Causal Relationships Between Risk Perception, Travel Anxiety, Travel Preparations for Travel Medicine, Travel Attitude, and Travel Intention in the New Normal Era

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Abstract

This study investigates the causal relationships between risk perception, travel anxiety, travel preparations for travel medicine, travel attitude, and travel intention among Thai tourists in the New Normal Era (post-covid-19 pandemic). The sample consists of 400 Thai tourists aged 18 years and above who intend to travel abroad or have previously travelled abroad within the past or next six months. Data were acquired through the administration of a questionnaire that demonstrated a reliability coefficient of 0.962 and subsequently subjected to analysis utilizing structural equation modelling (SEM). The study reveals that in the New Normal Era, travel intentions, travel medicine preparations, attitudes towards travel, and risk perception are notably high, while travel anxiety remains moderate. Risk perception, travel anxiety, and preparations for travel medicine directly impact travel attitudes. Additionally, these factors, along with travel attitudes, directly influence travel intentions. Moreover, risk perception, travel anxiety, and travel medicine preparations indirectly affect travel intentions through travel attitudes, highlighting the complexity of travel behaviour in the current context. The results offer practical implications for public and private organizations to enhance knowledge of travel medicine among Thai travellers. Moreover, the findings can inform the development of appropriate public health strategies for preparing travellers' health before, during, and after travel, particularly concerning vaccine-preventable diseases and travel insurance for tourists. These measures will contribute to elevating Thailand's tourism sector to align with the modern travel era.

Keywords: Travel Medicine; Travel Anxiety; Risk Perception; Travel Intention; New Normal

Introduction

Tourism is a vital industry that contributes significantly to economic growth globally, with over one billion international tourists annually (Buhalis et al., 2023). In the year 2019, the domain of international tourism accounted for 10.4% of the global Gross Domestic Product (GDP), with expenditures totalling approximately US$1.86 trillion (UN Tourism, 2024a; World Travel and Tourism Council, 2023). Within the context of Thailand, the tourism industry made a significant

contribution of 11% to the national GDP, successfully attracting close to 40 million international visitors and generating a revenue stream of 2 trillion Baht, whilst providing employment for over 7 million individuals (Ministry of Tourism and Sports, 2024).

The covid-19 pandemic, however, caused significant disruptions, leading to a sharp decline in both domestic and international tourism. During the pandemic, international tourism dropped drastically, reaching only 406 million tourists in 2020, the lowest since 1989 (UN Tourism, 2024b). However, as the situation improved with higher vaccination rates and better adaptation strategies, tourism began to recover. By 2022, international tourist arrivals reached 900 million, double the number in 2021, and in 2023, the number surpassed 1.3 billion, nearing pre-pandemic levels (UN Tourism, 2024b). In Thailand, the recovery is evident, with projections showing 7.5 million Thai travellers abroad in 2023, expected to rise to 11 million in 2024 (Julapan, 2024). Despite this recovery, the pandemic heightened awareness of travel-related risks and health concerns. Travel medicine, which addresses health risks associated with travel, became increasingly important as travellers sought to protect themselves from diseases such as covid-19, MERs and influenza (Figueiredo et al., 2024). Travel medicine also includes managing accidents, injuries, and ensuring safe travel conditions, with an emphasis on pre-travel, in-transit, and post-travel health management (Page, 2009; Hjalager, 2009).

Critical lessons from past crises that resulted in significant loss of life demonstrate humanity's capacity for adaptation and knowledge development. However, in the era of globalization where international travel is expedited and readily available, the transnational dissemination of infectious diseases is escalating, particularly as a result of global travel and tourism. This movement not only represents population mobility but may also serve as a vector for pathogen transmission. Consequently, it is essential to develop and enhance comprehensive disease surveillance frameworks across all tiers—national, regional, and international to proficiently avert and control the emergence of infectious disease outbreaks within this interlinked, boundary-less context.

Travel medicine assumes a significant function in alleviating travel-induced apprehension, mitigating health hazards, and equipping travellers for prospective health adversities throughout their journeys (Gandari et al., 2024; Hu et al., 2023). This is especially critical as pandemics and health threats continue to pose challenges to the tourism industry. Despite limited research on this topic, the covid-19 pandemic has underscored the need to integrate travel medicine knowledge into travel preparations to ensure health safety and mitigate the risks of future pandemics. The research gap in travel medicine is evident in Thailand, where limited studies have explored Thai tourists' risk perception and travel anxiety, especially in the post-pandemic era. The findings will help policymakers, the government, the private sector, and travelers manage travel risks, adapt to the "New Tourism Norms," and improve preparedness for future travel crises.

Research Objectives

1. To evaluate the model delineating the interrelationships among risk perception, travel anxiety, travel preparations pertaining to travel medicine, travel attitudes, and travel intentions in the New Normal Era utilizing empirical data.

2. To analyze both the direct and indirect impacts of risk perception, travel anxiety, travel preparations related to travel medicine, travel attitudes, and travel intentions in the New Normal Era.

Literature Review

The study explores factors influencing travel intention in the New Normal Era, including perceptions of travel risks, travel anxiety, travel preparations for travel medicine, and travel attitudes. These variables encompass five relevant theories or factors that may affect travel intentions in the aftermath of the pandemic.

Risk Perception

Tourists' perceptions of safety and risk are crucial in shaping their travel decisions, especially in the context of the New Normal Era. High-risk destinations, including those perceived as dangerous due to health risks or safety concerns, are often avoided by travellers (Devkota, 2022; Neuburger & Egger, 2021). Perceived risk refers to the uncertainty and potential negative consequences travellers associate with destinations, including health, safety, and unforeseen challenges (Bauer, 1967). The covid-19 pandemic has heightened these risks, with travellers particularly concerned about health, safety protocols, and travel restrictions, further discouraging travel intentions (Perić et al., 2021).

Perceived risk in tourism encompasses dimensions like physical, financial, psychological, social, and health risks (Jacoby & Kaplan, 1972). Various studies identify general travel risks, such as time, performance, satisfaction, and financial risks, alongside destination-specific risks like health, political, terrorism, disaster, and crime risks. Researchers include additional dimensions like equipment risk, socio-psychological risk, and natural disaster risk (Kim et al., 2009). Categorized into distinct typologies, these risks significantly influence travel behavior and decision-making, highlighting the importance of understanding and managing perceived risks in tourism (Rather, 2020). The pandemic has particularly emphasized health risks, with fears of contracting the virus leading to a decline in travel intentions (Devkota, 2022). Studies show that perceived risks, particularly health-related, have led to travel avoidance in countries like India, Macau, and Serbia (Agyeiwaah et al., 2021). Tourists tend to cancel or adjust their plans when they perceive high risks, especially in the context of health and safety concerns (Kozak et al., 2007). This study categorizes perceived risk into three key components: health risk, travel risk, and psychological risk, integrating the frameworks of Lebrun et al. (2022), Singh and Dhankhar (2021), Shaw (2010).

Travel Anxiety in Tourism

Anxiety, as defined in psychopathology, encompasses cognitive, emotional, behavioral, and physiological dimensions, often linked to factors like uncertainty and perceived risk

(American Psychiatric Association, 2013; Cattell, 2013). Travel anxiety, characterized as a distinct variant of anxiety, emerges from the apprehended dangers and ambiguities linked to travel, presenting itself through manifestations of fear, stress, and discomfort (McIntyre & Roggenbuck, 1998). Travellers assess various factors such as destination attributes, risks, and personal values, and anxiety results from the fear of negative consequences.

Anxiety significantly influences travel decision-making. According to the Theory of Planned Behavior (Ajzen, 1991), anxiety, attitude, and intention are interconnected factors affecting behavior (Zarrad & Debabi, 2015). Studies have shown that high levels of travel anxiety discourage travel intentions, with anxious tourists often avoiding destinations that induce stress and also impacts safety perceptions and vacation intentions (Kovacic et al., 2019). Research has demonstrated that covid-19-related anxiety negatively influenced travel intentions (Abou-Shouk et al., 2022; Gastaldello et al., 2022). This study integrates frameworks from Zenker et al. (2021), Wachyuni and Kusumaningrum (2020), Luo and Lam (2020) categorizing travel anxiety into two key components: covid anxiety and travelling anxiety, both of which impact tourist behavior and decision-making (Karagöz et al., 2020).

Travel Preparations for Travel Medicine

Travel medicine represents an expanding interdisciplinary domain within the realm of preventive medicine, which concentrates on the health and safety of individuals engaged in travel, systematically addressing potential health risks prior to, throughout, and subsequent to their journeys (Figueiredo et al., 2024; Hu et al., 2023; Bauer, 2022). It involves preventing illnesses, managing health concerns, and enhancing psychological resilience during travel. This delineates it as a distinct domain committed to the protection of the welfare of both local and global travellers. Furthermore, travel medicine encompasses mental health considerations by offering coping mechanisms and psychiatric support, especially for those travellers who are deemed vulnerable.

A three-phase approach to travel medicine is described by Clift and Page (1996): 1) Pre-Travel Phase involves consultations on health risks, vaccinations, and preventive treatments; 2) Travel Phase focuses on managing health risks during the trip; and 3) Post-Travel Phase includes medical consultations addressing any health issues upon return. This comprehensive approach ensures travelers receive support at each stage of their journey.

In Thailand, historical data shows Thai tourists were less likely to seek health advice before travel compared to foreign tourists. However, there has been a significant shift toward greater awareness among Thai travellers about pre-travel health preparation. The ratio of Thai to foreign tourists seeking health advice is now nearly equal, with more Thai tourists consulting travel clinics for guidance rather than relying on online resources (Saengyon & Chalisarapong, 2023, Chanarong, 2020). A conceptual model of travel medicine in the context of Thailand is shown in Figure 1.
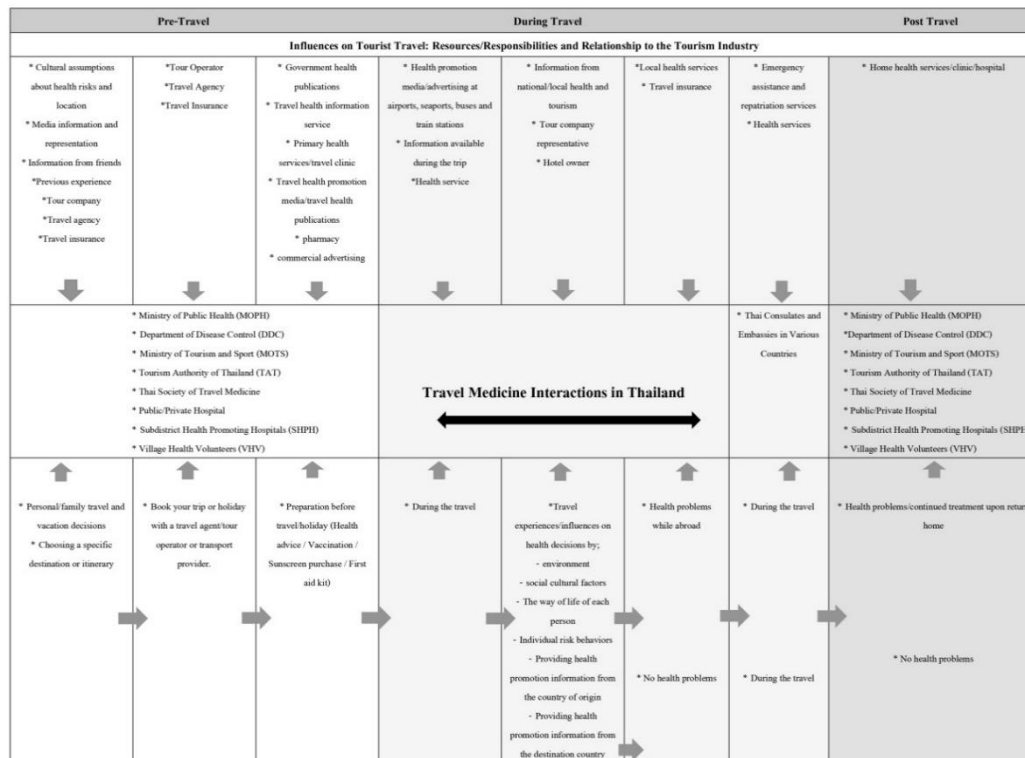
Figure 1 Travel Medicine in Thailand

Source: Adapted from Clift and Page (1996), with modifications.

The covid-19 pandemic has underscored the importance of travel medicine, particularly in managing health risks. Investigations reveal that apprehension and health-related anxieties amid the pandemic prompted individuals to adopt risk-averse behaviors, thereby impacting their travel choices (Hu et al., 2023; Nabi & Prestin, 2016). Post-pandemic, tourists' protection motivation has become a key factor in both travel avoidance and health-protective behaviors (Hoang, 2024; Ruan et al., 2020). This study categorizes travel preparations for travel medicine into four key components: physical preparation, mental preparation, health information gathering, and preparation for risk prevention from illness and harm (Nomsiri & Phongpaitoon, 2019).

Travel Attitude

Travel attitude is a key factor in decision-making within tourism, reflecting individuals' emotional responses, experiences, and physiological reactions (Ervina & Octaviany, 2022). Positive travel attitudes are strongly linked to greater engagement in tourism-related behaviors (Verma & Chandra, 2018; Ribeiro et al., 2017). Attitudes, shaped by personal experiences, cultural influences, and social factors, significantly impact travel intentions and behaviors. Positive past experiences typically lead to favorable attitudes toward future travel (Jiang et al., 2022).

In the New Normal Era, health protocols and safety measures have notably influenced travel attitudes, with concerns about health and safety shaping tourists' willingness to travel (Durmaz et al., 2022). Studies highlight that attitudes towards safety measures like sanitization

and social distancing are critical to travel behavior (Joo et al., 2021). The covid-19 pandemic has heightened the significance of attitudes in determining travel choices, affecting individual perceptions of risk and safety (Li et al., 2020). Moreover, travel attitudes are instrumental in influencing intentions to revisit and subsequent travel decisions (Soliman, 2021). This study integrates the frameworks of Singh and Dhankhar (2021) and Liu et al. (2021), categorizing travel attitude into two key components: traveling attitude and sanitary attitude.

Travel Intentions

Travel intentions refer to an individual's readiness to engage in travel behaviors, influenced by various factors such as perceived risk, concerns, preparedness in travel medicine, and attitudes toward tourism (Pahrudin et al., 2021; Kim & Pysarchik, 2000). According to Ajzen's (1991) Theory of Planned Behavior (TPB), the strength of one's intention serves as a powerful harbinger of actual actions. TPB illuminates the realm of travel intentions by delving into attitudes, perceived control, and social norms as pivotal elements that sway tourists' choices (Han et al., 2020; Ahmad et al., 2020). Travel intention is characterized as the probability of embarking on a journey to a destination, intricately influenced by motivations, psychological dynamics, and self-assurance in one's capability to travel (Whang et al., 2016; Jiang et al., 2022).

The covid-19 pandemic has significantly impacted travel intentions by increasing risk perception, travel anxiety, and safety concerns (Nguyen et al., 2023; Zou & Qionglei, 2022). Studies show that higher levels of perceived insecurity and anxiety have reduced travel intentions, while post-pandemic optimism has led to future trip planning (Wachyuni & Kusumaningrum, 2020). Travel intentions, influenced by destination attachment and health behaviors, are crucial for understanding future decisions. Perceived risks, insecurity, and anxiety significantly shape tourists' choices (Chua et al., 2021).This study integrates frameworks from Zenker et al. (2021), and Singh and Dhankhar (2021), to explore the determinants of travel intentions, especially in the post-pandemic context. The investigator developed a theoretical framework (Figure 2) to investigate travel intentions in the aftermath of the New Normal Era, arguing that four primary dimensions—risk perception, travel anxiety, travel medicine preparations, and travel attitudes—have an impact on travel intentions. Propositions are: H1: The causal relationship model of travel intentions in the New Normal Era is consistent with the empirical data. H2: Risk perception has a direct effect on travel attitudes, with statistical significance. H3: Travel anxiety has a direct effect on travel attitudes, with statistical significance. H4: Travel preparations for travel medicine has a direct effect on travel attitudes, with statistical significance. H5: Travel attitudes has a direct effect on travel intentions in the New Normal Era, with statistical significance. H6: Risk perception, travel anxiety, and travel preparations for travel medicine has a direct effect on travel intentions in the New Normal Era, with statistical significance. H7: Risk perception, travel anxiety and travel preparations for travel medicine has an indirect effect on travel intentions in the New Normal era through travel attitudes, with statistical significance.
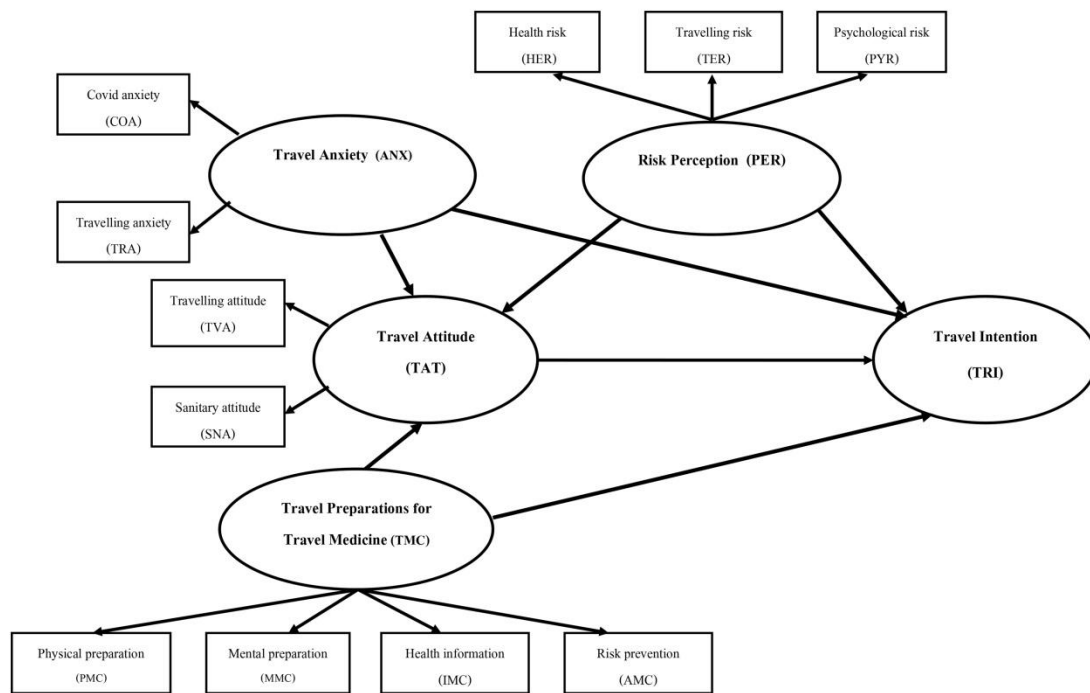
Figure 2 Conceptual Model

Research Methodology

Survey design

The study utilized a quantitative methodology to evaluate a proposed theoretical framework for investigating travel behaviors in the New Normal Era. A questionnaire was designed to explore the relationships between risk perception, travel anxiety, travel medicine preparations, travel attitude, and travel intention. The survey instrument was constructed upon established theoretical frameworks and conceptual models, and it was subsequently translated into Thai to enhance understanding among the respondents.

The questionnaire consists of five sections, with twelve questions measuring risk perception, adapted from Singh and Dhankhar (2021), Peric et al. (2021), Shaw (2010), and Lepp and Gibson (2003). Nine questions on travel anxiety were adapted from Zenker et al. (2021), and Wachyuni and Kusumaningrum (2020). Sixteen questions related to travel preparations for travel medicine were based on Noomsiri and Pongpaitoomsin (2019). Eight questions on travel attitude were modified from Singh and Dhankhar (2021), Lebrun et al. (2022) and Liu et al. (2021). Lastly, five questions measuring travel intention were based on Zenker, et al. (2021) and Singh and Dhankhar (2021). All items were adapted to suit the study's context.

A five-point Likert scale was used to assess responses, ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument's validity was examined using the Index of Objective Congruence (IOC), and values more than 0.5 met the validity criteria. Cronbach's Alpha was used to measure dependability, and the results were 0.962, suggesting strong reliability (Nunnally, 1978).

Data Collection

The survey sample group consisted of Thai residents aged 18 and over who had travelled to Phuket, Thailand, and intended to or had previously travelled abroad (either as FIT or on a Group Tour) within the past or next six months. Phuket was chosen as the survey site due to its status as a major tourist destination attracting visitors from across Thailand. In the post-COVID-19 period, the province served as a pilot area for the recovery of the national tourism industry through the "Phuket Sandbox" initiative, thereby providing a geographically and socially diverse sample representative of Thai tourists' characteristics and behaviors. The sample size for this study was determined using Structural Equation Modelling (SEM) to estimate parameters with the Maximum Likelihood method. According to Stevens (1996), the sample size should be at least 15-25 times the number of observed variables. With 11 observed variables in this study, a minimum of 375 samples was required. Therefore, a total of 400 questionnaires were collected, exceeding the calculated minimum. A multi-stage sampling method was employed, and data were collected at major tourist attractions in Phuket, such as Patong Beach, Chalong Temple, Phuket Old Town, and Promthep Cape, as well as other locations, until the required sample size was reached. The study's participants were made aware that participation was optional and anonymous, and that the findings would only be used for research. The Research Ethics Committee of Nakhon Ratchasima Rajabhat University's Research and Development Institute approved the questionnaire, and data collection was conducted between November 2023 and January 2024.

Data Analysis

Descriptive statistics were first employed in the data analysis phase to assess the collected data. Following the guidance of Hair et al. (2014), their adherence to a normal distribution was analyzed by considering the measurements of kurtosis and skewness. Subsequently, internal consistency coefficients were calculated after conducting a reliability analysis of construct-valid data. The data was further examined using the structural equation modeling (SEM) approach, and the results were interpreted to evaluate the study's hypotheses. The following fit indices were essential for this analysis: a normed chi-square/DF ratio under 2.00, a Chi-Square p-value exceeding 0.05, an RMR index lower than 0.05, an RMSEA index below 0.05, a TLI index greater than 0.90, a GFI index above 0.90, and a CFI index above 0.90 (Kline, 2016; Hair et al., 2014).

Results and Discussion

Demographic Profile

The demographic information indicates that 53.75% of those surveyed are male, while 46.25% are female. The largest segment of visitors (42.25%), representing more than half of all responses, falls within the age range of 31 to 45. Furthermore, 67% of respondents are single, and 63.50% possess a bachelor's degree. Regarding employment, private sector employees make up the largest portion (36.25%), followed closely by entrepreneurs (23%).

Descriptive Statistics

The mean values of all the variables range from 3.31 to 4.06, for risk perception (PER), travel anxiety (ANX), travel preparations for travel medicine (TMC), travel attitudes (TAT), and travel intentions in the New Normal Era (TRI). The standard deviations pertaining to all examined variables varied between 0.50 and 0.74. Among the myriad of variables analyzed, the construct pertaining to travel intentions within the context of the New Normal Era (TRI) exhibited the highest mean value (4.06), whereas travel anxiety (ANX) demonstrated the lowest mean (3.31).Travel anxiety (ANX) induces the highest standard deviation (0.74),while travel preparations for travel medicine (TMC) shows the lowest one (0.50). The detailed information is given in Table 1.

Table 1 The mean values and standard deviation risk perception (PER), travel anxiety (ANX), travel preparations for travel medicine (TMC), travel attitudes (TAT), and   travel intentions in the New Normal Era (TRI)

Measurement item	$\overline{X}$	SD
1. Risk perception (PER)	3.56	0.55
2. Travel anxiety (ANX)	3.31	0.74
3. Travel preparations for travel medicine (TMC)	4.00	0.50
4. Travel attitudes (TAT)	3.70	0.58
5. Travel intentions in the New Normal Era (TRI)	4.06	0.58

Structural model testing

Structural equation modelling was analyzed to examine the consistency of the proposed model against empirical data. It showed that the proposed model and the empirical data were appropriate and coherent after adjusting the model. The fit indices were Chi-square = 25.974, p = 0.075, df = 17, Chi-square/df = 1.528, RMSEA = 0.036, CFI = 0.997, and GFI = 0.990, as shown in Figure 3
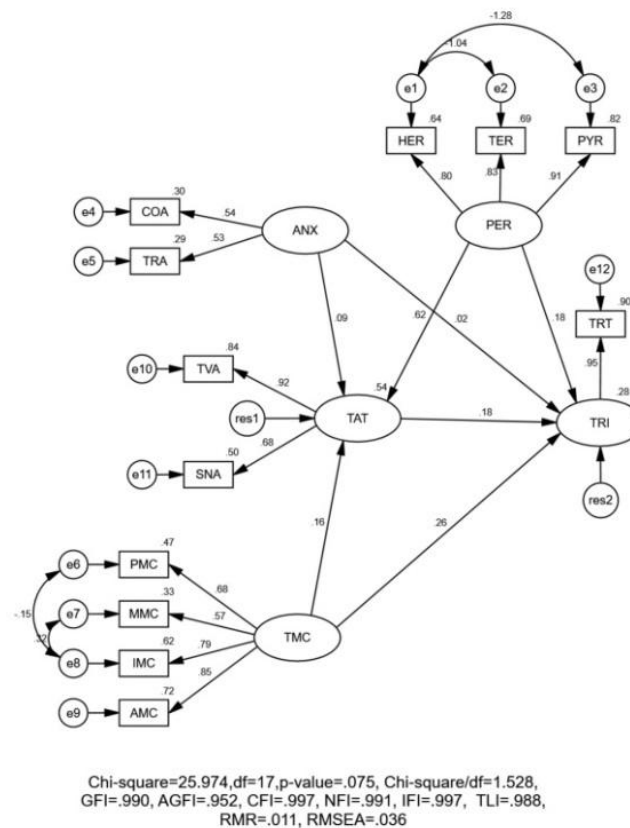
Chi-square=25.974,df=17,p-value=.075, Chi-square/df=1.528,
GFI=.990, AGFI=.952, CFI=.997, NFI=.991, IFI=.997, TLI=.988,
RMR=.011, RMSEA=.036

Figure 3 The Adjusted Causal Relationship Model for travel intention in the New Normal Era

Table 2 Standard Scores of Direct Effects (DE), Indirect Effects (IE), and Total Effects (TE) Between Independent and Dependent Variables

Exogenous variables	TAT			TRI		
	DE	IE	TE	DE	IE	TE
PER	0.62**	-	0.62**	0.18**	0.11**	0.29**
ANX	0.09*	-	0.09*	0.02*	0.12*	0.14**
TMC	0.16*	-	0.16*	0.26**	0.13*	0.39**
TAT	-	-	-	0.18*	-	0.18*
R^2		0.54			0.28	

Note: * $p < 0.05$, ** $p < 0.01$

The data presented in Table 2 illustrate that the investigation assessed the direct, indirect, and cumulative influence of various determinants on travel intention subsequent to the New Normal Era (TRI). Travel attitudes (TAT) exerted a direct influence on TRI, evidenced by a standard effect size of 0.18 ($p = .05$). Furthermore, travel preparations concerning travel medicine (TMC) demonstrated a direct influence on TRI (effect size = 0.26, $p = .01$) and an indirect influence mediated by TAT (effect size = 0.13, $p = .05$). Travel anxiety (ANX) showed a direct effect on TRI (effect size = 0.02, $p = .05$) and an indirect effect via TAT (effect size = 0.12, $p = .05$). Risk perception (PER) had a direct effect on TRI (effect size = 0.18, $p = .01$) and

an indirect effect via TAT (effect size = 0.11, p = .01). These factors collectively influence travel intentions in the New Normal Era.

Travel preparations for travel medicine (TMC), travel anxiety (ANX), and risk perception (PER) significantly influenced travel attitudes (TAT). TMC had a direct effect on TAT (effect size = 0.16, p = .05), while ANX showed (effect size = 0.09, p = .05). PER had the direct effect on TAT (effect size = 0.62, p = .01). The model explained 28% of the variance in travel intention in the New Normal Era (TRI), with travel attitudes (TAT) determinants accounting for 54% of the variance.

All hypotheses were confirmed, showing significant relationships among TMC, ANX, PER, TAT, and TRI. Notably, PER was the strongest predictor of TAT, while TMC had the most significant direct effect on TRI. Indirect effects were mediated through TAT, with statistical significance at .01 and .05 for the key variables.

Discussion

Risk Perception and Travel Anxiety

The study assessed risk perception and travel anxiety among Thai tourists, with results indicating relatively low mean scores (3.56 for risk perception and 3.31 for travel anxiety). This shows that Thai tourists have adapted to travel in the New Normal Era, owing to extensive vaccination and a shift in their perspective of covid-19 as a treatable ailment. The relatively low anxiety is also attributed to the resilience of Thai tourists, who generally do not dwell on past adversities and prioritize recreation (Benedict, 2022).

Despite this, health-related risk perception scored the highest, reflecting Thai tourists' growing concern for their health and a heightened awareness of covid-19 risks in the "New Normal" Era. Consistent with findings from Thai tourists place a stronger emphasis on health measures compared to other regions. Contemporary travellers are progressively selecting locales characterized by rigorous sanitary protocols and comprehensive healthcare amenities, donning protective face coverings, utilizing antimicrobial hand sanitizers, and acquiring health or travel insurance. These practices may persist long-term (Kieanwatana, 2024; Poonsuwan, 2022; Petrus et al., 2022; BLT Bangkok, 2020), signalling a shift in tourist behavior. Tourism operators must adjust their strategies to address these new health and safety expectations by implementing measures like health certification and medical support services.

Travel Preparations for Travel Medicine

The preparedness of Thai tourists for international travel has been greatly influenced by the pandemic. Travellers are now more focused on both individual and family readiness, encompassing mental preparedness, gathering health-related information, risk prevention, and physical readiness (Shlim et al., 2021). There is a growing trend among Thai tourists to gather knowledge about risks such as infectious diseases, climate conditions, and cultural practices in destination countries. Tourists are increasingly proactive in mitigating health risks, including vaccinations, using insect repellents, purchasing travel insurance, and preparing first-aid kits (Charan et al., 2023; Hu et al., 2023; Piyaphanee et al., 2023; Shlim et al., 2021).

Pre-travel health assessments and consultations with healthcare professionals are critical, especially for destinations with high risks of infectious or endemic diseases. While common in Western countries, these practices are less familiar to Thai tourists, highlighting the need for government initiatives to promote awareness of travel medicine (Leder et al., 2017). It is recommended that the Thai government increase public awareness of travel medicine, considering the cultural context and communication preferences of Thai people. Strategies such as using social media and travel health apps could be effective

Travel Attitudes

The attitudes of Thai tourists toward travel have undergone a notable shift, with a stronger emphasis on hygiene and health. Practices like wearing face masks, frequent hand washing, and purchasing health or travel insurance have become commonplace in the New Normal Era (Saenkam, 2021). Despite this, traditional travel patterns persist. Group tours remain the preferred mode of international travel, as Thai tourists seek convenience, reduced language barriers, and the ability to visit major cities rather than smaller or lesser-known destinations.

While health concerns now heavily influence travel decisions, Thai tourists' behaviors remain rooted in established travel styles. However, tourists are prioritizing travel preparedness, particularly in terms of hygiene and health measures. They are engaging in thorough research on destination countries to assess health risks, such as infectious diseases, endemic conditions, and climate factors. Travellers are also more diligent about packing protective equipment and basic medications, reflecting the lessons learned from the pandemic. Studies such as Limsakulwanit (2022) underscore the importance of international travel businesses adapting to these shifts in tourist behavior by prioritizing health and safety in their offerings. Additionally, travellers view purchasing travel insurance as essential.

Conclusion

Policy Implications

1. Promote Travel Medicine Awareness: The Thai government should create comprehensive travel medicine guides for international travellers, covering health preparedness before, during, and after travel, to raise awareness.

2. Educational Integration: The Ministry of Education should consider integrating travel medicine, infectious disease management, and pandemic preparedness into school curricula to prepare a new generation of travellers to handle health risks and improve public health readiness.

3. Health and Safety Collaboration: Local authorities and relevant agencies should collaborate to allocate resources and build community networks for surveillance and education, to ensure effective implementation of travel medicine practices and enhance tourists' health safety.

Practical Implications

1. Public-Private Collaboration: Public and private tourism sectors must collaborate to manage international tourists' health and safety, disseminating information through digital and traditional channels. Partnerships between tourism businesses and healthcare facilities can create travel medicine management systems adhering to international standards.

2. Maintain Health Awareness in the New Normal Era: The government must continue initiatives to raise public awareness about health, disseminating situational information and implementing preventive measures. Promote tourism and festivals while communicating public health information to tourists.

3. Health Services for Travellers: The Thai government must guarantee health services for travellers throughout their trips, meeting international standards including access to vaccines, health checks, and information. This boosts traveller confidence and promotes public health infrastructure in tourism.

4. Train Tourism Operators: Government agencies should offer travel medicine training and certification programs for tourism operators, including travel agencies and guides, to promote collaboration between the tourism industry and public health agencies.

5. Promote Vaccination and Travel Insurance: Public and private sectors should collaborate to support vaccination programs and offer travel insurance to tourists, promoting self-care and health responsibility before, during, and after international travel.

6. Develop Travel Medicine Application: Develop a comprehensive travel medicine application providing personalized health information, including vaccination requirements, health risks, and preventive measures. Integrate AI to give personalized recommendations based on health conditions and travel destinations.

Limitations and Future studies

1. Expand Study Scope: Future research should expand the scope to include international tourists for a comparative analysis of Thai and foreign tourist perspectives and behaviors.

2. Additional Data Sources: To enhance research rigor, integrate data from tour operators and relevant government agencies.

3. Compare Destination Countries: Study destination countries across continents to identify factors influencing travel decisions and inform strategic tourism planning.

4. Qualitative Research: Future research should use qualitative methods like interviewing tour operators and guides for deeper insights into barriers and readiness related to travel medicine.

Emerging and re-emerging infectious diseases pose significant global public health risks, especially for travellers. Thailand must enhance preparedness by integrating travel medicine into prevention, control, and management strategies. Strengthening disease surveillance, traveller screening, health monitoring, and capacity-building will improve health security. Clear travel guidelines and real-time health updates boost traveller confidence and safety. Effective cooperation between government, the private sector, and international organizations is crucial

for controlling diseases, reducing impacts, and supporting the sustainability of Thailand's tourism industry in the New Normal Era.

References

Abou-Shouk, M., Zoair, N., & Abulenein, E. (2022). How ready are customers to re-travel for tourism? Insights from the UAE and Egypt. *GeoJournal of Tourism and Geosites, 40*(1), 175–180. https://doi.org/10.30892/gtg.40121-817

Agyeiwaah, E., Adam, I., Dayour, F., & Badu Baiden, F. (2021). Perceived impacts of COVID-19 on risk perceptions, emotions, and travel intentions: Evidence from Macau higher educational institutions. *Tourism Recreation Research, 46*(2), 195–211. https://doi.org/10.1080/02508281.2021.1872263

Ahmad, W., Kim, W. G., Anwer, Z., & Zhuang, W. (2020). Schwartz personal values, theory of planned behavior and environmental consciousness: How tourists' visiting intentions towards eco-friendly destinations are shaped? *Journal of Business Research, 110*, 228–236. https://doi.org/10.1016/j.jbusres.2020.01.040

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

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Bauer, I. (2022). COVID-19: How can travel medicine benefit from tourism's focus on people during a pandemic? *Tropical Diseases, Travel Medicine and Vaccines, 8*, 26. https://doi.org/10.1186/s40794-022-00182-6

Bauer, R. A. (1967). Consumer behavior as risk taking. In D. F. Cox (Ed.), *Risk taking and information handling in consumer behavior* (pp. 23–33). Harvard University Press.

Benedict, R. (2022). *Thai culture and behavior* (P. Chatpolrak, Trans.; 3rd ed.). Matichon Publishing.

BLT Bangkok. (2020, October 20). 70% of Thai tourists plan to purchase travel insurance for their trips. Retrieved October 20, 2024, from https://www.bltbangkok.com/poll/26617/

Buhalis, D., Leung, X. Y., Fan, D., Darcy, S., Chen, G., Xu, F., Tan, W.-H. G., Nunkoo, R., & Farmaki, A. (2023). Tourism 2030 and the contribution to the sustainable development goals: The *Tourism Review* viewpoint: Editorial. *Tourism Review, 78*(2), 293–313. https://doi.org/10.1108/TR-04-2023-620

Cattell, R. B. (2013). Anxiety and motivation: Theory and crucial experiments. In C. D. Spielberger (Ed.), *Anxiety and behavior*. Academic Press.

Chanarong, V. (2020). Travel medicine. Retrieved March 9, 2024, from https://onceinlife.co/travel-medicine

Charan, S., Prakash, A., & Medhi, B. (2023). Travel medicine—A comprehensive guide to safe world travel. *Indian Journal of Pharmacology, 55*(6), 351–355. https://doi.org/10.4103/ijp.ijp_532_23

Chua, B.-L., Al-Ansi, A., Lee, M. J., & Han, H. (2021). Impact of health risk perception on avoidance of international travel in the wake of a pandemic. *Current Issues in Tourism, 24*(7), 985–1002. https://doi.org/10.1080/13683500.2020.1829570

Clift, S., & Page, S. J. (Eds.). (1996). *Health and the international tourist*. Routledge.

Devkota, N., Kmeco, L., Thapa, S., Houška, P., & Paudel, U. A. (2022). Tourists' perception of travel risk and management in destination amid COVID-19 pandemic: Empirical evidence from Nepal. *Journal of Tourism and Services, 13*(25), 90–119. https://doi.org/10.29036/jots.v13i25.388

Durmaz, Y., Çayırağası, F., & Çopuroğlu, F. (2022). The mediating role of destination satisfaction between the perception of gastronomy tourism and consumer behavior during COVID-19. *International Journal of Gastronomy and Food Science, 28*, 100525. https://doi.org/10.1016/j.ijgfs.2022.100525

Ervina, E., & Octaviany, V. (2022). The role of tourist attitude toward destination awareness, destination personality and future visit intention. *Asia-Pacific Management and Business Application, 11*(1), 1–18. https://doi.org/10.21776/ub.apmba.2022.011.01.1

Figueiredo, I., Teixeira, T., Nunes, S., Cristóvão, F., Fragoso, J., Figueiredo, C., Fragoso, C., Azevedo, C., Moreira, D., & Malheiro, L. (2024). Traveling before, during, and after the pandemic: Impact of the COVID-19 pandemic on the travel behavior and travel medicine practice. *Cureus, 16*(8), e66247. https://doi.org/10.7759/cureus.66247

Gandari, K. M., Ani, L. S., & Wirawan, I. M. A. (2024). Exploring the role of nurses in travel medicine to improve service performance in travelers: A systematic review. *Journal of Primary Care & Community Health, 15*, 1–9. https://doi.org/10.1177/21501319241287454

Gastaldello, G., Livat, F., & Rossetto, L. (2022). Does COVID scare wine tourists? Evidence from Italy and France. *Wine Economics and Policy, 11*(1), 89–106. https://doi.org/10.36253/wep-11550

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th ed.). Pearson Education.

Han, H., Al-Ansi, A., Chua, B.-L., Tariq, B., Radic, A., & Park, S. H. (2020). The post-coronavirus world in the international tourism industry: Application of the theory of planned behavior to safer destination choices in the case of U.S. outbound tourism. *International Journal of Environmental Research and Public Health, 17*(18), 6485. https://doi.org/10.3390/ijerph17186485

Hjalager, A. M. (2009). Innovations in travel medicine and the progress of tourism—Selected narratives. *Technovation, 29*(9), 596–601. https://doi.org/10.1016/j.technovation.2009.05.012

Hoang, T. D. T. (2024). Effect of perceived risk and travel motivation on tourists' decisions in a crisis context: A domestic tourist perspective. *Tourism Review International, 28*(3), 219–232. https://doi.org/10.3727/194344224X17241867870952

Hu, F., Wen, J., Zheng, D., & Wang, W. (2023). Travel medicine in hospitality: An interdisciplinary perspective. *International Journal of Contemporary Hospitality Management, 35*(9), 3134–3153. https://doi.org/10.1108/IJCHM-05-2022-0574

Jacoby, J., & Kaplan, L. B. (1972). The components of perceived risk. *Advances in Consumer Research, 3*, 382–383.

Jiang, X., Qin, J., Gao, J., & Gossage, M. G. (2022). How tourists' perception affects travel intention: Mechanism pathways and boundary conditions. *Frontiers in Psychology, 13*, 821364. https://doi.org/10.3389/fpsyg.2022.821364

Joo, D., Xu, W., Lee, J., Lee, C. K., & Woosnam, K. M. (2021). Residents' perceived risk, emotional solidarity, and support for tourism amidst the COVID-19 pandemic. *Journal of Destination Marketing & Management, 19*, 100553. https://doi.org/10.1016/j.jdmm.2021.100553

Julapan, P. (2024, April 4). Thailand records tourism deficit with Japan for the first time! 2023 statistics show 1 million Thais. Retrieved April 4, 2024, from https://www.bangkokbiznews.com/business/business/1109813

Karagöz, D., Işık, C., Doğru, T., & Zhang, L. (2020). Solo female travel risks, anxiety and travel intentions: Examining the moderating role of online psychological-social support. *Current Issues in Tourism, 24*(11), 1595–1612. https://doi.org/10.1080/13683500.2020.1816929

Kieanwatana, K. (2024). Strategies to enhance willingness to pay travel insurance for coronavirus disease 2019 (COVID-19) illness coverage in the Greater Mekong Subregion. *Journal of Humanities and Social Sciences Mahasarakham University, 43*(1), 13–30. https://so03.tci-thaijo.org/index.php/humsujournal/article/view/267528/182260

Kim, L. H., Qu, H., & Kim, D. J. (2009). A study of perceived risk and risk reduction of purchasing air tickets online. *Journal of Travel & Tourism Marketing, 26*(3), 203–224. https://doi.org/10.1080/10548400902925031

Kim, S., & Pysarchik, D. T. (2000). Predicting purchase intentions for uni-national and bi-national products. *International Journal of Retail & Distribution Management, 28*(6), 280–291. https://doi.org/10.1108/09590550010328544

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.

Kovacic, S., Jovanovic, T., Miljkovic, D., Lukic, T., Markovic, S. B., Vasiljevic, D. A., Vujicic, M. D., & Ivkov, M. (2019). Are Serbian tourists worried? The effect of psychological factors on tourists' behavior based on the perceived risk. *Open Geosciences, 11*(1), 273–287. https://doi.org/10.1515/geo-2019-0022

Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travelers. *International Journal of Tourism Research, 9*(4), 233–242. https://doi.org/10.1002/jtr.607

Lebrun, A. M., Corbel, R., & Bouchet, P. (2022). Impacts of COVID-19 on travel intention for summer 2020: A trend in proximity tourism mediated by an attitude towards COVID-19. *Service Business, 16*(3), 469–501. https://doi.org/10.1007/s11628-021-00450-z

Leder, K., Borwein, S., Chanthavanich, P., Chatterjee, S., Htun, K., Marma, A. S. P., Nakatani, I., Ok, J. J., Pakasi, L., Pandey, P., Piyaphanee, W., Rupali, P., Schwartz, E., Shinozuka, T., Phu, P. T. H., Watanabe, H., Visser, J., Wilder-Smith, A., Zhang, M., & McGuinness, S. L. (2017). Travel medicine perspectives of select travel medicine experts practicing in the Asia-Pacific region. *Journal of Travel Medicine, 24*(4), tax012. https://doi.org/10.1093/jtm/tax012

Lepp, A., & Gibson, H. (2003). Tourist roles, perceived risk and international tourism. *Annals of Tourism Research, 30*(3), 606–624. https://doi.org/10.1016/S0160-7383(03)00024-0

Li, Z., Zhang, S., Liu, X., Kozak, M., & Wen, J. (2020). Seeing the invisible hand: Underlying effects of COVID-19 on tourists' behavioral patterns. *Journal of Destination Marketing & Management, 18*, 100502. https://doi.org/10.1016/j.jdmm.2020.100502

Limsakunwanich, R. (2022). The development of outbound tour operators after the COVID-19 pandemic. *Journal for Management Science Dhonburi Rajabhat University, 4*(1), 64–78. https://so10.tci-thaijo.org/index.php/msdru/article/view/153/103

Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: An extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review, 76*(4), 871–891. https://doi.org/10.1108/TR-09-2020-0458

Luo, J. M., & Lam, C. F. (2020). Travel anxiety, risk attitude and travel intentions towards "travel bubble" destinations in Hong Kong: Effect of the fear of COVID-19. *International Journal of Environmental Research and Public Health, 17*(21), 7859. https://doi.org/10.3390/ijerph17217859

McIntyre, N. N., & Roggenbuck, J. W. (1998). Nature/person transactions during an outdoor adventure experience: A multi-phasic analysis. *Journal of Leisure Research, 30*(4), 401–422. https://doi.org/10.1080/00222216.1998.11949841

Ministry of Tourism and Sports. (2024, July 8). *Tourism situation in December 2019*. https://www.mots.go.th/download/article/article_20200123132729.pdf

Nabi, R. L., & Prestin, A. (2016). Unrealistic hope and unnecessary fear: Exploring how sensationalistic news stories influence health behavior motivation. *Health Communication, 31*(9), 1115–1126. https://doi.org/10.1080/10410236.2015.1045237

Neuburger, L., & Egger, R. (2021). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: A case study of the DACH region. *Current Issues in Tourism, 24*(7), 1003–1016. https://doi.org/10.1080/13683500.2020.1803807

Nguyen, H. M., Phuc, H. N., & Tam, D. T. (2023). Travel intention determinants during COVID-19: The role of trust in government performance. *Journal of Innovation & Knowledge, 8*(2), 100341. https://doi.org/10.1016/j.jik.2023.100341

Noomsiri, A., & Pongpaitoomsin, N. (2019). Relationships between individual factors and health preparation of independent travelers prior to travel abroad. *Thammasat Medical Journal, 19*(1), 152–163. https://he02.tci-thaijo.org/index.php/tmj/article/view/180274/127978

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Page, S. J. (2009). Current issue in tourism: The evolution of travel medicine research: A new research agenda for tourism? *Tourism Management, 30*(2), 149–157. https://doi.org/10.1016/j.tourman.2008.04.011

Pahrudin, P., Chen, C.-T., & Liu, L. W. (2021). A modified theory of planned behavior: A case of tourist intention to visit a destination post-pandemic COVID-19 in Indonesia. *Heliyon, 7*(6), e08230. https://doi.org/10.1016/j.heliyon.2021.e08230

Perić, G., Dramićanin, S., & Conić, M. (2021). The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. *European Journal of Tourism Research, 27*, 1–22. https://doi.org/10.54055/ejtr.v27i.2125

Petrus, S., Yahya, A. F., & Yahya, F. (2022). Domestic travelers' perceptions and intention to purchase travel insurance. *Proceedings, 82*(1), 74. https://doi.org/10.3390/proceedings2022082074

Piyaphanee, W., Stoney, R. J., Asgeirsson, H., Appiah, G. D., Díaz-Menéndez, M., Barnett, E. D., Gautret, P., Libman, M., Schlagenhauf, P., Leder, K., Plewes, K., Grobusch, M. P., Huits, R., Mavunda, K., Hamer, D. H., & Chen, L. H. (2023). Health care seeking during travel: An analysis by the GeoSentinel surveillance network of travel medicine providers. *Journal of Travel Medicine, 30*(3), taad002. https://doi.org/10.1093/jtm/taad002

Poonsuwan, P. (2022). Innovation and tourism deployment for the new normal era. *Journal of Buddhist Innovation and Management, 5*(1), 25–36. https://so06.tci-thaijo.org/index.php/bim/article/view/255289/172691

Rather, A. H. (2020). Approaches to study risk perception in the tourism industry from tourists' perspective: A brief review. *Journal of Critical Reviews, 7*(1), 1572–1586. https://doi.org/10.31838/jcdr.2020.7.01.244

Ribeiro, M. A., Pinto, P., Silva, J. A., & Woosnam, K. M. (2017). Residents' attitudes and the adoption of pro-tourism behaviours: The case of developing island countries. *Tourism Management, 61*, 523–537. https://doi.org/10.1016/j.tourman.2017.03.004

Ruan, W., Kang, S., & Song, H. J. (2020). Applying protection motivation theory to understand international tourists' behavioural intentions under the threat of air pollution: A case of Beijing, China. *Current Issues in Tourism, 23*(16), 2027–2041. https://doi.org/10.1080/13683500.2020.1743242

Saengyon, S., & Chalisarapong, W. (2023). Introduction. In Department of Disease Control (Ed.), *Guidelines for organizing health services for travelers*. Department of Disease Control. https://ddc.moph.go.th/uploads/ckeditor2//files/travel_y67.pdf

Saenkam, B. (2021). The behavior of Thai tourists after the COVID-19 situation. *Journal of Liberal Art and Service Industry, 4*(1), 160–167. https://so01.tci-thaijo.org/index.php/JLASI/article/view/246378/168218

Shaw, G. K. (2010). A risk management model for the tourism industry in South Africa [Doctoral dissertation, North-West University].

Shlim, D. R., Connor, B. A., & Taylor, N. D. (2021). What will travel medicine look like in the COVID-19 pandemic era? *Journal of Travel Medicine, 28*(2), taaa148. https://doi.org/10.1093/jtm/taaa148

Singh, L., & Dhankhar, D. (2021). Travel behaviour post COVID-19: An empirical study with reference to Indian tourists. *Journal of Tourism, 22*(2), 87–98. https://www.jothnbgu.in/journal_file/Journal%20of%20Tourism%20-%20Volume%20-%20XXII%20No%20-%202-1.pdf

Soliman, M. (2021). Extending the theory of planned behavior to predict tourism destination revisit intention. *International Journal of Hospitality & Tourism Administration, 22*(5), 524–549. https://doi.org/10.1080/15256480.2019.1692755

Stevens, J. (1996). *Applied multivariate statistics for the social sciences* (3rd ed.). Lawrence Erlbaum Associates.

UN Tourism. (2024a). *International tourism to reach pre-pandemic levels in 2024*. https://www.unwto.org/news/international-tourism-to-reach-pre-pandemic-levels-in-2024

UN Tourism. (2024b). *UNWTO World Tourism Barometer and Statistical Annex, January 2020*. https://www.e-unwto.org/doi/epdf/10.18111/wtobarometereng.2020.18.1.1

Verma, V. K., & Chandra, B. (2018). An application of theory of planned behavior to predict young Indian consumers' green hotel visit intention. *Journal of Cleaner Production, 172*, 1152–1162. https://doi.org/10.1016/j.jclepro.2017.10.047

Wachyuni, S. S., & Kusumaningrum, D. A. (2020). The effect of COVID-19 pandemic: How are the future tourist behavior? *Journal of Education, Society and Behavioural Science, 33*(4), 67–76. https://doi.org/10.9734/JESBS/2020/v33i430219

Whang, H., Yong, S., & Ko, E. (2016). Pop culture, destination images, and visit intentions: Theory and research on travel motivations of Chinese and Russian tourists. *Journal of Business Research, 69*(2), 631–641. https://doi.org/10.1016/j.jbusres.2015.06.020

World Travel & Tourism Council. (2023). *Travel & tourism economic impact 2023*. https://assets-global.website-files.com/6329bc97af73223b575983ac/647df24b7c4bf560880560f9_EIR2023-APEC.pdf

Zarrad, H., & Debabi, M. (2015). Analyzing the effect of electronic word of mouth on tourists' attitude toward destination and travel intention. *International Research Journal of Social Sciences, 4*(4), 53–60. https://www.isca.me/IJSS/Archive/v4/i4/7.ISCA-IRJSS-2015-019.pdf

Zenker, S., Braun, E., & Gyimóthy, S. (2021). Too afraid to travel? Development of a pandemic (COVID-19) anxiety travel scale (PATS). *Tourism Management, 84*, 104286. https://doi.org/10.1016/j.tourman.2021.104286

Zou, Y., & Yu, Q. (2022). Sense of safety toward tourism destinations: A social constructivist perspective. *Journal of Destination Marketing & Management, 24*, 100708. https://doi.org/10.1016/j.jdmm.2022.100708