediators – media engagement and health-protective behaviour – in a pandemic context. It offers empirical evidence and supplements the study of Bhati et al. (2020). Through its methodological approach, it is a pioneer in contributing deeper insights into the application of the PMT theory in tourism within the pandemic context. Practical implications can be noted in how the study informs better tourism planning through

the emphasis on the role of media, changing stakeholders' crisis communication, hygiene measures and future trends.

Insert Table 5

5. Conclusion and Implications

This empirical research project focuses on variables that mediate the relationship between destination risk image and travel intentions. Thus, it proposes and tests the role of health protective behaviour and media engagement as mediators within the theoretical constructs of protection motivation theory. Therefore, the aim of this study was to analyse, (a) the effects of destination risk image on travel behaviour, (b) the mediating role of health protective behaviour on the relationship between destination health risk image and travel behaviour, and (c) the mediating role of tourist media engagement on the relationship between destination health risk image and travel behaviour. Extending previous research conducted by Rogers, 1975, and Bhati et al. (2021), this research project makes meaningful contributions to the body of knowledge by triangulating qualitative findings to strengthen the quantitative studies to test the adapted PMT model. Findings show that the qualitative line of enquiry of sentiment analysis of travel blogs support health protective behaviour and tourist media engagement as mediators. A triangulation through statistical testing further confirmed the findings. The results demonstrate new insights by confirming the effects of perceived destination health-risk image on pre-travel behaviour and the mediating roles of health-protective behaviour and media engagement. In this concluding section both theoretical and practical implications of this research project that discussed.

Theoretical and practical contributions

The study makes several theoretical contributions. First, it extends the discourse on tourist behaviour within the context of post-pandemic travel behaviour. In a pandemic setting,

using PMT theory gives a theoretical strength in examining the connections between perceived risks, associated coping traits and protective motivation.

Second, in integrating PMT theory to predict future travel behaviour post COVID-19, this study extends the model by evaluating how destination health-risk image is mediated by tourist media engagement and health-protective behaviour. In more detail, the paper makes a significant contribution to the relationship between tourist engagement with media, the level of risk-taking in travel and more cautious behaviour. Tourists with higher concern for health will be less likely to show courageous travel behaviour while their perception of destination health-risk image is high. This is especially significant from the standpoint of theory development: the findings of the triangulation studies show the model's potential to predict the level of behaviour via mediating variables.

Finally, the study enriches the body of knowledge around travel behaviour with a focus on the Southeast Asia region (ASEAN countries). It offers focused insights into travel intentions by targeting tourists from top outbound markets into these destinations who had cancelled their travel plans to the region due to the COVID-19 pandemic.

The study raises several implications for practitioners. The most significant contribution is its evidence-based analysis of travel behaviour that could shape the strategies for growing international tourism through targeted communication management and for tourism policymakers' recovery plans. Results show the perceived severity of health-related risk is extremely high and concerns about travel safety and health, hygiene, cleanliness, and safety protocols are perceived as top priorities which lead to less courageous travel behaviour. In particular, the results suggest that an effective solution for the recovery in tourism is through media channels as they act as an influential tool to shape the health-related risk image of the destination and future travel behaviour.

Tourists will shift toward courageous behaviour once the health-risk image of the destination improves. Further, the current study reveals the importance of rebuilding destination image through knowledge conveyed via well-informed media. The knowledge should cover precise information on risk severity, possibilities of control and potential solutions at the destinations. This study provides critical insights that will assist tourism policymakers and practitioners in developing effective strategies to increase tourists' confidence after experiencing a health crisis, as well as their travel intention to a destination.

Limitations and future studies

Despite benefiting from the relatively large sample size and a diverse sample of tourists with a variety of travel purposes from top markets of the target destinations, this study has some limitations. The sampling in all three studies could be more comprehensive to assess a bigger and more diverse population. Due to the current pandemic situation and public hygiene restrictions, data collection for the study was via an online survey. Using the online platform for data collection may have a bias towards targeting younger participants or a narrow target population. As a result, we propose that future research be undertaken to duplicate our research design with a sample that is more balanced in terms of demographic characteristics.

This study is a survey-based analysis with an etic approach, but future research may adopt an emic perspective with a more in-depth qualitative analysis of selected countries. The target destinations were not at such elevated risk at the time of the study but may be suitable candidates going forward. Alternatively, higher health-risk destinations may be studied in the future. The protracted course of the COVID-19 pandemic also lends itself to phased, longitudinal or comparative analyses. The moderating role of demographic factors on this PMT model could also be studied further.

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