The Academic Journal of Contemporary Commercial Research
Vol. 4, No. 1, 2024
Faculty of Commerce, Cairo University, Egypt

Exploring The Impact of Perceived Travel Risk Antecedents on Travel Intentions during The Endemic Phase of COVID-19: An Integrative Approach of Protective Motivation Theory (PMT) and Theory of Planned Behaviour (TPB)

Eman Ismail [a,▪]

[a] School of Business, University of Hertfordshire, Administrative Capital, Cairo, Egypt
▪ ***Corresponding author:*** e.ismail@gaf.edu.eg

Abstract

This study investigates the impact of destination COVID status, health care services, digital distribution channels, as well as hygiene and safety on tourists' perceived travel risk, travel attitude, in addition to future travel intentions during the endemic stage of COVID-19. Furthermore, it explores whether individual differences moderate the relationship of tourists' perceptions with their travel intentions. The research design utilizes quantitative methods, specifically partial least squares structural equation modeling (PLS-SEM); moreover, data is collected through an online survey of 368 tourists. The findings reveal that the mentioned factors significantly influence tourists' perceived travel risk, travel attitude, and future travel intentions. The study further highlights the moderating effects of individual differences characteristics on this relationship. The practical implications of the study emphasize the need for effective strategies to promote safe and responsible travel, considering individual differences. By employing a multi-method approach integrating the Protection Motivation Theory (PMT) and an extended model of the Theory of Planned Behavior (TPB), this research contributes to the existing literature on travel perceptions during the endemic phase of COVID-19.

Keywords

Endemic COVID-19, Perceived Travel Risk, Travel Attitude, Future Travel Intentions, Antecedents of Travel, Individual Differences

Article history

Received: *17 July 2023* · **Accepted:** *27 October 2023*

1. Introduction

The COVID-19 pandemic has severely impacted the tourism industry, leading to significant revenue losses and disruptions in domestic and international tourism (Ali et al., 2021; Carvalho, 2022; Fotiadis et al., 2021; Gössling et al., 2020; Skare et al., 2021; United Nations World Tourism Organization [UNWTO], 2022). However, with the progress of COVID-19 into an endemic phase across many regions, travel restrictions have alleviated, prompting an increasing inclination among individuals to resume travel activities (Charumilind et al., 2022). Signs of recuperation have been indicated in international tourism, despite remaining below pre-pandemic levels (UNWTO, 2023).

The literature pertaining to the tourism industry's response to the COVID-19 pandemic has witnessed a surge in empirical studies since the pandemic's onset (Bilińska et al., 2023; da Silva Lopes et al., 2021; Sari et al., 2022; Wachyuni & Kusumaningrum, 2020). These studies have made substantial contributions in shedding light on various facets of traveler behavior during health crises (Gössling et al., 2021; Li et al., 2020). Specifically, they have demonstrated opting for shorter trips, engaging in outdoor activities, emphasizing hygiene, and avoiding destinations perceived as risky (Chebli & Said, 2020; Fotiadis et al., 2021; Pan & Truong, 2018).

However, while previous research has explored the intricate interplay among travel, risk, and disasters (Pizam et al., 2004), it has not specifically delved into the unique changes that underpin perceptions of risks engendered by the COVID-19 pandemic (Hu et al., 2021). This global crisis has introduced an unprecedented level of complexity and scale, necessitating a dedicated examination of how it shapes risk perceptions (Karl et al., 2020). Furthermore, while numerous scholars have undoubtedly examined the implications of COVID-19 travel restrictions for the tourism industry (Adekunle et al., 2020; Gursoy et al., 2021), there remains a conspicuous gap in the literature concerning the evolving behaviors of tourists amidst the ongoing risks posed by COVID-19 and its variants, which have extended the pandemic into a prolonged endemic stage with far-reaching implications on travelers' perceptions, attitudes, behaviors, and intentions as well (Li et al., 2022). Despite the existence of a substantial body of knowledge relating to tourism risks, including those stemming from terrorism and political instability, there is a notable dearth of research concerning health risks in the tourism context (Donthu & Gustafsson, 2020; Jonas et al., 2011; Wang et al., 2019). Previous studies in this domain have primarily been conducted under normal circumstances (Schildkraut & Turanovic, 2022), failing to capture the gravity of a pandemic like COVID-19 and its profound effects on the psychological well-being (Yavorsky et al., 2022) as well as behavioral intentions of travelers (Li et al., 2022). The recognition of risk formation related to perceived COVID-19, coupled with the dissemination of risk knowledge and travelers' willingness to adapt to outbreak scenarios, carries profound implications for industry stakeholders seeking to navigate this evolving landscape (Yan et al., 2021). It is paramount to acknowledge that the transformation of the tourism industry hinges squarely on travelers' responses to potential crises, as aptly emphasized by Sigala

(2020). Furthermore, it is recognizable that many of these prior studies are predominantly descriptive in nature, often lacking a strong theoretical underpinning, and predominantly concentrates on the initial outbreak period (Irawan et al., 2021; Jefferies et al., 2020). In addition, research to date often overlooks the nuanced influence of individual differences (Pan & Truong, 2018). Thus, a comprehensive insight of how tourists adapt and respond to changing circumstances in the later phases of the pandemic remains elusive.

Thus, aiming at addressing the gaps; the present study firmly rests upon a solid theoretical foundation and offers a meticulously validated measure of COVID-19 risk perception. The primary objective is to unravel the intricate connections among antecedents of travel related to risk perception, digital channels, the acquisition of risk-related knowledge, and travelers' intentions. The study aims to examine how travelers' perceptions, attitudes, and intentions toward travel evolve during the endemic phase of COVID-19, and to assess the moderating effects of individual differences on the relationship between perceived risk and travel intentions. Another objective of this study is to investigate the utility of merging the Protection Motivation Theory (PMT) (Fan et al., 2022; Horng et al., 2014; Seow et al., 2022) with the Theory of Planned Behavior (TPB) in understanding tourists' responses to travel-related risks during the endemic phase of COVID-19 (Fan et al., 2022; Pröbstl-Haider & Haider, 2013).

Within the context of this research on travelers' risk perceptions and intentions during the COVID-19 pandemic, Egypt's tourism and travel sector occupies a central and highly relevant position (Salem et al., 2021). The sector has been a crucial contributor to the country's economy, providing employment opportunities and fostering international exchange (Salem et al., 2022; Selim et al., 2020). Therefore, the apprehension of the evolving dynamics of travelers' risk perceptions and intentions is considered academically valuable; moreover, it holds immense practical significance for Egypt. Through acquiring a comprehensive insight into how tourists perceive and respond to risks, Egypt can tailor its strategies to ensure the safe and sustainable revival of its tourism sector (AlAshry & AlKhudari, 2021). As Egypt continues to navigate the challenges posed by COVID-19 and its endemic phase, this research contributes to the broader discourse on the role of tourism in recovery in a post-pandemic world, emphasizing the importance of Egypt's tourism sector in the global context (Elsayed et al., 2021).

The current study employs a quantitative research approach, applying partial least squares structural equation modeling (PLS-SEM) to analyze the data collected from an online survey of 368 tourists who had traveled within the past year. The study examines the research model, hypotheses, and moderating effects using bootstrapping analysis.

The outcomes of the study suggest that destination COVID status has a significant impact on perceived travel risk, followed by health care services and digital distribution channels (Alkhawaldeh, 2022; Dedeoğlu et al., 2022; Rahman et al., 2021; Sun et al., 2022). However, the presence of hygiene and safety measures did not significantly reduce perceived risk as travelers already expect high levels of such measures (Aydin et al., 2021; Rahman et al., 2021). A linkage between perceived travel risk and travel

attitude has been found, emphasizing the importance of addressing subjective risk perceptions when developing communication strategies (Sánchez-Cañizares et al., 2021; Shareef et al., 2023; Shin et al., 2022; Zhang & Hayashi, 2022). Additionally, individual differences, such as generational disparities (Lebrun et al., 2021; Caselli et al., 2022), digital literacy, and dependents, influence the relationship between perceived risk and travel intentions (Bae & Chang, 2021; Jin et al., 2022; Meng et al., 2021; Wang et al., 2022).

The study provides insights for tourism industry stakeholders to monitor the COVID-19 situation and implement effective measures to prevent the spread of the virus. Moreover, it highlights the significance of considering subjective risk perceptions and individual differences when designing communication strategies and interventions to promote travel behavior. The paper concludes with literature review of pertinent concepts, hypotheses development and methodology. The paper then proceeds with the analysis of data and subsequent discussion of results, followed by the presentation of practical implications and suggestions for future research.

2. Literature Review and Hypotheses Development

2.1. The underpinning theory

The Protection Motivation Theory (PMT) and the Theory of Planned Behavior (TPB) serve as the underpinning theories for this study (Rogers, 1975, 1983; Ajzen, 1991). The TPB is a well-established theoretical framework which explains human behavior and decision-making (Ajzen, 1991; Ulker-Demirel & Ciftci, 2020). It posits that behavior is determined by intentions, which are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 2020). These factors have been confirmed to be significant predictors of various tourism-related behaviors (Ferdous, 2010; Han et al., 2020; Huang et al., 2020; Pan & Truong, 2018).

Within the context of this study, the Theory of Planned Behavior (TPB) emerged as the most suitable candidate for several compelling reasons. TPB, rooted in the Theory of Reasoned Action (TRA), explores the intricate connections among attitudes, intentions, and behaviors (Juschten et al., 2019). TRA posits that behavioral intentions are shaped by volitional factors, including attitudes and subjective norms, wherein attitudes represent individuals' evaluations of specific behaviors, and subjective norms encompass the social pressures influencing behavior (Ajzen, 1991; Ajzen et al., 2018). To further enrich its predictive power, TPB incorporates non-volitional factors, particularly perceived behavioral control, into the TRA framework (Meng and Cui, 2020; Paul et al., 2016).

The Model of Goal-Directed Behavior (MGB) also offers valuable insights into human behavior (Leone et al., 2004). However, while MGB extends upon TPB, it primarily emphasizes the role of desire in decision-making, which makes the TPB in better alignment with the focus on behavioral intention (Jin et al., 2020; Meng and Choi, 2016).

On the contrary, the PMT is frequently utilized in various fields, including tourism, to explain individuals' responses to threatening circumstances (Chen, 2022; Zhu, 2022). It posits that individuals' threat appraisals are influenced by their perceptions of risks and the effectiveness of recommended protective behaviors (Seow et al., 2021). In the tourism context, the PMT has been applied to examine travelers' risk perceptions and subsequent behaviors (Mashrur et al., 2022; Qiao et al., 2022). Scholars have applied the PMT in various tourism contexts, such as the prediction of travelers' intention to visit a destination (Alhemimah, 2023), their willingness to pay (Kumar, 2023), and their adoption of sustainable tourism practices (Hoang et al., 2023).

Earlier studies employed research frameworks which integrated PMT and TPB with other theories (e.g., Al-Omari, 2012; Herath and Rao, 2009; Pahnila et al., 2007). Other studies only relied upon both theories (Girish et al., 2022; Seow et al., 2021; Le et al., 2022). In this study, both the PMT and TPB models are utilized as a framework (Girish et al., 2022; Islam & Rakib, 2022; Le et al., 2022; Seow et al., 2021). Both PMT and TPB consider behavioral intention as a fundamental precursor to actual behavior (Islam & Rakib, 2022). Considering the critical concern surrounding the transmission of diseases, particularly during a health crisis like COVID-19, these theories are regarded as valuable tools for accurately predicting behavioral intentions (Meng & Cui, 2020). They offer a structured framework for comprehending how individuals perceive risks, process fear appeals, and subsequently form intentions to adopt preventive behaviors (Kiriakidis, 2017; Meng & Cui, 2020; Michaelidou & Hassan, 2014; Richetin et al., 2008). Both PMT and TPB acknowledge the significance of diverse sources of influence on the cognitive processes within their models (Hanson et al., 2021). These sources of influence encompass individual experiences, available resources, and access to information, as highlighted by Ajzen et al. (2018). In the context of individuals nested within and influenced by ecological systems, ranging from interpersonal to societal levels, these theories provide a comprehensive lens through which the processes of risk perception and behavioral intention can be examined (Prasetyo et al., 2020; Wang et al., 2019).

Another foundation behind combining the TPB and PMT in this study stems from the recognition that TPB effectively explains the roles of attitudes, perceived behavioral control, and subjective norms in driving behavioral intentions. However, TPB alone may not succeed in elucidating the motivating factors behind that intention concerning uncertainty and risk perceptions (Pang et al., 2021). Individuals are often motivated to undertake actions that mitigate risks, particularly while confronting environmental and health concerns (Wachinger et al., 2013). It's noteworthy that TPB and PMT share some inherent similarities in their constructs (Pang et al., 2021). For instance, PMT's protection motivation aligns with TPB's intention. These conceptual overlaps and logical affinities underscore the suitability of integrating TPB and PMT models, enhancing the exploration of travel intentions during the endemic stage of COVID-19 in the context of risk and uncertainty.

2.2. Perceived travel risk and anteceding factors

Perceived risk is an influential element that may affect individuals' considerations, as potential tourists often tend to avoid risky situations and visit destinations that as per their perceptions are safe (Karl, 2018; Karl et al., 2020). Tourists' decision-making is consistently weighted between constraints and the benefits of leisure. A constraint is an important key factor in travelers' leisure activity (Khan et al., 2019a). As per several studies, health, safety and fear are fundamental factors that constrain travelers' decision-making process (Bhati et al., 2021; Rather, 2021). Several studies have linked perceived health risk to visitors' uncertainty and potential harm from travel consumption and tourism offerings (Huanga et al., 2020; Matiza, 2020). Moreover, safety and security are also crucial perceived inhibitors that affect travelers' decision-making (Khan et al., 2019b; Perić et al., 2021). Risk perception is a significant determinant of individuals' behavioral changes when faced with risky situations (Teeroovengadum et al., 2021).

In the context of the COVID-19 pandemic, several antecedents have been identified that influence travel risk perception (Godovykh et al., 2021; Golets et al., 2023; Le et al., 2022). Destination characteristics, such as safety, cleanliness, and management, create an impact on shaping travel risk perception (Chew & Jahari, 2014; Jahari et al., 2021; Neuburger & Egger, 2021). Furthermore, the availability of accurate and timely information about the current endemic status of COVID-19 impacts risk perception (Jonas & Mansfeld, 2017; Crowley-Cyr et al., 2022). Additionally, the perceived severity of the disease affects individuals' level of concern and willingness to adopt protective measures (Golets et al., 2023; Yoo et al., 2022).

Destination's COVID-19 status The status of COVID-19 in a destination country is a critical factor influencing perceived travel risk, as indicated by Teeroovengadum et al. (2021). Negative impressions of a destination due to perceived threats and risks can lead to negative attitudes toward that location, ultimately resulting in reduced visitation rates (Abraham et al., 2021). To mitigate this risk, tourists should be provided with adequate official information about the COVID-19 status and preventive measures taken by the destination country (Meng et al., 2021). Sánchez-Cañizares et al. (2021) emphasized that perceived risk during the guest's stay is also influenced by the COVID-19-related statistics, highlighting the importance of understanding the primary factors responsible for shaping travelers' perceptions of travel risk.

As per the findings of Teeroovengadum et al. (2021), the number of active COVID-19 cases in the destination country during the time of travel is a crucial factor influencing travelers' consideration of travel. Ideally, a destination country with a contained spread of the disease, preferably with zero active COVID-19 cases for a prolonged period of time, might enhance their inclination to contemplate travel. In addition, the overall epidemiological pattern of the destination is commonly cited when assessing travel risk (Kovačić et al., 2023), thereby instilling trust in the destination (Hall et al., 2020; Hassan et al., 2020; Kostaki et al., 2021). Based upon this information, this study suggests that as the destination's COVID-19 status is improved,

the perceived levels of travel risk are consequently improved, thus the following hypothesis is proposed:

H1. Destination's COVID-19 status (including the number of active cases, testing rates, death rates, epidemiological patterns) has a significant positive impact on perceived travel risk among potential travelers.

Hygiene and Safety The perception of Covid-19 as an endemic has resulted in tourists' increasing awareness of the importance of hygiene and safety, particularly in public transportation, hotels, and recreational areas (Sigala, 2020). Tourists' concern about their health safety and hygiene while traveling has greatly impacted their travel decisions (Wen et al., 2021). Tourists typically inquire about the safety and hygiene measures implemented at their destination, as well as their level of adherence, which reflects the government and citizens' commitment toward preventing the resurgence of the virus (Gibson, 2021). The most important measures include wearing masks, social distancing, in addition to cleanliness at public and tourist spaces (Lee, 2020). A study by Nazneen et al. (2020) confirmed the impact of the influential role of safety and hygiene perceptions on travel decisions, with greater concern about these measures at recreational sites and public transportation post a pandemic crisis.

In general, the threat of pathogenic diseases can cause people to become more alert and avoid overpopulated destinations (Wang & Ackerman, 2019). This alteration in travel behavior may ultimately mitigate tourists' perceived travel risk in avoiding destinations with inadequate safety measures (Zenker & Kock, 2020). Several other studies have highlighted the subject of overcrowding in tourist destinations and the need for tourism operators for managing the flow of tourists to ensure safety, well-being, and risk perception of visitors (Oklevik et al., 2019; Rahman, 2021; Wen et al., 2021; Kovačić et al., 2023; Zhang et al., 2023). Hence, the more stringent hygiene and safety measures are, the less the risk perceived travel risk. Therefore, the following hypothesis is proposed:

H2. Hygiene and safety measures have a significant negative impact on tourists' perceived travel risk during the endemic stage of Covid-19.

Healthcare services As per Gibson et al. (2021), tourists tend to view a destination as less risky if it has good health-care services in place. This is particularly important as the risk of infection still persists even in the endemic stage of the disease, and prospective tourists would require assurance that they will receive adequate health-care in case of illness (Rasoolimanesh et al., 2021). Quality and reputation, availability, and cost are three crucial factors that travelers consider when rating health-care services (Rahman et al., 2021); moreover, these factors remain influential in both travel risk perceptions and destination choice in the post-COVID era (Nazneen, 2020). Furthermore, it is significant for the destination to have appropriate medical equipment and medication for potential cases. Potential travelers highly value the availability of high-end medical services, even if it comes with a higher cost (Khan et al., 2020). The lack of adequate resources can elevate travelers' perceived risk, as they fear being unequipped to handle any unexpected situations that may arise during their trip

(Sánchez-Cañizares et al., 2021). Based on the aforementioned, the following hypothesis is posited:

H3. Healthcare services have a significant negative impact on tourists' perceived travel risk during the endemic stage of Covid-19.

Digital distribution channels The availability of digital distribution channels in the travel industry during the COVID-19 pandemic has multifaceted impacts. Limited access to online channels restricts travelers from obtaining real-time information about destinations, including safety measures and travel advisories (Huang et al., 2017; Gupta, 2019). Without the lack of digital platforms, travelers may find themselves less empowered to make informed decisions and navigate the evolving landscape of travel (Pencarelli, 2020). Moreover, the scarcity of online booking platforms reduces options for purchasing travel services, potentially leading to a perception of reduced flexibility and convenience (Manchanda & Deb, 2022). Travelers might perceive this limitation as a loss of flexibility and convenience, forcing them to resort to traditional agencies, which, due to in-person contact, could be seen as riskier during the endemic COVID-19 (Gretzel et al., 2020; Park & Tussyadiah, 2017; Pourfakhimi, 2020). The inability to leverage technology, such as instant feedback and destination comparisons, leads to heightened travel risk perceptions (Tran, 2020). As a result, travelers may be inclined to opt for destinations and experiences that they are more familiar with, avoiding alternative options that digital channels would otherwise promote (Manchanda & Deb, 2022). These limitations created by the limited availability of digital distribution channels intensify travelers' perceptions of travel risks and, in turn, diminish their confidence in traveling during the endemic phase of COVID-19 (Zhao et al., 2022; Esposito et al., 2022).

Therefore, the ollowing hypothesis is postulated:

H4. The limited availability of digital distribution channels have a significant positive impact on tourists' perceived travel risk during the endemic stage of COVID-19.

2.3. Perceived travel risk and Attitude

The relationship between perceived travel risk and attitude has been extensively studied in the tourism literature, demonstrating that perceived risks significantly influence travelers' attitudes toward destinations and subsequent travel intentions (Husain et al., 2021; Shareef et al., 2023; Wang et al., 2022). During the COVID-19 pandemic, travel risk perception has become particularly important, as heightened health risks and safety concerns have led travelers to reconsider or avoid travel (Golets et al., 2023; Jahari et al., 2021; Neuburger & Egger, 2021; Yoo et al., 2022). Based on previous research, it is established that perceived travel risk significantly influences travel attitude during the endemic stage of COVID-19 (Husain et al., 2021; Rather, 2021). Higher perceived risks are associated with more negative attitudes toward travel and reduced travel intentions. Therefore, building on the extensive literature, the following hypothesis is proposed:

H5: Perceived travel risk during the endemic stage of Covid-19 has a significant negative impact on travel attitude.

2.4. Attitude, Subjective norms, Perceived behavior control, and Travel intention

Attitude, as a primary predictor of behavior, plays a significant role in travel intentions (Ajzen, 1991; Li et al., 2020; Mahat & Hanafiah, 2020; Novelli et al., 2018). The COVID-19 pandemic has led to changes in travelers' attitudes toward travel, with health and safety concerns influencing decision-making (Hanafiah et al., 2021; Huang et al., 2020; Matiza, 2020). Considering the impact of the pandemic, it is crucial to investigate how tourists' attitudes and future travel intentions have been affected. Given the importance of attitude in the Theory of Planned Behavior (TPB) and its predictive power in previous studies (Li et al., 2020; Mahat & Hanafiah, 2020; Novelli et al., 2018; Singh et al., 2020), it is established that the more negative attitude tourists hold toward travel, due to the concerns of COVID-19, will consequently result in a decrease in their future travel intention post-pandemic.

Building on the existing literature, this study hypothesizes that:

H6: Tourists' attitude toward travel will have a positive impact on their future travel intention during the endemic stage of Covid-19.

Subjective norms Subjective norms refer to individuals' perception of social pressure or influence to engage in a specific behavior, and in the context of tourism, they can be influenced by various social factors (Ajzen et al., 2018; Dang, 2022). In the post-pandemic era, subjective norms become particularly important as travelers seek reassurance from their social network and are influenced by media coverage of COVID-19 outbreaks (Ekinci et al., 2022; Sigala, 2020). Positive social pressure or influence can lead to increased travel intentions, while negative social pressure or influence may lead to reduced intentions to travel (Clark, 2019; Erul et al., 2020; Girish & Lee, 2020; Soliman, 2021). Therefore, it is reasonable to hypothesize that:

H7: Tourists' subjective norms has a significant positive impact on their future travel intentions during the endemic stage of Covid-19.

Perceived behavioral control is a critical determinant of an individual's perceived ability to perform the behavior (Hagger et al., 2022). In the framework of travel, it refers to the perceived ability to control the behavior of traveling during or post a pandemic crisis (Ojo et al., 2022). Several studies have recognized perceived behavioral control as a significant predictor of travel intention (Chen et al., 2021; De Vos et al., 2022; Wang et al., 2022). During and post-pandemics, individuals who perceive greater control over their travel behavior may be more likely to plan travel and engage in travel-related activities, despite the perceived risks (De Vos et al., 2022; Jęczmyk et al., 2023; Ye et al., 2023). Therefore, this study hypothesizes that:

H8: Perceived behavioral control has a significant positive impact on travel intention during the endemic stage of COVID-19.

2.5. Individual differences, including sociodemographic variables, moderate the relationships in H1 to H8:

During the endemic stage of COVID-19, it becomes evident that individual differences, which encompass a range of unique characteristics inherent to individuals, serve as pivotal moderators in shaping the intricate relationship between risk perceptions and their travel intentions (Chauvin, 2018; Damásio and Koller, 2015; Lippold et al., 2020). These individual differences encompass personality traits, socio-demographic variables (Kahn et al., 2019; Wang et al., 2022), and prior travel experiences (Blešić et al., 2022; Gnanapala, 2015; Rasoolimanesh et al., 2021), collectively influencing their perceptions of the travel context and subsequent behavioral intentions.

Socio-demographic variables, such as generational differences, gender, and occupation, are an essential subset within the broader category of individual differences (Lebrun et al., 2021; Wang et al., 2022). It is crucial to recognize that they inherently encompass elements of individual variation (Hagiladi & Plaut, 2023). For instance, generational disparities denote significant variations in cognitive and behavioral attributes among generational cohorts (Abraham et al., 2021; Reimers et al., 2022). Gender, too, extends beyond a demographic label to encapsulate diverse cognitive, social, and cultural dimensions (Cubells, 2023). Occupation, while reflecting an individual's work-related status, also encompasses inherent differences in lifestyles and exposure to travel-related risks (Pichierri et al., 2023; Zorlu et al., 2023).

Significantly, these socio-demographic variables provide insights into the social and economic status of individuals and significantly shape their perceptions and responses to various stimuli, including travel (Gim, 2022; Hagiladi & Plaut, 2023). For example, disparities across generations have been identified as influential factors affecting travel intentions (Abraham et al., 2021; Lebrun et al., 2021; Reimers et al., 2022). Gender represents another pertinent determinant, with males often displaying a greater inclination toward adventurous and risk-prone travel behaviors compared to females (Cubells, 2023; Rossello et al., 2017). Likewise, individuals with higher income and educational attainment levels tend to possess greater financial resources, rendering them more disposed to engage in travel activities (Matiza, 2020). Occupation also emerges as a variable of significance, as individuals in professions necessitating frequent travel may exhibit distinct attitudes and intentions toward leisure travel in contrast to those with less travel-intensive jobs (Li et al., 2020; Singh et al., 2020).

Given the multidimensional nature of these sociodemographic variables and their capacity to capture individual variations in cognition, attitudes, and behaviors, it is entirely valid to test age, gender, and occupation as individual differences. They represent an essential subset of individual differences within the broader context of travelers' perceptions and behavioral intentions during the endemic stage COVID-19 (Wang et al., 2022).

Based on the comprehensive exploration presented above, this study points out the multifaceted characteristics of individual differences, which encompass both

personality traits and sociodemographic variables (Furnham and Cheng, 2019). Thus, the following hypothesis is posited:

H9: Individual differences, including sociodemographic variables, moderate the relationships in H1 to H8.

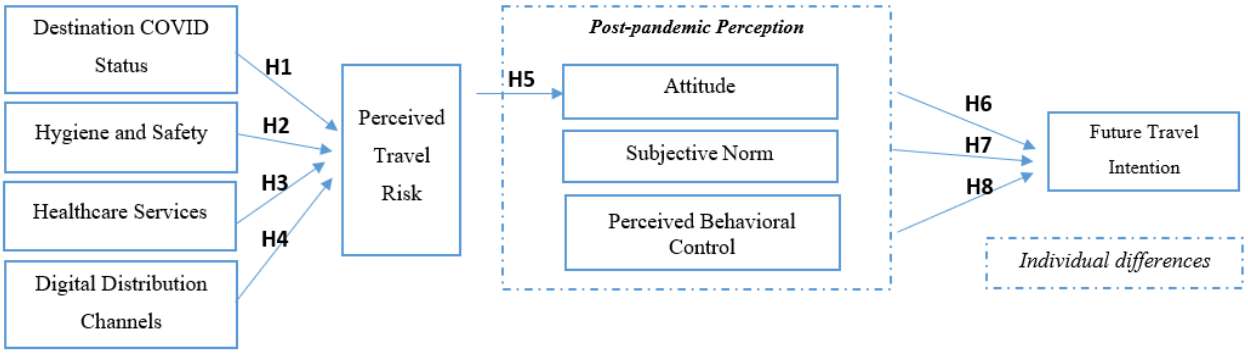

Figure 1. The Conceptual model

The conceptual model of this study incorporates the Protection Motivation Theory (PMT) and Theory of Planned Behavior (TPB) to examine tourists' intentions to travel during the endemic phase of COVID-19. The PMT is employed as a framework to explain how people perceive and respond to threats, including factors that structure fear of travel during COVID-19'S endemic phase (Alhemimah, 2023; Qiao et al., 2022). Hence, the anteceding factors under investigation are the destination's COVID status, availability of health care services, safety and hygiene measures, and digital distribution channels.

In addition to the PMT, the model provides a framework derived from the TPB to understand how attitudes, subjective norms, and perceived behavioral control influence intentions, which consequently affect travel intention (Li et al., 2020; Mahat & Hanafiah, 2020). Subsequently, the inclusion of variables such as perceived risk, perceived behavior control, and subjective norms was carefully considered. These variables have played pivotal roles in previous research examining travel behavior during the COVID-19 pandemic (Bae and Chang, 2021; Sánchez-Cañizares et al., 2021). Despite the significance of these variables in understanding traveler decision-making processes is acknowledged, the primary research objective of this study was to explore the evolving dynamics of individual travelers' risk perceptions, attitudes, and intentions during the endemic phase of the pandemic. Hence, emphasis was placed on accentuating the unique aspects of risk perception formation within this context.

3. Methodology, Sampling and Analysis:

To gather data, a cross-sectional survey was conducted that employed a carefully designed questionnaire comprising two sections. The first section of the questionnaire focuses on capturing participants' demographic characteristics, including gender, age, education level, and occupation. This demographic information provides valuable context for understanding how various demographic factors may influence individuals'

risk perceptions and travel intentions. The second section of the questionnaire is the core of the data collection effort. It utilizes explicit statements to assess respondents' perceptions of factors related to travel risk, destination selection, post-pandemic perception, and future travel intention. To measure these perceptions, a standardized five-point Likert scale has been employed, allowing participants to express their agreement or disagreement with each statement, ranging from "strongly disagree" to "strongly agree." This scale enables us to quantitatively assess participants' attitudes and perceptions.

To ensure inclusivity and accessibility, a questionnaire in both English and Arabic languages was published. This approach aimed to accommodate a diverse pool of respondents, reflecting the multicultural context of travel and tourism. The data collection phase occurred between January 2023 and March 2023, encompassing a three-month period. During this time frame, a purposive sampling strategy was employed, which has deemed as the most appropriate to meet the study's objectives and target the specific population of interest. The primary focus in this investigation was on individuals who had engaged in an international travel experience within the preceding 3 to 5 years. This deliberate selection criterion was fundamental in ensuring that the sample comprised individuals with recent travel experiences, particularly relevant in the context of examining risk perceptions and intentions during the COVID-19 pandemic's endemic phase.

In order to maximize the diversity and representation of the sample of the study, a multi-faceted sampling approach was implemented. Both online and offline channels were leveraged to reach and engage potential participants. The distribution of the digital survey instrument through Google Forms allowed for remote participation, while our in-person data collection team, comprised of colleagues from airlines, travel agencies, and airports, conducted face-to-face interactions and telephone interviews. This hands-on approach ensured that respondents from various travel-related backgrounds were included in the study, contributing to the richness and depth of the data.

In this study, a total of 400 questionnaires were distributed to potential participants. Of these, 368 valid responses were received and included in the analysis. This sample size aligns with established guidelines for structural equation modeling (SEM) analyses. Specifically, the ideal number of samples can vary but often ranges from a minimum of 200 to a maximum of 400, depending on the complexity of the model and the number of indicators used (Byrne, 2013). Given that this study utilized 36 items within variables, the sample size of 368 respondents was well-suited for the research design, ensuring robust and reliable results for the model analysis. Additionally, the item-to-response ratio estimate, a commonly employed method for sample size determination, further supported the adequacy of the sample size for the complexity of this study (Kock & Hadaya, 2018; Rigdon, 2016). Thus, validation of the sample size has been sought through the widely recognized '10-times rule' method, which is commonly applied in SEM research (Kock, 2018). This rule asserts that the

sample size should surpass 10 times the maximum number of inner or outer model links pointing at any latent variable in the model (Goodhue et al., 2012).

After cleaning and coding the collected data for missing values, the study hypotheses were evaluated using the SmartPLS 4 software and the partial least square structural equation modelling (PLS-SEM) approach. PLS-SEM is a variance-based approach that employs statistical methods to test structural equation models (Hanafiah, 2020). The approach comprises two parts: the structural (inner) model, which depicts the hypothesized relationship between latent variables, and the measurement (outer) model, which represents the relationship between latent variables and their indicators (Hair et al., 2021). The PLS-SEM was chosen in the present study as it is suitable for theoretical development, prediction, small sample sizes, and complex models (Hair et al., 2012).

The second stage of the basic PLS-SEM approach involves assessing the structural model by evaluating the size and significance of the paths representing the hypothesized relationships between study variables using bootstrapping. Additionally, the coefficient of determination (R2) which measures model's explanatory and predictive power Hair et. al. (2021).

In this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed for several reasons that align with the recommendations of Hair et al. (2019). Firstly, this research aims to test a theoretical framework from a prediction perspective, assessing the relationships between travelers' risk perception, attitudes, and intentions during the endemic phase of COVID-19 (Richter et al., 2016). Secondly, the structural model in this study is relatively complex, encompassing multiple constructs, indicators, and model relationships, reflecting the intricacies of travelers' decision-making processes (Ritcher et al., 2016). Additionally, research objectives involve exploring theoretical extensions of established theories, contributing to theory development in the context of pandemic-induced travel behavior. Moreover, PLS-SEM is suitable for handling small sample sizes, which can be a limitation in certain research contexts. Lastly, distribution issues, such as the potential lack of normality in data, further justify the use of PLS-SEM in the analysis, ensuring robust and reliable results for research. (Hair et al., 2012).

3.1. Demographic characteristics

Table 1 displays the demographic characteristics of the 368 participants who responded to the study during the data collection period. Among the respondents, 66.3% were male and 33.7% were female. The largest age group was 31 to 40 years (49.7%), followed by 21 to 30 years (37.0%). In terms of education level, most respondents had a bachelor's degree (62.0%), followed by a postgraduate degree (21.2%), and a high school/diploma degree (14.0%). More than half of the participants were employees (56.8%), while executives and business owners made up 41.8% of the sample.

Table 1: Demographic characteristics of study participants

		N	%
Gender	Female	124	33.7%
	Male	244	66.3%
Age	21 – 30 years	136	37.0%
	31 – 40 years	183	49.7%
	41 – 50 years	38	10.3%
	51 – 60 years	11	3.0%
Education Level	High School / Diploma	62	16.8%
	Bachelor	228	62.0%
	Postgraduate degree	78	21.2%
Occupation	Employee	209	56.8%
	Executive / Business owner	154	41.8%
	Retired	5	1.4%

3.2. Descriptive analysis of study variables

In order to report the health risk perception and its anteceding determinants (Destination COVID status (CS), Health care services (HC), Distribution channels (DC), Hygiene and safety (HS), as well as post-pandemic perceived travel risk (TR), Travel attitude (TA), Subjective norms (SN), Perceived behavioral control (BC), and Future travel intention (TI) among respondents, a descriptive analysis was conducted (see Appendix 1.). The results indicated that the CS of travel destinations was of high importance to respondents, with a mean score of 3.99 and a standard deviation of 0.93. Mean scores for the indicators related to CS ranged from 3.8 to 4.1, suggesting that respondents would heavily consider COVID-19 active cases, death rates, and general epidemiological patterns when selecting their travel destinations. Additionally, the availability of health care services HC, was found to be a highly significant factor for respondents when they travel, with a mean score of 4.50 and a standard deviation of 0.74. Mean scores for the indicators related to health care services ranged from 4.46 to 4.53, indicating that respondents strongly agreed that the availability, quality, and affordability of health care services in the planned destination are crucial (Table 2). According to the findings, respondents considered checking the limited availability of distribution channels DC, to be highly important in their travel planning (mean = 4.39, SD = 0.75). They strongly believed that these channels can help reduce the risk of disease transmission (mean responses ranged from 4.34 to 4.43). The importance of hygiene and safety practices HS, while traveling was also deemed highly important (mean = 4.53, SD = 0.72), as indicated by mean responses ranging from 4.38 to 4.61. However, respondents expressed a moderate level of perceived travel risk (mean = 3.51, SD = 1.61), with mean responses of perceived travel risk indicators ranging from 3.38 to 3.86, indicating more agreement with anxiety and fear about contracting COVID-19 while traveling. In terms of travel attitude TR, the study verified that respondents held a moderate level of willingness to travel (mean =3.39, SD=1.07). The mean responses for TR indicators ranged from 3.30 to 3.53, indicating that while respondents generally believed that traveling in the near future was a good idea, they expressed uncertainty about the safety of traveling, joining tour groups, and traveling

within the next 3-6 months. Subjective norms were also found to have a moderate level of importance in respondents' travel planning (mean =3.39, SD=1.10). Respondents indicated agreement with leisure travel prospects with friends and family in the near future but expressed neutrality considering other people's opinions toward traveling. Perceived behavioral control BC toward travel in the near future was also determined to be moderate (mean =3.40, SD=1.16). While respondents expressed confidence in their ability to travel in the near future, they were unsure if they had the necessary resources, time, and opportunities to do so.

Finally, the study found that respondents had a moderate level of travel intention TI (mean = 3.45, SD = 1.19). The mean responses of the TI indicators ranged from 3.19 to 3.49, indicating that respondents agreed that they planned to travel and were excited about it. However, they expressed uncertainty about whether they would face significant obstacles while traveling internationally.

Table 2: Mean and standard deviation of responses on study variables and its indicators

3.3. Measurement Model Assessment

In this research, the proposed model (Figure 2) was evaluated for reliability and validity using partial least squares structural equation modeling (SEM-PLS). The assessment of the measurement model involved examining the reliability of the indicators, construct internal consistency reliability, convergent validity, and discriminant validity, as outlined in Hair et al. (2021). The results of the measurement model assessment are reported in Table 3, which presents information on indicator loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE).

Table 3 shows that all indicator loadings on their respective constructs ranged from 0.82 to 0.97, exceeding the minimum threshold of 0.70, indicating that the indicators were reliable. The study's construct reliability was assessed using both Cronbach's alpha and composite reliability (CR). The results in Table 3 demonstrate that Cronbach's alpha ranged from 0.90 to 0.96, while CR ranged from 0.92 to 0.97. Both measures exceeded the cut-off value of 0.70, indicating that the internal consistency reliability of the constructs was acceptable.

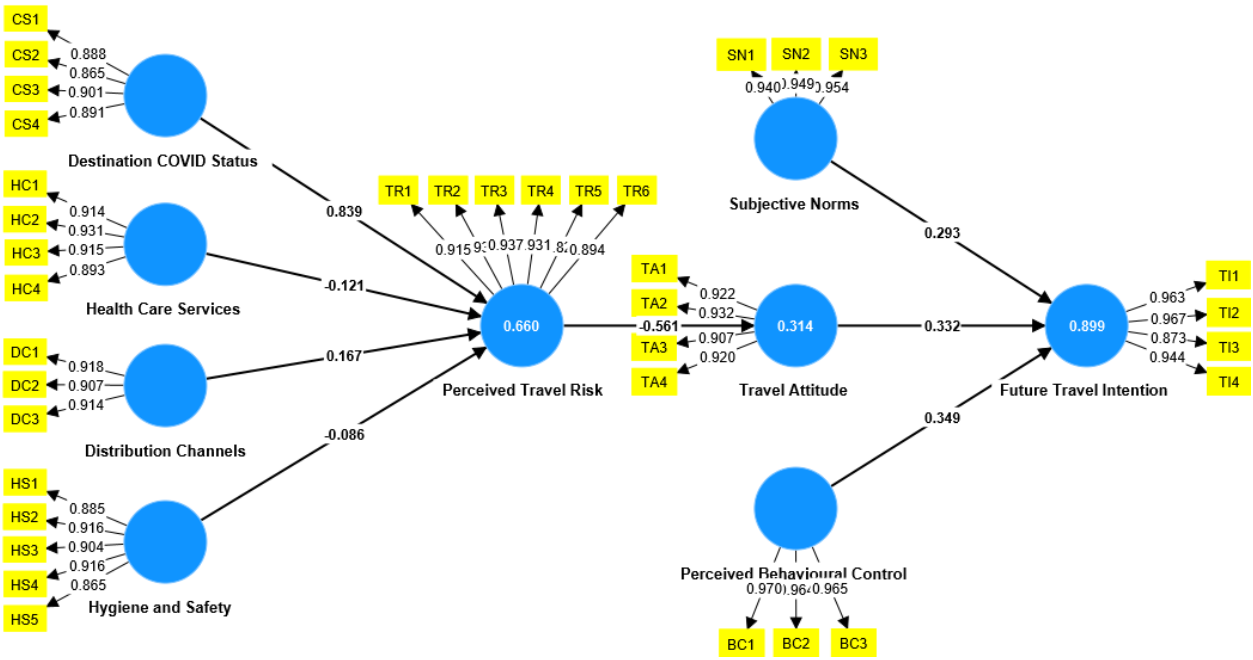

Figure 2. Measurement Model Assessment

Table 3: Indicator loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE)

	Loadings Range (Min. – Max)	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Destination COVID status	0.86 – 0.90	0.91	0.92	0.79
Health care services	0.89 – 0.93	0.93	0.94	0.83
Distribution channels	0.91 – 0.92	0.90	0.92	0.83
Hygiene and safety	0.87 – 0.92	0.94	0.95	0.81
Perceived travel risk	0.82 – 0.94	0.96	0.96	0.82
Perceived behavioral control	0.96 – 0.97	0.96	0.97	0.93
Subjective norms	0.94 – 0.95	0.94	0.94	0.90
Travel attitude	0.91 – 0.93	0.94	0.94	0.85
Future travel intention	0.87 – 0.97	0.95	0.96	0.88

As well, the validity of the measurement model was assessed using two types of validity tests. The first test was convergent validity, which was assessed by testing the average variance extracted (AVE). The results presented in Table 3 demonstrated that the AVE values ranged from 0.79 to 0.93, which indicates that all the constructs of the model achieved convergent validity. The AVE values exceeded the recommended threshold of 0.50.

To assess discriminant validity, Fornell-Larcker criterion was used. Table 4. presented the square roots of the AVE values for each construct on the main diagonal (in bold) and the correlations among the constructs. The results demonstrated that the square root of the AVE value for each construct was higher than the correlation value

with other constructs. This finding indicates that the model achieved an acceptable level of discriminant validity.

Table 4: Fornell-Larcker Criterion (Discriminant validity)

	CS	HC	DC	HS	TR	TA	SN	BC	TI
CS	**0.89**								
HC	0.58	**0.91**							
DC	0.49	0.71	**0.91**						
HS	0.57	0.84	0.73	**0.90**					
TR	0.80	0.41	0.43	0.41	**0.91**				
TA	-0.47	-0.39	-0.30	-0.34	-0.56	**0.92**			
SN	-0.43	-0.37	-0.27	-0.30	-0.53	0.78	**0.95**		
BC	-0.39	-0.32	-0.23	-0.25	-0.48	0.81	0.83	**0.97**	
TI	-0.47	-0.41	-0.30	-0.36	-0.53	0.79	0.76	0.86	**0.94**

3.4. Structural Model Assessment

The model's predictive accuracy was evaluated by examining the coefficient of determination (R2), as presented in Figure 3. The R2 value for TR was 0.66, indicating that 66% of the variance in perceived travel risk could be explained by factors such as destination COVID status, health care services, distribution channels, and hygiene and safety. The R2 value for TA was 0.314, indicating that 31.4% of the variance in travel attitude could be explained by perceived travel risk. Additionally, the results indicated an R2 value of 0.889 for TI, indicating that 88.9% of the variance in future travel intention could be explained by factors such as travel attitude, subjective norms, and perceived behavioral control. These findings suggest that the model has a strong explanatory power for perceived travel risk and future travel intention and a moderate explanatory power for travel attitude.

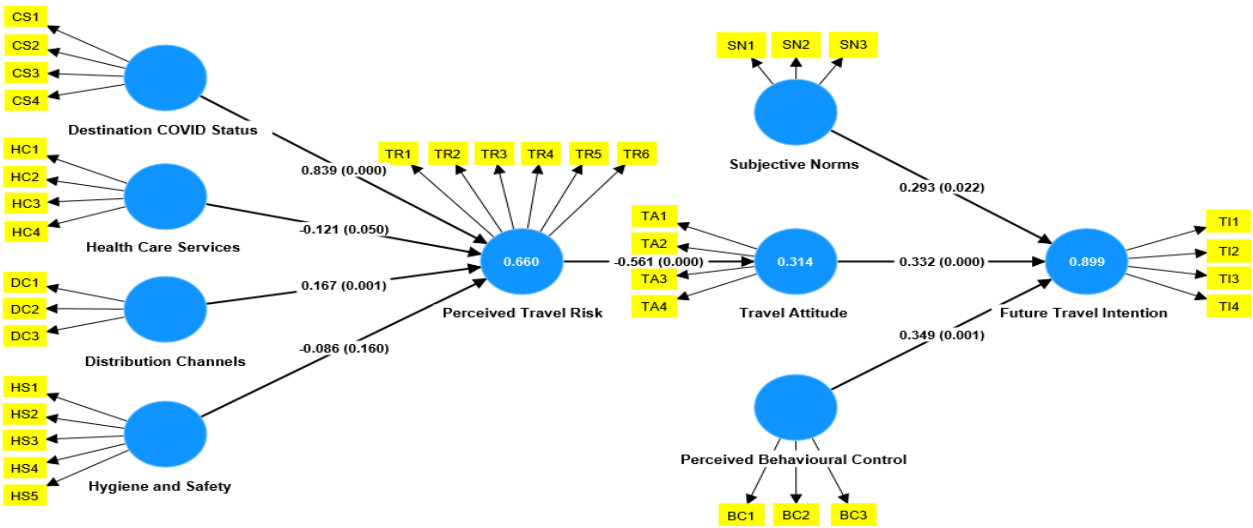

Figure 3. Structural Model Assessment

The study employed bootstrapping with 5000 samples to assess the path coefficients (β) between constructs and test the study hypotheses (Table 5). The associated t-values and p-values were also evaluated. The results demonstrated that out of the eight hypotheses of the study, seven were supported.

Table 5: Hypothesis Testing

Hypothesis		Beta	t-value	P-value	Sig.
H1	Destination COVID status → Perceived travel risk	0.84	31.46	< 0.001	**
H2	Hygiene and safety → perceived travel risk	-0.09	1.41	0.160	NS
H3	Health care services → Perceived travel risk	-0.12	1.96	0.040	*
H4	Distribution channels → Perceived travel risk	0.17	3.44	0.001	**
H5	Perceived travel risk → Travel attitude	-0.56	14.57	< 0.001	**
H6	Travel attitude → Future travel intention	0.33	3.82	< 0.001	**
H7	Subjective norms → Future travel intention	0.31	2.29	0.022	*
H8	Perceived behavioral control → Future travel intention	0.33	3.29	0.001	**

**P < 0.05, ** P < 0.01, and NS= Not supported*

3.5. Hypothesis Testing

The first four hypotheses (H1 to H4) aimed to investigate the impacts of various factors on perceived travel risk, including destination COVID status, hygiene and safety, health care services, and distribution channels. The analysis confirmed that destination COVID status holds the most substantial influence on perceived travel risk. The highly significant and strong positive beta coefficient (β=0.84; P<0.001) indicates that as the "Destination COVID status" deteriorates, "Perceived travel risk" intensifies. This outcome underscores a robust relationship, affirming the support for H1. In other words, a worsening COVID status in a destination is associated with a heightened perceived travel risk among tourists.

Furthermore, the analysis revealed a negative impact of hygiene and safety measures (HS) (β = -0.09) on perceived travel risk (TR), implying that enhancements in "Hygiene and safety" measures are associated with a reduction in "Perceived travel risk." However, the relationship is deemed insignificant (P = 0.161), signifying a weak association between hygiene and safety measures and perceived travel risk. Consequently, the second hypothesis, H2, is not substantiated. Several potential explanations for these results can be considered. Firstly, it is conceivable that the sample size may have been insufficient to detect a statistically significant relationship between hygiene and safety measures and perceived travel risk among travelers (Green, 1991). Additionally, the relationship between health and safety and travel risk may be nonlinear (Preacher & Hayes, 2004), with its effect on travel risk being most pronounced at lower levels of healthcare services and gradually diminishing as healthcare services' levels increase. Furthermore, other variables could be mediating or moderating the association between healthcare services and travel risk (Gorsuch, 1983; Hayes, 2018). For instance, it is plausible that the impact of HS on TR is more

pronounced for travelers who exhibit heightened health and safety concerns (Balińska and Olejniczak, 2021). Moreover, the influence of HS on TR could be more pronounced in developed countries, where hygiene and safety standards are typically more stringent than in developing nations (Dwipayanti et al., 2021)

The third hypothesis (H3) proposed a negative relationship between health care services (HC) and perceived travel risk (TR). The regression analysis corroborated this hypothesis, revealing a statistically significant negative beta coefficient ($\beta = -0.12$, $p < 0.05$), indicating that increased availability of HC is linked to reduced TR, even after controlling for other relevant variables (Sarstedt et al., 2021). However, it is noteworthy that the correlation between HC and TR is positive ($r = 0.20$). This inconsistency between the correlation and regression findings may be attributed to the presence of unaccounted variables influencing the HC-TR relationship (Cohen et al., 2013; Preacher & Hayes, 2004). For instance, travelers perceiving higher travel risk may also exhibit heightened concerns for their health and well-being, leading them to prefer destinations with readily available HC services. This would yield a positive correlation between HC and TR, even if the causal relationship is in the opposite direction (Cohen et al., 2013). Subsequent research should examine the underlying mechanisms of these potential rationales. In conclusion, despite the discrepancy between the correlation and regression results, the findings of this study suggest that there is a negative relationship between HC and TR thus supporting the third hypothesis.

Regarding the fourth hypothesis (H4), the results show that the availability of distribution channels ($\beta=0.17$; $P=0.001$) significantly influences perceived travel risk. Travelers tend to perceive a higher level of travel risk when faced with a limited availability of distribution channels, as indicated by the positive values in both the correlation and hypothesis testing results. The fifth hypothesis (H5) focuses on whether perceived travel risk significantly influences travel attitude. The path analysis confirms that the perceived travel risk has a strong influence on travel attitudes. The results indicated a significant negative impact of perceived travel risk on travel attitude ($\beta=-0.56$; $P<0.001$), thereby supporting H5. Finally, the results of testing last three hypotheses (H6 to H8) revealed that each of travel attitude, subjective norms, and perceived behavioral control have almost the same impact on future travel intention. The results indicated a significant positive impact of travel attitude ($\beta=0.33$; $P<0.001$), subjective norms ($\beta=0.31$; $P=0.022$), and perceived behavioral control ($\beta=0.33$; $P=0.001$) on perceived travel risk, hence the hypotheses H6, H7, and H8 were supported.

It is worth noting that while this study has confirmed significant relationships between certain variables, such as the impact of perceived travel risk on travel attitude (H5 supported), the relationships between perceived travel risk and subjective norms or perceived behavioral control have not been explicitly tested. This exclusion is rooted in the theoretical framework of the study, which primarily draws from the Protection Motivation Theory (PMT) as outlined by Rogers (1975). PMT places a strong emphasis

on the motivation to adopt the examined behavior as an attitudinal state predicted by cognitive processes while mediating the effect of fear appeals (Rogers, 1975).

3.6. Testing the moderation effects

The moderating effects in this study were examined through multi-group analysis, specifically focusing on individual differences, such as age, gender, and occupation. The participants were divided into two age groups: one group consisting of individuals aged 20-31 years, and the other group consisting of individuals older than 30 years. A comparison of the path coefficients (β) between these two age groups was conducted (as shown in Table 6).

The results of the analysis indicated that most of the path coefficients were not significantly different between the two age groups (P > 0.005), except for the relationship between perceived travel risk and travel attitude (H5). The findings presented in Table 6 revealed a significant difference in the path between perceived travel risk and travel attitude based on the participants' age. The path coefficient (β) for participants aged 21-30 years was -0.44, while for participants older than 30 years, it was -0.62. This difference was found to be statistically significant (P = 0.026).

Table 6: Multi-group Analysis with respect to participants' age

		Path coefficients (β)		Difference	P-value
		21 - 30 years	Older than 30 years		
H1	**Destination COVID status → Perceived travel risk**	0.79	0.87	-0.09	0.050
H2	**Hygiene and safety → perceived travel risk**	-0.04	-0.13	0.08	0.259
H3	**Health care services → Perceived travel risk**	-0.15	-0.09	-0.06	0.314
H4	**Distribution channels → Perceived travel risk**	0.18	0.16	0.01	0.433
H5	**Perceived travel risk → Travel attitude**	-0.44	-0.62	0.17*	0.026
H6	**Travel attitude → Future travel intention**	0.35	0.28	0.09	0.304
H7	**Subjective norms → Future travel intention**	0.30	0.31	-0.06	0.389
H8	**Perceived behavioral control → Future travel intention**	0.31	0.39	-0.04	0.458

In Table 7 of the study, a multi-group analysis was implemented to compare the differences in path coefficients (β) between females and males, thereby examining the moderating effect of gender. The results indicated that for most path coefficients, there were no significant differences based on gender (P > 0.005), except for the relationship between distribution channels and perceived travel risk (H4).

Specifically, the analysis revealed a significant difference in the path between distribution channels and perceived travel risk according to participants' gender. The

path coefficient (β) for females was 0.32, while for males, it was 0.08. This difference was determined to be statistically significant (P = 0.012).

It is important to note that all other path coefficients in Table 7 did not show significant differences based on gender, indicating that gender did not moderate those relationships in the study.

Table 7: Multigroup Analysis with respect to participants' gender

		Path coefficients (β)		Difference	P-value
		Females	Males		
H1	**Destination COVID status → Perceived travel risk**	0.81	0.86	-0.05	0.188
H2	**Hygiene and safety → perceived travel risk**	-0.17	-0.03	-0.14	0.124
H3	**Health care services → Perceived travel risk**	-0.18	-0.10	-0.08	0.287
H4	**Distribution channels → Perceived travel risk**	0.32	0.08	0.23*	0.012
H5	**Perceived travel risk → Travel attitude**	-0.62	-0.55	-0.06	0.224
H6	**Travel attitude → Future travel intention**	0.35	0.34	0.02	0.454
H7	**Subjective norms → Future travel intention**	0.35	0.27	0.11	0.353
H8	**Perceived behavioral control → Future travel intention**	0.26	0.37	-0.15	0.207

** Significant at 0.05 level*

Regarding the relationship between destination COVID status and perceived travel risk, the results indicated a significant disparity based on participants' occupation. The path coefficient for employees was 0.76, whereas for executives/business owners, it was 0.93. This discrepancy was statistically significant (P < 0.001), highlighting that executives/business owners were more influenced by destination COVID status in perceiving travel risks compared to employees ($\beta_{Employee}$ = 0.76 vs. $\beta_{Executive\ /\ Business\ owner}$ = 0.93, P<0.001).

Table 9: Multigroup Analysis with respect to participants' occupation

		Path coefficients (β)		Difference	P-value
		Employee	Executive / Business owner		
H1	**Destination COVID status → Perceived travel risk**	0.76	0.93	-0.17*	<0.001
H2	**Hygiene and safety → perceived travel risk**	-0.08	-0.04	-0.06	**0.311**
H3	**Health care services → Perceived travel risk**	-0.10	-0.14	0.05	**0.353**
H4	**Distribution channels → Perceived travel risk**	0.23	0.08	0.15	**0.066**
H5	**Perceived travel risk → Travel attitude**	-0.47	-0.67	0.20*	0.005
H6	**Travel attitude → Future travel intention**	0.49	0.10	0.38*	0.009

H7	**Subjective norms → Future travel intention**	0.14	0.59	-0.48*	0.020
H8	**Perceived behavioral control → Future travel intention**	0.34	0.28	0.09	**0.314**

** Significant at 0.05 level*

Similarly, the analysis demonstrated a significant difference in the path coefficient between perceived travel risk and travel attitude according to participants' occupation ($\beta_{Employee}$ = -0.47 vs. $\beta_{Executive\ /\ Business\ owner}$ = -0.67, P=0.005). The path coefficient for employees was -0.47, while for executives/business owners, it was -0.67. This disparity was statistically significant (P = 0.005), indicating that executives/business owners were more affected by perceived travel risk in shaping their travel attitudes compared to employees.

Furthermore, the results revealed significant differences in the path coefficients between travel attitude, subjective norms, and future travel intention based on participants' occupation ($\beta_{Employee}$ = 0.49 vs. $\beta_{Executive\ /\ Business\ owner}$ = 0.10, P=0.009). The path coefficient between travel attitude and future travel intention exhibited a significant difference between employees (β = 0.49) and executives/business owners (β = 0.10) (P = 0.009), indicating that the impact of travel attitude on future travel intention was significantly higher among employees compared to executives/business owners.

Likewise, the path coefficient between subjective norms and future travel intention demonstrated a significant difference between employees and executives/business owners ($\beta_{Employee}$ = 0.14 vs. $\beta_{Executive\ /\ Business\ owner}$ = 0.59, P=0.020). This result indicates that the influence of subjective norms on future travel intention was significantly higher among executives/business owners compared to employees.

4. Findings and Conclusion

This study formulated an integrated framework that merges the TPB and PMT models to investigate the anteceding factors influencing the perception of travel risk during the endemic phase of COVID-19, subsequently shaping attitudes, and intentions. Data collection involved the utilization of both online surveys and in-person interactions, resulting in the acquisition of 368 valid questionnaires. Structural equation analysis was employed to scrutinize the collected data.

The objectives of this study encompassed a dual focus: first, to delve into the multifarious determinants impacting perceived travel risk within the ongoing endemic phase of COVID-19, and second, to scrutinize how perceived travel risk exerts its influence on both travelers' attitudes and their intentions to embark on journeys. The findings lend substantial support to the notion that the COVID-19 status at the intended destination wields the most substantial influence on perceived travel risk. This result aligns seamlessly with previous investigations conducted by Abraham et al. (2021) and Gupta et al. (2023), who underscored that stringent health and safety protocols

implemented at destinations significantly mitigate post-COVID risk perception, consequently molding tourists' behavioral decisions. Additionally, the empirical findings resonate with the research by Meng et al. (2021), Susanti et al. (2023), and Teeroovengadum et al. (2021), all of which established a strong negative correlation between perceived destination risk concerning COVID-19 and the inclination of tourists to visit such destinations.

It is noteworthy that the hypothesis positing that hygiene and safety measures would substantially influence perceived travel risk did not yield statistically significant results. Therefore, it is essential to consider the study's context, which encompassed the surveying of outbound travelers from Egypt and foreigners traveling across its borders during the endemic phase of COVID-19. In this unique context, it is essential to acknowledge that local perceptions and expectations can significantly shape the impact of hygiene and safety measures (Chandraet al., 2022; Amuquandoh, 2011). In Egypt, as in many developing countries, travelers and residents could have developed a remarkable degree of adaptability and resilience in the face of challenging circumstances. It is not uncommon for individuals in such contexts to have lower initial expectations regarding hygiene and safety measures (Sunarsa, & Andiani, 2019), often due to a historical acceptance of a certain level of risk or a past negative experience (Amuquandoh, 2011; Dwipayanti et al., 2021). Consequently, the perceived impact of additional measures may not be as pronounced as in regions with higher baseline expectations (Balińska and Olejniczak, 2021; Hiamey et al., 2021). Considering these nuances, it is possible that while hygiene and safety measures may not have appeared statistically significant in the initial analysis, they may still play a role in shaping travel perceptions, albeit within the context of lower baseline expectations and local adaptability (Abdullah et al., 2021). These findings are consistent with prior scholarly works and find resonance in existing literature (e.g. Abou-Shouk et al., 2022; Balińska and Olejniczak, 2021; Chandraet al., 2022; Hiamey et al., 2021; Pendergast, 2021; Selim et al., 2020)

In contrast, this study provides empirical support for the impact of the quality of healthcare services on perceived travel risk. Travelers tend to perceive destinations equipped with robust healthcare systems as comparatively safer, a sentiment corroborated by the works of Akhavan et al. (2023) and Barlan & Borbon (2022). Moreover, Rasoolimanesh et al., (2021), in their study of destination image and future travel behavior, noted that travelers are more likely to perceive destinations with well-developed healthcare infrastructures as lower risk, primarily due to the perceived availability of immediate medical assistance in case of emergencies. Similarly, the work of Chua et al., (2021) underscores the impact of healthcare quality on perceived safety. Their research demonstrated that destinations renowned for their high-quality healthcare services tend to attract travelers who perceive the risk of health-related emergencies as considerably reduced. Furthermore, travelers' concerns for their own well-being and that of their dependents contribute to the emphasis on healthcare quality as a critical element in destination safety assessments (González-Reverté et al., 2022; Muñoz-Mazón et al., 2021). In general, the findings of the study suggest that hygiene and safety measures may be less important to travelers than other factors, such as the

availability of healthcare services, this is further evidenced by the fact that the beta coefficient for the relationship between HC and TR is larger than the beta coefficient for the relationship between HS and TR. More research is needed to confirm these findings and to better understand the relationship between hygiene and safety measures, healthcare services, and perceived travel risk.

Furthermore, the abundance of digital platforms and options in influencing perceived risk emerged as a significant factor. These channels play a pivotal role in providing travelers with timely and accurate information; thereby, contributing to a reduction in perceived travel risk. This finding resonates with studies conducted by Esposito et al. (2022), Pencarelli (2020), Yuduang et al. (2022), and Zhao et al. (2022), all of which underscore the efficacy of digital channels in assuaging travelers' concerns by disseminating pertinent information effectively. Furthermore, digital distribution channels, characterized by their safety, touchless interactions, and information-rich platforms, emerged as significant factors influencing travelers' perceived risk. These channels, encompassing travel websites, mobile applications, and online booking platforms, have redefined the travel experience by providing travelers with timely and accurate information while contributing to a tangible reduction in perceived travel risk. This finding aligns seamlessly with the conclusions drawn from studies conducted by Esposito et al. (2022), Pencarelli (2020), Yuduang et al. (2022), and Zhao et al. (2022), all of which emphasize the remarkable efficacy of digital channels in alleviating travelers' concerns and disseminating pertinent information effectively. In the contemporary travel landscape, digital distribution channels have become synonymous with safety (Yuduang et al., 2022). Their touchless nature minimizes physical interactions, reducing the risk of exposure to potential health hazards. Travelers can seamlessly navigate these platforms, from researching destinations and accommodations to booking flights and services, all while minimizing in-person contact (Esposito et al., 2022). Esposito et al. (2022) supported this argument by identifying the transformative potential of digital travel platforms in providing real-time access to critical travel-related updates and in minimizing risk perceptions. Pencarelli (2020) underscores the multifaceted impact of digital channels on travel behavior. Beyond safety, these platforms facilitate user-generated content, such as peer reviews and recommendations, which enrich travelers' understanding of destination safety. Travelers, guided by the experiences and advice of fellow travelers, gain a more comprehensive perspective, enhancing their confidence in travel decisions and ultimately reducing risk perception (Zhao et al., 2022).

Results also asserted a significant correlation between perceived travel risk and travel attitude, providing empirical support to the notion that an escalation in perceived travel risk coincides with a more pessimistic travel attitude. This finding harmonizes with previous research conducted by Husain et al. (2021) and Shareef et al. (2023), who assert that heightened perceived travel risk invariably engenders a less favorable travel attitude. The significance of addressing and mitigating perceived travel risk is underscored by its potential to engender positive travel attitudes and stimulate tourism demand, a viewpoint substantiated by Barlan & Borbon (2022) and Susanti et al. (2023). To foster and perpetuate positive travel attitudes while soothing concerns

stemming from perceived travel risk, the implementation of effective communication and educational campaigns is recommended. These campaigns should accentuate safety measures and robust risk management strategies. Insights from the works of Garaus & Hudáková (2022) shed light on the efficacy of such endeavors in alleviating travelers' apprehensions and cultivating optimistic travel dispositions. Furthermore, policymakers can play a pivotal role by extending support and incentives to businesses which adhere to stringent safety and hygiene standards, effectively engendering trust among travelers. This proactive approach aligns with the research conducted by Zhang & Hayashi (2022), which accentuates the significance of bolstering traveler confidence through comprehensive safety measures and supportive policies.

It is evident that within the scope of this study, travel attitude, subjective norms, and perceived behavioral control wield nearly identical influences on future travel intention. Consequently, all three factors seem to exert a relatively equivalent impact on the formulation of future travel intentions. This finding diverges from the conclusions drawn by Liu et al. (2021), whose research suggested that attitude held the greatest explanatory power in predicting travel intentions when compared to subjective norms and perceived behavioral control. This discrepancy contradicts the results reported by Juschten et al. (2019) and Meng and Cui (2020), where attitude exhibited a limited influence on travel intentions. However, the current finding aligns with the research conducted by Wang and Wong (2020) and Bae and Chang (2020), indicating that attitudes' role may vary significantly across different research contexts (Sharma et al., 2023).

The findings underscore the importance of individual differences as a moderator in the investigated relationship, aligning with the research conducted by Dang (2022) and Ekinci et al. (2022). Notably, generational disparities assume a pivotal role in this moderating effect. For example, Generation Z, often characterized as digital natives (Agárdi & Alt, 2022), tends to place greater reliance on digital information sources for making travel-related decisions. This preference significantly influences their perception of travel-related risks, as elucidated by Zorlu et al. (2023). Moreover, gender emerges as another influential moderator in the relationship between distribution channels and perceived travel risk. Females exhibit a heightened sensitivity to distribution channels, impacting their perception of travel risks, as noted by Pichierri et al. (2023). Additional individual differences, such as income and education, also moderate the connection between perceived travel risk and travel intentions. Females tend to display a greater aversion to risk, while individuals with higher income levels possess more substantial resources to mitigate travel risks, as detailed in the findings of Pichierri et al. (2023).

Considering the paramount significance of perceived travel risk associated with COVID-19, destinations aspiring to reinvigorate their tourism sector must prioritize measures aimed at its mitigation. This entails a concerted effort to alleviate fear appeals, as per the tenets of the protection motivation theory, which have a direct bearing on threat appraisal (perceived risk), Travel attitude (TPB) and protection motivation (intention to travel). The study identifies four travel antecedents that evoke

fear appeals that hold the potential to diminish COVID-19-related travel risk to a destination in its endemic phase, encompassing the destination's COVID-19 status, hygiene and safety, health-care services, and digital distribution channels. While it is conceivable that many countries may have limited influence over their COVID-19 status beyond existing efforts, the pivotal strategy lies in the dissemination of dependable and credible information to prospective visitors. The trustworthiness of information pertaining to COVID-19 statistics, including epidemiological trends, testing rates, active cases, and mortality rates, assumes paramount importance. Consequently, it is advisable for governments and various service providers to consistently draw from official and reliable sources. These sources should be prominently featured across all communication channels, including websites and social media platforms, instilling confidence in tourists and assuaging any apprehensions associated with post-COVID-19 travel. The role of technology is indispensable in furnishing pertinent and reassuring information to potential tourists, as well as facilitating tourism promotion and branding, as underscored by Buhalis and Amaranggana (2015), Guo and Comes (2022) and Gretzel et al., 2015.

5. Theoretical implications

This study has important academic and theoretical implications. First, it has empirically analyzed multiple variables that influence related travel risk perception and strengthen the intention to travel. By integrating the Protective Motivation Theory (PMT) and the Theory of Planned Behavior (TPB), it offers a more refined and comprehensive framework for analyzing the factors that influence travel risk perception, attitudes, and intentions. This approach deepens and expands the design and scope of previous research that has often relied on single theories or models. Researchers can use this study as a guideline for future investigations seeking to explore the complex interplay of variables affecting travel intentions amidst COVID-19 risks. Furthermore, they can enhance the model's robustness by exploring additional variables that may contribute to a more comprehensive understanding of risk perception in an endemic era.

Secondly, this study contributes to the understanding of the relationship between perceived travel risk, travel attitude, and travel intention by considering the moderating effects of individual differences. The findings highlight that younger travelers are less influenced by perceived travel risk compared to older travelers, indicating the importance of demographic factors in shaping tourists' perceptions and intentions. This expands the knowledge of how individual differences can impact travel behavior and provides insights for segmenting and targeting specific tourist groups.

6. Practical implications

The study's practical implications for the tourism industry are manifold and hold significant relevance in the current context. Firstly, the industry must recognize the

imperative of addressing and mitigating perceived travel risk effectively. Tailored messaging and interventions, coupled with precise risk communication strategies tailored to various demographic groups, are pivotal in achieving this goal (Xie et al., 2021). Moreover, the industry should concentrate efforts on enhancing destination attributes and fostering positive travel attitudes among potential tourists (Susanti et al., 2023). In this regard, the importance of clear and transparent communication cannot be overstated. Providing accurate and up-to-date information regarding safety measures and health protocols is paramount in building trust and confidence among prospective travelers (Usher & Schroeder, 2021). Leveraging digital distribution channels and platforms to disseminate this information widely can further bolster traveler confidence.

Furthermore, it is essential for the tourism sector to acknowledge and accommodate individual differences among travelers (Sinha & Nair, 2021). Market targeting should be refined to address the specific concerns and preferences of distinct customer segments. To attain this goal, the industry should offer inclusive services, flexible options, and accommodation choices that cater to a diverse range of traveler needs.

In summation, this study underscores the critical significance of fostering trust, bolstering traveler confidence, and promoting safe and responsible travel practices as integral components of the tourism industry's response to the challenges posed by the endemic phase of COVID-19. These practical implications align with the theoretical implications of the study, as they emphasize the need for a multifaceted approach to address travel intentions in the context of health risks.

7. Future Research and Limitations

It is important to acknowledge that this study was conducted within a specific context with a limited sample size, which may restrict the generalizability of the findings to other populations and regions. Subsequent studies should aim to replicate the research with larger and more diverse samples to enhance the external validity of the findings. While participant nationality information was not included in the analysis due to the study's scope and feasibility constraints, future research could explore the inclusion of this aspect to enrich the study's insights. Furthermore, the reliance on self-report data may introduce social desirability bias, prompting future research to consider alternative methods for validating and complementing the findings. This study primarily focused on examining the impact of perceived travel risk on travel attitude and demand; future research could explore the influence of other factors, such as economic and environmental considerations, on travel intentions to provide a more comprehensive understanding of travel decision-making processes.

References

Abraham, V., Bremser, K., Carreno, M., Crowley-Cyr, L., & Moreno, M. (2021). Exploring the consequences of COVID-19 on tourist behaviors: Perceived travel risk, animosity and intentions to travel. *Tourism Review*, *76*(4), 701-717. https://doi.org/10.1108/TR-07-2020-0344

Adekunle, A., Meehan, M., Rojas-Alvarez, D., Trauer, J., & McBryde, E. (2020). Delaying the COVID-19 epidemic in Australia: evaluating the effectiveness of international travel bans. *Australian and New Zealand journal of public health*, *44*(4), 257-259.

Abdullah, M., Ali, N., Hussain, S. A., Aslam, A. B., & Javid, M. A. (2021). Measuring changes in travel behavior pattern due to COVID-19 in a developing country: A case study of Pakistan. *Transport policy*, *108*, 21-33.

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.

Agárdi, I., & Alt, M. A. (2022). Do digital natives use mobile payment differently than digital immigrants? A comparative study between generation X and Z. *Electronic Commerce Research*, 1-28. https://doi.org/10.1007/s10660-022-09537-9

Amuquandoh, F. E. (2011). International tourists' concerns about traditional foods in Ghana. *Journal of Hospitality and Tourism Management*, *18*(1), 1-9.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. hul & J. Becman (Eds.), *Action control* (pp. 11-39). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211. https://dx.doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human behavior and emerging technologies*, *2*(4), 314-324. https://doi.org/10.1002/hbe2.195

Ajzen, I., Fishbein, M., Lohmann, S., & Albarracín, D. (2018). The influence of attitudes on behavior. *The handbook of attitudes* (pp. 197-255).https://doi.org/10.4324/9781315178103

Akhavan, P., Azizi, N., Akhtari, S., Haass, O., Jan, T., & Sajeev, S. (2023). Understanding critical success factors for implementing medical tourism in a multi-case analysis. *Knowledge Management & E-Learning*, *15*(1), 43. https://doi.org/10.34105/j.kmel.2023.15.003

AlAshry, M. S., & AlKhudari, M. (2021). The Impact of COVID-19 Pandemic on Egypt's Tourism. New Challenges for Media Houses to Make Awareness for Safety to Travel. *Journal of Environmental Management & Tourism*, *12*(8), 2251-2262.

Alhemimah, A. (2023). How COVID-19 impacts travel-health information seeking and tourists' travel intentions: A protection motivation theory-based model. *Journal of Destination Marketing & Management*, *27*, 100757. https://doi.org/10.1016%2Fj.jdmm.2022.100757

Ali, F., Dogan, S., Amin, M., Hussain, K., & Ryu, K. (2021). Brand anthropomorphism, love and defense: does attitude towardstoward social distancing matter?. *The Service Industries Journal*, *41*(1-2), 58-83. https://dx.doi.org/10.1080/02642069.2020.1867542

Aliperti, G., Sandholz, S., Hagenlocher, M., Rizzi, F., Frey, M., & Garschagen, M. (2019). Tourism, crisis, disaster: An interdisciplinary approach. *Annals of Tourism Research*, *79*, 102808. https://doi.org/10.1016/j.annals.2019.102808

Alkhawaldeh, A. M. (2022). Religious tourism post-Covid-19 in the context of Muslim countries: destination image, perceived value, intention to revisit Makkah and health risk as moderator. *Geo Journal of Tourism and Geosites*, *43*(3), 858-865.

Al-Omari, A., El-Gayar, O., & Deokar, A. (2012, January). Security policy compliance: User acceptance perspective. In *2012 45th Hawaii International Conference on System Sciences* (pp. 3317-3326). IEEE.

Altuntas, F., &Gok, M. S. (2021). The effect of COVID-19 pandemic on domestic tourism: A DEMATEL method analysis on quarantine decisions. *International Journal of Hospitality Management, 92*, 102719. https://doi.org/10.1016/j.ijhm.2020.102719

Aydin, B., Arica, R., & Arslanturk, Y. (2021). The effect of novel coronavirus (COVID-19) on travel risk perception. *Yaşar Üniversitesi E-Dergisi, 16*(61), 378-392.https://doi.org/10.19168/jyasar.801898

Bae, S. Y., & Chang, P. J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behaviourbehavioral intention towardstoward 'untact'tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism, 24*(7), 1017-1035. https://doi.org/10.1080/13683500.2020.1798895

Balińska, A., & Olejniczak, W. (2021). Experiences of polish tourists traveling for leisure purposes during the COVID-19 pandemic. *Sustainability, 13*(21), 11919.

Barlan, C. M. M., & Borbon, N. M. D. (2022). Destination image influencing the travel behavior amidst the COVID-19 pandemic in the case of Batangas province. *International Journal of Research Studies in Management, 10*(1), 13-27. https://doi.org/10.5861/ijrsm.2022.11

Bhati, A. S., Mohammadi, Z., Agarwal, M., Kamble, Z., & Donough-Tan, G. (2021). Motivating or manipulating: The influence of health-protective behaviourbehavior and media engagement on post-COVID-19 travel. *Current Issues in Tourism, 24*(15), 2088-2092. https://doi.org/10.1080/13683500.2020.1819970

Bilińska, K., Pabian, B., Pabian, A., & Reformat, B. (2023). Development trends and potential in the field of virtual tourism after the COVID-19 pandemic: Generation Z example. *Sustainability, 15*(3), 1889. https://doi.org/10.3390/su15031889

Blešić, I., Ivkov, M., Tepavčević, J., Popov Raljić, J., Petrović, M. D., Gajić, T., ... & Lukić, T. (2022). Risky travel? Subjective vs. objective perceived risks in travel behaviourbehavior—influence of hydro-meteorological hazards in south-eastern Europe on Serbian tourists. *Atmosphere, 13*(10), 1671. https://dx.doi.org/10.3390/atmos13101671

Bucsky, P. (2020). Modal share changes due to COVID-19: The case of Budapest. *Transportation Research Interdisciplinary Perspectives, 8*, 100141.https://doi.org/10.1016/j.trip.2020.100141

Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations enhancing tourism experience through personalisation of services. In *Information and Communication Technologies in Tourism 2015: Proceedings of the International Conference in Lugano, Switzerland, February 3-6, 2015* (pp. 377-389). Springer International Publishing.

Bulgurcu, B., Cavusoglu, H., & Benbasat, I. (2010). Information security policy compliance: an empirical study of rationality-based beliefs and information security awareness. *MIS quarterly*, 523-548.

Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. routledge.

Carvalho, A. (2022). Domestic and European leisure travel intentions: assessing the role of push motivations, destination safety, travel risk, safety concerns and social risk. *European Journal of Tourism Research*, *32*, 3214. https://dx.doi.org/10.54055/ejtr.v32i.2535

Caselli, F., Grigoli, F., Sandri, D., & Spilimbergo, A. (2022). Mobility under the COVID-19 pandemic: Asymmetric effects across gender and age. *IMF Economic Review*, 1-34.

Chan, C. S., Nozu, K., & Cheung, T. O. L. (2020). Tourism and natural disaster management process: Perception of tourism stakeholders in the case of Kumamoto earthquake in Japan. *Current Issues in Tourism*, *23*(15), 1864-1885.https://dx.doi.org/10.1080/13683500.2019.1666809

Charumilind, S., Craven, M., Lamb, J., Sabow, A., & Wilson, M. (2022). When will the covid-19 pandemic end?. *McKinsey & Company*.https://www.mckinsey.com/industries/healthcare/our-insights/when-will-the-covid-19-pandemic-end

Chauvin, B. (2018). Individual differences in the judgment of risks: Sociodemographic characteristics, cultural orientation, and level of expertise. *Psychological perspectives on risk and risk analysis: Theory, models, and applications*, 37-61.

Chebli, A. & Ben Said, F. (2020). The impact of COVID-19 on tourist consumption behaviourbehavior: A perspective article. *Journal of Tourism Management Research*, *7*(2), 196-207. https://doi.org/10.18488/journal.31.2020.72.196.207

Chen, M. F. (2022). To combine or not to combine? Applying protection motivation theory and the theory of reasoned action to explain and predict intention to reduce meat consumption. *Journal of Applied Social Psychology*, *52*(2), 115-130. https://doi.org/10.1111/jasp.12842

Chen, X., Duan, Y., Ali, L., Duan, Y., & Ryu, K. (2021). Understanding consumer travel behavior during COVID-19. *Sustainability*, *13*(23), 13330. https://dx.doi.org/10.3390/su132313330

Chew, E. Y. T., & Jahari, S. A. (2014). Destination image as a mediator between perceived risks and revisit intention: A case of post-disaster Japan. *Tourism Management*, *40*, 382-393. https://doi.org/10.1016/j.tourman.2013.07.008

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.

Clark, E., Mulgrew, K., Kannis-Dymand, L., Schaffer, V., & Hoberg, R. (2019). Theory of planned behaviourbehavior: Predicting tourists' pro-environmental intentions after a humpback whale encounter. *Journal of Sustainable Tourism*, *27*(5), 649-667. https://dx.doi.org/10.1080/09669582.2019.1603237

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

Crowley-Cyr, L., Gershwin, L. A., Bremser, K., Abraham, V., Martin, M. J. M., Carreno, M., & Wüst, K. (2022). Jellyfish risk communications: The effect on risk perception, travel intentions and behaviourbehavior, and beach tourism destinations. *Journal of Hospitality and Tourism Management*, *51*, 196-206. https://dx.doi.org/10.1016/j.jhtm.2022.03.002

Cubells, J., Miralles-Guasch, C., & Marquet, O. (2023). Gendered travel behaviourbehavior in micromobility? Travel speed and route choice through the lens of intersecting identities. *Journal of Transport Geography*, *106*, 103502. https://doi.org/10.1016/j.jtrangeo.2022.103502

da Silva Lopes, H., Remoaldo, P. C., Ribeiro, V., & Martín-Vide, J. (2021). Effects of the COVID-19 pandemic on tourist risk perceptions—The case study of Porto. *Sustainability*, *13*(11), 6399. https://doi.org/10.3390/su13116399

Damásio, B. F., & Koller, S. H. (2015). Complex experiences of meaning in life: Individual differences among sociodemographic variables, sources of meaning and psychological functioning. *Social Indicators Research*, *123*, 161-181.

Dang, Q. (2022). Research on the impact of media credibility on risk perception of COVID-19 and the sustainable travel intention of Chinese residents based on an extended TPB model in the post-pandemic context. *Sustainability*, *14*(14), 8729. https://doi.org/10.3390/su14148729

Davahli, M. R., Karwowski, W., Sonmez, S., & Apostolopoulos, Y. (2020). The hospitality industry in the face of the COVID-19 pandemic: Current topics and research methods. *International Journal of Environmental Research and Public Health*, *17*(20), 7366. https://doi.org/10.3390%2Fijerph17207366

De Vos, J., Singleton, P. A., & Gärling, T. (2022). From attitude to satisfaction: Introducing the travel mode choice cycle. *Transport Reviews*, *42*(2), 204-221. https://dx.doi.org/10.1080/01441647.2021.1958952

Dedeoğlu, B. B., Mariani, M., Shi, F., & Okumus, B. (2022). The impact of COVID-19 on destination visit intention and local food consumption. *British Food Journal*. https://dx.doi.org/10.1108/BFJ-04-2021-0421

Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of business research*, *117*, 284-289.

Dwipayanti, N. M. U., Lubis, D. S., & Harjana, N. P. A. (2021). Public perception and hand hygiene behavior during COVID-19 pandemic in Indonesia. *Frontiers in public health*, *9*, 543.

Ekinci, Y., Gursoy, D., Can, A. S., & Williams, N. L. (2022). Does travel desire influence COVID-19 vaccination intentions?. *Journal of Hospitality Marketing & Management*, *31*(4), 413-430. https://dx.doi.org/10.1080/19368623.2022.2020701

Elsayed, Y., Abuelhassan, A., & Khreis, S. H. (2021). The Effect of COVID-19 on the Domestic Tourists' Attitudes: A Comparative Study between Egypt and Jordan. *Journal of Association of Arab Universities for Tourism and Hospitality*, *20*(2), 273-286.

Erul, E., Woosnam, K. M., & McIntosh, W. A. (2020). Considering emotional solidarity and the theory of planned behavior in explaining behavioral intentions to support tourism development. *Journal of Sustainable Tourism*, *28*(8), 1158-1173. https://dx.doi.org/10.1080/09669582.2020.1726935

Esposito, B., Sessa, M. R., Sica, D., & Malandrino, O. (2022). Service innovation in the restaurant sector during COVID-19: Digital technologies to reduce customers' risk perception. *The TQM Journal*, (ahead-of-print). https://dx.doi.org/10.1108/TQM-01-2022-0016

Fan, A., Kline, S. F., Liu, Y., & Byrd, K. (2022). Consumers' lodging intentions during a pandemic: Empirical insights for crisis management practices based on protection motivation theory and expectancy theory. *International Journal of Contemporary Hospitality Management*. https://dx.doi.org/10.1108/IJCHM-07-2021-0889

Ferdous, A. S. (2010). Applying the theory of planned behavior to explain marketing managers' perspectives on sustainable marketing. *Journal of International Consumer Marketing*, *22*(4), 313-325. https://dx.doi.org/10.1080/08961530.2010.505883

Fotiadis, A., Polyzos, S., & Huan, T. C. (2021). The good, the bad and the ugly on COVID-19 tourism recovery. *Annals of Tourism Research*, *87*, 103117. https://dx.doi.org/10.1016/j.annals.2020.103117

Furnham, A., & Cheng, H. (2019). Personality traits and socio-demographic variables as predictors of political interest and voting behavior in a British cohort. *Journal of Individual Differences*.

Garaus, M., & Hudáková, M. (2022). The impact of the COVID-19 pandemic on tourists' air travel intentions: The role of perceived health risk and trust in the airline. *Journal of Air Transport Management*, *103*, 102249. https://doi.org/10.1016/j.jairtraman.2022.102249

Gibson, D., Movono, A., Masau, N., Bibi, P., Loehr, J., Vada, S., ... & Powell, B. (2021). *Safe destinations, healthy communities, and happy tourists: Guidelines for hotels on gender equality, disability and social inclusion in water, sanitation and hygiene in Fiji's tourism sector*. International Water Centre, Griffith University. Brisbane, Australia. https://www.watercentre.org/wp-content/uploads/2021/11/IWC_2021-Fiji-Hotel-Guidelines.pdf

Gim, T. H. T. (2022). Residential self-selection or socio-ecological interaction? the effects of sociodemographic and attitudinal characteristics on the built environment–travel behavior relationship. *Transportation*, 1-52. https://dx.doi.org/10.1007/s11116-022-10280-1

Girish, V. G., & Lee, C. K. (2020). Authenticity and its relationship with theory of planned behaviourbehavior: Case of Camino de Santiago walk in Spain. *Current Issues in Tourism*, *23*(13), 1593-1597. https://doi.org/10.1080/13683500.2019.1676207

Girish, V. G., Ko, M. H., Lee, C. K., Suess, C., & Park, Y. N. (2022). Examining behaviourbehavioral intentions to visit travel bubble destinations during the COVID-19 pandemic. *Current Issues in Tourism*, 1-16. https://dx.doi.org/10.1080/13683500.2022.2127349

Gnanapala, W. A. (2015). Tourists perception and satisfaction: Implications for destination management. *American Journal of Marketing Research*, *1*(1), 7-19. https://www.researchgate.net/publication/311706092_Tourists_Perception_and_Satisfaction_Implications_for_Destination_Management

Godovykh, M., Pizam, A., & Bahja, F. (2021). Antecedents and outcomes of health risk perceptions in tourism, following the COVID-19 pandemic. *Tourism Review*, *76*(4), 737-748. https://dx.doi.org/10.1108/TR-06-2020-0257

Golets, A., Farias, J., Pilati, R., & Costa, H. (2023). COVID-19 pandemic and tourism: The impact of health risk perception and intolerance of uncertainty on travel intentions. *Current Psychology*, *42*(3), 2500-2513. https://doi.org/10.1007/s12144-021-02282-6

González-Reverté, F., Gomis-López, J. M., & Díaz-Luque, P. (2022). Reset or temporary break? Attitudinal change, risk perception and future travel intention in tourists experiencing the COVID-19 pandemic. *Journal of Tourism Futures*.

Goodhue, D. L., Lewis, W., & Thompson, R. (2012). Does PLS have advantages for small sample size or non-normal data?. *MIS quarterly*, 981-1001.

Gorsuch, R.L. (1983). Factor Analysis (2nd ed.). Psychology Press. https://doi.org/10.4324/9780203781098

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, *29*(1), 1-20. https://doi.org/10.1080/09669582.2020.1758708

Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate behavioral research*, *26*(3), 499-510.

Gretzel, U., Zarezadeh, Z., Li, Y., & Xiang, Z. (2020). The evolution of travel information search research: A perspective article. *Tourism Review*, *75*(1), 319-323. https://doi.org/10.1108/TR-06-2019-0279

Guo, Y., An, S., & Comes, T. (2022). From warning messages to preparedness behavior: The role of risk perception and information interaction in the Covid-19 pandemic. *International Journal of Disaster Risk Reduction*, *73*, 102871. https://doi.org/10.1016%2Fj.ijdrr.2022.102871

Gupta, G. (2019). Inclusive use of digital marketing in tourism industry. In S. Satapathy, V. Bhateja, R. Somanah, X. S. Yang, R. Senkerik, (Eds.), *Information systems design and intelligent applications: Advances in Intelligent Systems and Computing* (826., pp. 411-419). Springer Singapore. https://dx.doi.org/10.1007/978-981-13-3329-3_38

Gupta, V., Cahyanto, I., Sajnani, M., & Shah, C. (2023). Changing dynamics and travel evading: A case of Indian tourists amidst the COVID 19 pandemic. *Journal of Tourism Futures*, *9*(1), 84-100. https://doi.org/10.1108/JTF-04-2020-0061

Gursoy, D., Can, A. S., Williams, N., & Ekinci, Y. (2021). Evolving impacts of COVID-19 vaccination intentions on travel intentions. *The Service Industries Journal*, *41*(11-12), 719-733.

Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis. *Health Psychology*, *41*(2), 155. https://dx.doi.org/10.1037/hea0001153

Hagiladi, N. A., & Plaut, P. (2023). Understanding group social ties and their impact on travel behaviourbehavior. In E. G. Nathanail, G. Adamos, & N. Gavanas (Eds.), *Smart energy for smart transport: Proceedings of the 6th conference on sustainable urban mobility, CSUM2022, August 31-September 2, 2022, Skiathos Island, Greece* (pp. 942-958). Springer Nature Switzerland.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications. https://dx.doi.org/10.1007/978-3-030-80519-7

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the academy of marketing science*, *45*, 616-632.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, *31*(1), 2-24.

Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning*, *45*(5-6), 320-340. https://dx.doi.org/10.1016/j.lrp.2012.09.008

Hall, A. J., Clement, N. D., Farrow, L., MacLullich, A. M., Dall, G. F., Scott, C. E., ... & IMPACT-Scot Study Group. (2020). IMPACT-Scot report on COVID-19 and hip fractures: A multicentre

study assessing mortality, predictors of early SARS-CoV-2 infection, and the effects of social lockdown on epidemiology. *The Bone & Joint Journal*, *102*(9), 1219-1228. https://doi.org/10.1302/0301-620x.102b9.bjj-2020-1100.r1

Ham, M., Jeger, M., & Frajman Ivković, A. (2015). The role of subjective norms in forming the intention to purchase green food. *Economic Research-Ekonomska Istraživanja*, *28*(1), 738-748. https://dx.doi.org/10.1080/1331677X.2015.1083875

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 US outbound tourism. *International Journal of Environmental Research and Public Health*, *17*(18), 6485. https://doi.org/10.3390%2Fijerph17186485

Han, H., Hsu, L. T. J., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, *31*(3), 325-334. https://doi.org/10.1016/j.tourman.2009.03.013

Hanafiah, M. H. (2020). Formative vs. reflective measurement model: Guidelines for structural equation modeling research. *International Journal of Analysis and Applications*, *18*(5), 876-889. https://doi.org/10.28924/2291-8639-18-2020-876

Hanafiah, M. H., Md Zain, N. A., Azinuddin, M., & Mior Shariffuddin, N. S. (2021). I'm afraid to travel! Investigating the effect of perceived health risk on Malaysian travellertravelers' post-pandemic perception and future travel intention. *Journal of Tourism Futures*. https://doi.org/10.1108/JTF-10-2021-0235

Hanson, C. L., Crandall, A., Barnes, M. D., & Novilla, M. L. (2021). Protection motivation during COVID-19: A cross-sectional study of family health, media, and economic influences. *Health Education & Behavior*, *48*(4), 434-445.

Hassan, M. M., Kalam, M. A., Shano, S., Nayem, M. R. K., Rahman, M. K., Khan, S. A., & Islam, A. (2020). Assessment of epidemiological determinants of COVID-19 pandemic related to social and economic factors globally. *Journal of Risk and Financial Management*, *13*(9), 194. https://dx.doi.org/10.3390/jrfm13090194

Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication monographs*, *85*(1), 4-40. https://dx.doi.org/10.1080/03637751.2017.1352100

He, L., Park, K., & Roehl, W. S. (2013). Religion and perceived travel risks. *Journal of Travel & Tourism Marketing*, *30*(8), 839-857. https://dx.doi.org/10.1080/10548408.2013.835674

Herath, T., & Rao, H. R. (2009). Protection motivation and deterrence: a framework for security policy compliance in organisations. *European Journal of information systems*, *18*, 106-125.

Hiamey, S. E., Amenumey, E. K., & Mensah, I. (2021). Critical success factors for food tourism destinations: a socio-cultural perspective. *International Journal of Tourism Research*, *23*(2), 192-205.

Hoang, S. D., Dey, S. K., & Tuckova, Z. (2023). Exploring the impacts of virtual reality technology in sustainable tourism during the COVID-19. *Transformations in Business and Economics*. *22*(1), 65-86.

Hobbs, J. E. (2020). Food supply chains during the COVID-19 pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, *68*(2), 171-176. https://dx.doi.org/10.1111/cjag.12237

Horng, J. S., Hu, M. L. M., Teng, C. C. C., & Lin, L. (2014). Energy saving and carbon reduction behaviors in tourism–A perception study of Asian visitors from a protection motivation theory perspective. *Asia Pacific Journal of Tourism Research*, *19*(6), 721-735. https://dx.doi.org/10.1080/10941665.2013.797002

Hu, X., Yan, H., Casey, T., & Wu, C. H. (2021). Creating a safe haven during the crisis: How organizations can achieve deep compliance with COVID-19 safety measures in the hospitality industry. *International Journal of Hospitality Management*, *92*, 102662.

Huang, C. D., Goo, J., Nam, K., & Yoo, C. W. (2017). Smart tourism technologies in travel planning: The role of exploration and exploitation. *Information & Management, 54*(6), 757-770. https://dx.doi.org/10.1016/j.im.2016.11.010

Huang, X., Dai, S., & Xu, H. (2020). Predicting tourists' health risk preventative behaviourbehavior and travelling satisfaction in Tibet: Combining the theory of planned behaviourbehavior and health belief model. *Tourism Management Perspectives, 33*, 100589. https://dx.doi.org/10.1016/j.tmp.2019.100589

Huang, Y. C., Chang, L. L., & Backman, K. F. (2019). Detecting common method bias in predicting creative tourists behaviourbehavioral intention with an illustration of theory of planned behaviourbehavior. *Current Issues in Tourism, 22*(3), 307-329. https://dx.doi.org/10.1080/13683500.2018.1424809

Husain, F., Shahnawaz, M. G., Khan, N. H., Parveen, H., & Savani, K. (2021). Intention to get COVID-19 vaccines: Exploring the role of attitudes, subjective norms, perceived behavioral control, belief in COVID-19 misinformation, and vaccine confidence in Northern India. *Human Vaccines & Immunotherapeutics, 17*(11), 3941-3953. https://doi.org/10.1080/21645515.2021.1967039

Irawan, M. Z., Belgiawan, P. F., Joewono, T. B., Bastarianto, F. F., Rizki, M., & Ilahi, A. (2021). Exploring activity-travel behavior changes during the beginning of COVID-19 pandemic in Indonesia. *Transportation*, 1-25.

Islam, M. N., & Rakib, M. R. H. K. (2022). Intention of young travellertravelers to travel during the COVID-19 pandemic. *International Journal of Tourism Policy, 12*(4), 411-426. https://doi.org/10.1504/IJTP.2022.128138

Jahari, S. A., Yang, I. C. M., French, J. A., & Ahmed, P. K. (2021). COVID-19 and Beyond: Understanding travel risk perception as a process. *Tourism Recreation Research, 48*(2), 1-16. https://dx.doi.org/10.1080/02508281.2021.1937450

Jęczmyk, A., Uglis, J., Zawadka, J., Pietrzak-Zawadka, J., Wojcieszak-Zbierska, M. M., & Kozera-Kowalska, M. (2023). Impact of COVID-19 Pandemic on Tourist Travel Risk Perception and Travel BehaviourBehavior: A Case Study of Poland. *International Journal of Environmental Research and Public Health, 20*(8), 5545. https://doi.org/10.3390%2Fijerph20085545

Jefferies, S., French, N., Gilkison, C., Graham, G., Hope, V., Marshall, J., ... & Priest, P. (2020). COVID-19 in New Zealand and the impact of the national response: a descriptive epidemiological study. *The Lancet Public Health, 5*(11), e612-e623.

Jin, M. L., Choi, Y., Lee, C. K., & Ahmad, M. S. (2020). Effects of place attachment and image on revisit intention in an ecotourism destination: Using an extended model of goal-directed behavior. *Sustainability, 12*(18), 7831.

Jin, X., Bao, J., & Tang, C. (2022). Profiling and evaluating Chinese consumers regarding post-COVID-19 travel. *Current Issues in Tourism, 25*(5), 745-763. https://dx.doi.org/10.1080/13683500.2021.1874313

Jonas, A., & Mansfeld, Y. (2017). Exploring the interplay between the use of risk-related information, risk perception formation, and the stages of travel product consumption. *Current Issues in Tourism, 20*(14), 1470-1488. https://dx.doi.org/10.1080/13683500.2015.1024104

Jonas, A., Mansfeld, Y., Paz, S., & Potasman, I. (2011). Determinants of health risk perception among low-risk-taking tourists traveling to developing countries. *Journal of Travel Research, 50*(1), 87-99. https://doi.org/10.1177/0047287509355323

Juschten, M., Jiricka-Pürrer, A., Unbehaun, W., & Hössinger, R. (2019). The mountains are calling! An extended TPB model for understanding metropolitan residents' intentions to visit nearby alpine destinations in summer. *Tourism Management, 75*, 293-306. https://doi.org/10.1016/j.tourman.2019.05.014

Karl, M. (2018). Risk and uncertainty in travel decision-making: Tourist and destination perspective. *Journal of Travel Research, 57*(1), 129-146. https://dx.doi.org/10.1177/0047287516678337

Karl, M., Muskat, B., & Ritchie, B. W. (2020). Which travel risks are more salient for destination choice? An examination of the tourist's decision-making process. *Journal of Destination Marketing and Management*, *18*(100487), 1-11. https://dx.doi.org/10.1016/j.jdmm.2020.100487

Khan, M. J., Chelliah, S., & Ahmed, S. (2019a). Intention to visit India among potential travellertravelers: Role of travel motivation, perceived travel risks, and travel constraints. *Tourism and Hospitality Research*, *19*(3), 351-367. https://doi.org/10.1177/1467358417751025

Khan, M. J., Chelliah, S., Khan, F., & Amin, S. (2019b). Perceived risks, travel constraints and visit intention of young women travelers: The moderating role of travel motivation. *Tourism Review*, *74*(3), 721-738. https://doi.org/10.1108/TR-08-2018-0116

Khan, U., Chauhan, C., Majeed, J., & Goyal, R. K. (2020). Role and contribution of medical tourism in India and post COVID-19 scenario. *Parishodh Journal*, *9*(3), 8717-8737.

Kiriakidis, S. (2017). Perceived behaviourbehavioral control in the theory of planned behaviourbehavior: variability of conceptualization and operationalization and implications for measurement. In *Strategic Innovative Marketing: 4th IC-SIM, Mykonos, Greece 2015* (pp. 197-202). Springer International Publishing.

Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The evolutionary tourism paradigm. *Annals of tourism research*, *85*, 103053. https://dx.doi.org/10.1016/j.annals.2020.103053

Kock, N. (2018). Minimum sample size estimation in PLS-SEM: an application in tourism and hospitality research. In *Applying partial least squares in tourism and hospitality research* (pp. 1-16). Emerald Publishing Limited.

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information systems journal*, *28*(1), 227-261.

Kostaki, E. G., Pavlopoulos, G. A., Verrou, K. M., Ampatziadis-Michailidis, G., Harokopos, V., Hatzis, P., ... & Paraskevis, D. (2021). Molecular epidemiology of SARS-CoV-2 in Greece reveals low rates of onward virus transmission after lifting of travel restrictions based on risk assessment during summer 2020. *Msphere*, *6*(3), e00180-21. https://dx.doi.org/10.1101/2021.01.31.21250868

Kovačić, S., Cimbaljević, M., Tretyakova, T. N., Syromiatnikova, Y. A., García Henche, B., Petrović, M. D., ... & Gajić, T. (2023). How has COVID-19 changed the way we travel? Exploring tourist personality, reactions to the perceived risk and change in travel behavior. *Sustainability*, *15*(3), 1951. https://doi.org/10.3390/su15031951

Kumar, N., Panda, R. K., & Adhikari, K. (2023). Tourists' engagement and willingness to pay behavior during COVID-19: An assessment of antecedents, consequences and intermediate relationships. *Journal of Hospitality and Tourism Insights*, *6*(2), 1024-1042. https://dx.doi.org/10.1108/JHTI-02-2022-0050

Le, M., Phung, D., Vu, M. Q., Diep, P., Tran, Y., & Nguyen, C. (2022). Antecedents influence choosing tourism destination post-COVID-19: Young people case. *Journal of Hospitality and Tourism Insights*, (ahead-of-print). https://doi.org/10.1108/JHTI-04-2022-0146

Lebrun, A. M., Corbel, R., & Bouchet, P. (2021). Impacts of Covid-19 on travel intention for summer 2020: A trend in proximity tourism mediated by an attitude towards Covid-19. *Service Business*, 1-33.

Lee, B. (2020, March 21). Social distancing 101 for COVID-19 coronavirus: Here are the dos and don'ts. *Forbes*. https://www.forbes.com/sites/brucelee/2020/03/21/social-distancing-101-for-covid-19-coronavirus-here-are-the-dos-and-donts/

Leone, L., Perugini, M., & Ercolani, A. P. (2004). Studying, practicing, and mastering: A test of the model of goal-directed behavior (MGB) in the software learning domain. *Journal of applied social psychology*, *34*(9), 1945-1973.

Li, J., Nguyen, T. H. H., & Coca-Stefaniak, J. A. (2020). Coronavirus impacts on post-pandemic planned travel behaviourbehaviors. *Annals of Tourism Research*. https://doi.org/10.1016%2Fj.annals.2020.102964

Li, Z., Wang, D., Abbas, J., Hassan, S., & Mubeen, R. (2022). Tourists' health risk threats amid COVID-19 era: role of technology innovation, Transformation, and recovery implications for sustainable tourism. *Frontiers in Psychology*, *12*, 769175.

Ling, T., Hoh, G., Ho, C., & Mee, C. (2020). Effects of the coronavirus (COVID-19) pandemic on social behaviourbehaviors: From a social dilemma perspective. *Technium Social Sciences Journal*, *7*, 312-320. https://techniumscience.com/index.php/socialsciences/article/view/423/171

Lippold, J. V., Laske, J. I., Hogeterp, S. A., Duke, É., Grünhage, T., & Reuter, M. (2020). The role of personality, political attitudes and socio-demographic characteristics in explaining individual differences in fear of coronavirus: A comparison over time and across countries. *Frontiers in Psychology*, *11*, 552305.

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

Liu-Lastres, B., Schroeder, A., Pennington-Gray, L., & Farajat, S. (2016). Source market perceptions: How risky is Jordan to travel to?. *Journal of Destination Marketing & Management*, *5*(4), 294-304. https://dx.doi.org/10.1016/j.jdmm.2016.08.005

Mahat, N., & Hanafiah, M. (2020). Help me tripadvisor! Examining the relationship between Tripadvisor e-WOM attributes, trusts towardstoward online reviews and travellertravelers' behaviourbehavioral intentions. *Journal of Information and Organizational Sciences*, *44*(1), 83-112. https://dx.doi.org/10.31341/jios.44.1.4

Manchanda, M., & Deb, M. (2022). Effects of multisensory virtual reality on virtual and physical tourism during the COVID-19 pandemic. *Current Issues in Tourism*, *25*(11), 1748-1766. https://doi.org/10.1080/13683500.2021.1978953

Mashrur, S. M., Wang, K., Loa, P., Hossain, S., & Nurul Habib, K. (2022). Application of protection motivation theory to quantify the impact of pandemic fear on anticipated postpandemic transit usage. *Transportation Research Record*, *2677*(4), 267-286. https://doi.org/10.1177/03611981211065439

Matiza, T. (2020). Post-COVID-19 crisis travel behaviourbehavior: TowardsToward mitigating the effects of perceived risk. *Journal of Tourism Futures*, *8*(1), 99-108. https://doi.org/10.1108/JTF-04-2020-0063

Meng, B., & Choi, K. (2016). The role of authenticity in forming slow tourists' intentions: Developing an extended model of goal-directed behavior. *Tourism Management*, *57*, 397-410.

Meng, B., & Cui, M. (2020). The role of co-creation experience in forming tourists' revisit intention to home-based accommodation: Extending the theory of planned behavior. *Tourism Management Perspectives*, *33*, 100581. https://doi.org/10.1016/j.tmp.2019.100581

Meng, Y., Khan, A., Bibi, S., Wu, H., Lee, Y., & Chen, W. (2021). The effects of COVID-19 risk perception on travel intention: Evidence from Chinese travelers. *Frontiers in Psychology*, *12*, 655860. https://doi.org/10.3389/fpsyg.2021.655860

Michaelidou, N., & Hassan, L. (2014). New advances in attitude and behaviourbehavioral decision-making models. *Journal of Marketing Management*, *30*(5-6), 519-528.

Muñoz-Mazón, A., Orea-Giner, A., Fernandez Munoz, J. J., Santiago, C., & Fuentes-Moraleda, L. (2021). Risk perception before travelling: solutions for consumers with vulnerabilities. *Journal of Services Marketing*, *35*(6), 791-806.

Nazneen, S., Hong, X., & Ud Din, N. (2020). COVID-19 crises and tourist travel risk perceptions. *SSRN 3592321*. https://dx.doi.org/10.2139/ssrn.3592321

Neuburger, L., & Egger, R. (2021). Travel risk perception and travel behaviourbehavior 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, D. T., Tran, V. D., & Ghafoor, A. (2022). The impact of covid-19 lockdown on intention to follow preventive measures in vietnam: integrated protection motivation theory and theory planed behavior. *Cogent Business & Management*, *9*(1), 2054502.

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

Ojo, K. E., Ferreira, S., Salazar, J., Bergstrom, J., & Woosnam, K. M. (2022). Recreational travel behavior and COVID-19: Insights from expected utility and the theory of planned behavior. *Tourism Economics*, 29(3), 643-663. https://dx.doi.org/10.1177/13548166211059642

Oklevik, O., Gössling, S., Hall, C. M., Steen Jacobsen, J. K., Grøtte, I. P., & McCabe, S. (2019). Overtourism, optimisation, and destination performance indicators: A case study of activities in Fjord Norway. *Journal of Sustainable Tourism*, *27*(12), 1804-1824. https://doi.org/10.1080/09669582.2018.1533020

Pahnila, S., Siponen, M., & Mahmood, A. (2007, January). Employees' behavior towardstoward IS security policy compliance. In *2007 40th Annual Hawaii International Conference on System Sciences (HICSS'07)* (pp. 156b-156b). IEEE.

Pan, J. Y., & Truong, D. (2018). Passengers' intentions to use low-cost carriers: An extended theory of planned behavior model. *Journal of Air Transport Management*, *69*, 38-48. https://doi.org/10.1016/j.jairtraman.2018.01.006

Pang, S. M., Tan, B. C., & Lau, T. C. (2021). Antecedents of consumers' purchase intention towardstoward organic food: integration of theory of planned behavior and protection motivation theory. *Sustainability*, *13*(9), 5218.

Parady, G., Taniguchi, A., & Takami, K. (2020). Travel behavior changes during the COVID-19 pandemic in Japan: Analyzing the effects of risk perception and social influence on going-out self-restriction. *Transportation Research Interdisciplinary Perspectives*, *7*, 100181. https://doi.org/10.1016/j.trip.2020.100181

Park, S. H., Hsieh, C. M., & Lee, C. K. (2017). Examining Chinese college students' intention to travel to Japan using the extended theory of planned behavior: Testing destination image and the mediating role of travel constraints. *Journal of Travel & Tourism Marketing*, *34*(1), 113-131. https://doi.org/10.1080/10548408.2016.1141154

Park, S., & Tussyadiah, I. P. (2017). Multidimensional facets of perceived risk in mobile travel booking. *Journal of Travel Research*, *56*(7), 854-867. https://doi.org/10.1177/0047287516675062

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of retailing and consumer services*, *29*, 123-134.

Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, *22*(3), 455-476. https://link.springer.com/article/10.1007/s40558-019-00160-3

Perić, G., Dramićanin, S., & Conić, M. (2021). The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. *European Journal of Tourism Research*, *27*, 2705. https://doi.org/10.54055/ejtr.v27i.2125

Pichierri, M., Petruzzellis, L., & Passaro, P. (2023). Investigating staycation intention: The influence of risk aversion, community attachment and perceived control during the pandemic. *Current Issues in Tourism*, 26(4), 1-7. https://dx.doi.org/10.1080/13683500.2022.2069551

Pizam, A., Jeong, G. H., Reichel, A., van Boemmel, H., Lusson, J. M., Steynberg, L., ... & Montmany, N. (2004). The relationship between risk-taking, sensation-seeking, and the tourist behavior of young adults: A cross-cultural study. *Journal of Travel Research*, *42*(3), 251-260.

Pourfakhimi S., Duncan T., & Coetzee W. J. (2020). Electronic word of mouth in tourism and hospitality consumer behaviourbehavior: state of the art. *Tourism Review*, *75*(4), 637–661. https://doi.org/10.1108/TR-01-2019-0019

Prasetyo, Y. T., Castillo, A. M., Salonga, L. J., Sia, J. A., & Seneta, J. A. (2020). Factors affecting perceived effectiveness of COVID-19 prevention measures among Filipinos during enhanced community quarantine in Luzon, Philippines: Integrating Protection Motivation Theory and extended Theory of Planned Behavior. *International journal of infectious diseases*, *99*, 312-323.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers*, *36*, 717-731.

Pröbstl-Haider, U., & Haider, W. (2013). Tools for measuring the intention for adapting to climate change by winter tourists: Some thoughts on consumer behavior research and an empirical example. *Tourism Review*, *68*(2), 44-55. https://dx.doi.org/10.1108/TR-04-2013-0015

Qiao, G., Ruan, W. J., & Pabel, A. (2022). Understanding tourists' protection motivations when faced with overseas travel after COVID-19: The case of South Koreans travelling to China. *Current Issues in Tourism*, *25*(10), 1588-1606. https://doi.org/10.1080/13683500.2021.1928011

Radic, A., Koo, B., Gil-Cordero, E., Cabrera-Sánchez, J. P., & Han, H. (2021). Intention to take COVID-19 vaccine as a precondition for international travel: Application of extended norm-activation model. *International Journal of Environmental Research and Public Health*, *18*(6), 3104. https://doi.org/10.3390/ijerph18063104

Rahman, M. K., Gazi, M. A. I., Bhuiyan, M. A., & Rahaman, M. A. (2021). Effect of Covid-19 pandemic on tourist travel risk and management perceptions. *Plos One*, *16*(9), e0256486. https://dx.doi.org/10.1371/journal.pone.0256486

Rasoolimanesh, S. M., Seyfi, S., Rastegar, R., & Hall, C. M. (2021). Destination image during the COVID-19 pandemic and future travel behavior: The moderating role of past experience. *Journal of Destination Marketing & Management*, *21*, 100620. https://doi.org/10.1016/j.jdmm.2021.100620

Rather, R. A. (2021a). Demystifying the effects of perceived risk and fear on customer engagement, co-creation and revisit intention during COVID-19: A protection motivation theory approach. *Journal of Destination Marketing & Management*, *20*, 100564. https://doi.org/10.1016/j.jdmm.2021.100564

Rather, R. A. (2021b). Monitoring the impacts of tourism-based social media, risk perception and fear on tourist's attitude and revisiting behaviourbehavior in the wake of COVID-19 pandemic. *Current Issues in Tourism*, *24*(23), 3275-3283. https://doi.org/10.1080/13683500.2021.1884666

Reimers, A. K., Marzi, I., Beck, F., Engels, E., Renninger, D., Buttazzoni, A., ... & Demetriou, Y. (2022). Active travel behaviourbehavior in the family environment: protocol for the mixed-methods cross-sectional ARRIVE study. *BMJ Open*, *12*(2), e056383. https://doi.org/10.1136/bmjopen-2021-056383

Richetin, J., Perugini, M., Adjali, I., & Hurling, R. (2008). Comparing leading theoretical models of behavioral predictions and post-behavior evaluations. *Psychology & Marketing*, *25*(12), 1131-1150. https://doi.org/10.1002/mar.20257

Richter, N. F., Cepeda-Carrión, G., Roldán Salgueiro, J. L., & Ringle, C. M. (2016). European management research using partial least squares structural equation modeling (PLS-SEM). *European Management Journal, 34 (6), 589-597.*

Ritchie, H., Mathieu, E., Rodés-Guirao, L., Appel, C., Giattino, C., Ortiz-Ospina, E., ... & Roser, M. (2020). Coronavirus pandemic (COVID-19). *Our World in Data*. https://ourworldindata.org/coronavirus

Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The Journal of Psychology: Interdisciplinary and Applied*, *91*(1), 93–114. https://doi.org/10.1080/00223980.1975.9915803

Rogers, R. W. (1983). Cognitive and psychological processes in fear appeals and attitude change: A revised theory of protection motivation. In J. T. Cacioppo & R. Petty (Eds.), *Social psychophysiology: A sourcebook* (pp. 153-176). Guilford Press. https://www.researchgate.net/publication/229068371_Cognitive_and_physiological_processes_in_fear_appeals_and_attitude_change_A_revised_theory_of_protection_motivation

Rosselló, J., Santana-Gallego, M., & Awan, W. (2017). Infectious disease risk and international tourism demand. *Health policy and planning*, *32*(4), 538-548. https://dx.doi.org/10.1093/heapol/czw177

Rothengatter, W., Zhang, J., Hayashi, Y., Nosach, A., Wang, K., & Oum, T. H. (2021). Pandemic waves and the time after Covid-19–Consequences for the transport sector. *Transport Policy*, *110*, 225-237. https://doi.org/10.1016%2Fj.tranpol.2021.06.003

Said, H., Ali, L., Ali, F., & Chen, X. (2021). COVID-19 and unpaid leave: Impacts of psychological contract breach on organizational distrust and turnover intention: Mediating role of emotional exhaustion. *Tourism management perspectives*, *39*, 100854. https://doi.org/10.1016/j.tmp.2021.100854

Salem, I. E., Elbaz, A. M., Elkhwesky, Z., & Ghazi, K. M. (2021). The COVID-19 pandemic: The mitigating role of government and hotel support of hotel employees in Egypt. *Tourism Management*, *85*, 104305.

Salem, I. E., Elkhwesky, Z., & Ramkissoon, H. (2022). A content analysis for government's and hotels' response to COVID-19 pandemic in Egypt. *Tourism and Hospitality Research*, *22*(1), 42-59.

Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2021). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, *24*(7), 970-984. https://doi.org/10.1080/13683500.2020.1829571

Sari, N. M., Nugroho, I., Julitasari, E. N., & Hanafie, R. (2022). The resilience of rural tourism and adjustment measures for surviving the COVID-19 pandemic: Evidence from Bromo Tengger Semeru National Park, Indonesia. *Forest and Society*, *6*(1), 67-83. https://dx.doi.org/10.24259/fs.v6i1.18054

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing.

Schildkraut, J., & Turanovic, J. J. (2022). A new wave of mass shootings? Exploring the potential impact of COVID-19. *Homicide studies*, *26*(4), 362-378.

Selim, M., Aidrous, I., & Semenova, E. (2020). International tourism: Prospects for development in the post coronavirus world (egyptian example). *International Journal of Management (IJM)*, *11*(7), 1145-1155.

Seow, A. N., Choong, Y. O., Choong, C. K., & Moorthy, K. (2022). Health tourism: behaviourbehavioral intention and protection motivation theory. *Tourism Review*, *77*(2), 376-393. https://doi.org/10.1108/TR-11-2020-0546

Seow, A. N., Choong, Y. O., Moorthy, K., & Choong, C. K. (2021). Predicting medical tourism behaviourbehavioral intention using social cognition models. *Tourism Review*, *76*(2), 374-391. https://dx.doi.org/10.1108/TR-06-2019-0267

Shareef, M. A., Akram, M. S., Malik, F. T., Kumar, V., Dwivedi, Y. K., & Giannakis, M. (2023). An attitude-behavioral model to understand people's behavior towardstoward tourism during COVID-19 pandemic. *Journal of Business Research*, *161*, 113839. https://doi.org/10.1016/j.jbusres.2023.113839

Shariff, N. S., Yusof, Y., & Hussin, N. Z. I. (2020). Tourist perception towardstoward recreation centre in Malaysia. *Universiti Malaysia Terengganu Journal of Undergraduate Research*, *2*(3), 103-114. https://dx.doi.org/10.46754/umtjur.v2i3.171

Sharma, K., Aswal, C., & Paul, J. (2023). Factors affecting green purchase behavior: A systematic literature review. *Business Strategy and the Environment*, *32*(4), 2078-2092.

Shin, H., Nicolau, J. L., Kang, J., Sharma, A., & Lee, H. (2022). Travel decision determinants during and after COVID-19: The role of tourist trust, travel constraints, and attitudinal factors. *Tourism Management, 88*, 104428. https://doi.org/10.1016%2Fj.tourman.2021.104428

Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of business research*, *117*, 312-321. https://doi.org/10.1016%2Fj.jbusres.2020.06.015

Singh, A. K., Tyagi, P. K., & Sharma, P. (2020). Measurement of tourist perception: Scale development and validation. *International Journal of Psychosocial Rehabilitation*, *24*(8), 7786-7796. https://www.researchgate.net/publication/343219424_Measurement_of_Tourist_Perception_Scale_Development_and_Validation

Sinha, S., & Nair, B. B. (2021). Impact of COVID-19 on destination choice: an empirical study on sociodemographic determinants of future travel behaviourbehavior. *Anatolia*, *32*(1), 128-131.

Skare, M., Soriano, D., & Porada-Rochon, M. (2021). Impact of COVID-19 on the travel and tourism industry. Technological *Forecasting and Social Change*. *163*, 120469. https://doi.org/10.1016%2Fj.techfore.2020.120469

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

Specia, M. (2020, March 12). What you need to know about Trump's European travel ban. *The New York Times*. https://www.nytimes.com/2020/03/12/world/europe/trump-travel-ban-coronavirus.html

Sun, T., Zhang, J., Zhang, B., Ong, Y., & Ito, N. (2022). How trust in a destination's risk regulation navigates outbound travel constraints on revisit intention post-COVID-19: Segmenting insights from experienced Chinese tourists to Japan. *Journal of Destination Marketing & Management, 25*, 100711. https://doi.org/10.1016/j.jdmm.2022.100711

Sunarsa, I. W., & Andiani, N. D. (2019). Tourism Perception Of General Toilet Hygiene In Objects And Tourist Attractions In Bali. *International Journal of Social Science and Business*, *3*(1), 36-41.

Susanti, C. E., Hermanto, Y. B., &Suwito, B. (2023). The Effect of Tourist Destination Image (TDI) on Intention to Visit through Tourism Risk Perception (TRP) of COVID-19 in the Tourism Industry in the New Normal Era in Indonesia: Case Study in East Java. *Journal of Risk and Financial Management, 16*(2), 76. https://doi.org/10.3390/jrfm16020076

Teeroovengadum, V., Seetanah, B., Bindah, E., Pooloo, A., & Veerasawmy, I. (2021). Minimising perceived travel risk in the aftermath of the COVID-19 pandemic to boost travel and tourism. *Tourism Review, 76*(4), 910-928. https://dx.doi.org/10.1108/TR-05-2020-0195

Thapa, D., Mishra, S., Dey, K., Golias, M. M., & Ashraf, M. T. (2023). Identifying Factors Influencing Recreational Travel during the COVID-19 Pandemic. *Journal of Transportation Engineering, Part A: Systems*, *149*(2), 04022134. https://doi.org/10.1061/JTEPBS.TEENG-7167

Tran, B. L., Chen, C. C., Tseng, W. C., & Liao, S. Y. (2020). Tourism under the early phase of COVID-19 in four APEC economies: an estimation with special focus on SARS experiences. *International Journal of Environmental Research and Public Health*, *17*(20), 7543. https://doi.org/10.3390/ijerph17207543

Tran, V. D. (2020). The relationship among product risk, perceived satisfaction and purchase intentions for online shopping. *The Journal of Asian Finance, Economics and Business*, *7*(6), 221-231. https://dx.doi.org/10.13106/jafeb.2020.vol7.no6.221

Ulker-Demirel, E., & Ciftci, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. *Journal of Hospitality and Tourism Management, 43*, 209-219. https://doi.org/10.1016/j.jhtm.2020.04.003

United Nations World Tourism Organization (2022). *Impact assessment of the COVID-19 outbreak on international tourism*. https://www.unwto.org/impact-assessment-of-the-covid-19-outbreak-on-international-tourism

United Nations World Tourism Organization (2023). *Latest tourism data: UNWTO world tourism barometer*. https://www.unwto.org/unwto-world-tourism-barometer-data

Usher, L. E., & Schroeder, A. (2021). Risk communication in the tourism industry. *Communicating Climate Change: Making Environmental Messaging Accessible*.

Wachinger, G., Renn, O., Begg, C., & Kuhlicke, C. (2013). The risk perception paradox—implications for governance and communication of natural hazards. *Risk analysis*, *33*(6), 1049-1065.

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

Wang, H., Paulson, K. R., Pease, S. A., Watson, S., Comfort, H., Zheng, P., ... & Murray, C. J. (2022). Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020–21. *The Lancet*, *399*(10334), 1513-1536. https://doi.org/10.1016/S0140-6736(21)02796-3

Wang, I. M., & Ackerman, J. M. (2019). The infectiousness of crowds: Crowding experiences are amplified by pathogen threats. *Personality and Social Psychology Bulletin*, *45*(1), 120-132. https://doi.org/10.1177/0146167218780735

Wang, L. H., Yeh, S. S., Chen, K. Y., & Huan, T. C. (2022). Tourists' travel intention: Revisiting the TPB model with age and perceived risk as moderator and attitude as mediator. *Tourism Review*, *77*(3), 877-896. https://doi.org/10.1108/TR-07-2021-0334

Wang, L., & Wong, P. P. W. (2020). Marketing of environmentally friendly hotels in China through religious segmentation: a theory of planned behaviourbehavior approach. *Tourism Review*, *76*(5), 1164-1180.

Wang, Y., Liang, J., Yang, J., Ma, X., Li, X., Wu, J., ... & Feng, Y. (2019). Analysis of the environmental behavior of farmers for non-point source pollution control and management: An integration of the theory of planned behavior and the protection motivation theory. *Journal of environmental management*, *237*, 15-23.

Wen, J., Kozak, M., Yang, S., & Liu, F. (2021). COVID-19: potential effects on Chinese citizens' lifestyle and travel. *Tourism Review*, *76*(1), 74-87. https://doi.org/10.1108/TR-03-2020-0110

Wen, J., Wang, W., Kozak, M., Liu, X., & Hou, H. (2021). Many brains are better than one: The importance of interdisciplinary studies on COVID-19 in and beyond tourism. *Tourism Recreation Research*, *46*(2), 310-313. https://doi.org/10.1080/02508281.2020.1761120

Williams, A. M., & Baláž, V. (2015). Tourism risk and uncertainty: Theoretical reflections. *Journal of Travel Research*, *54*(3), 271-287. https://doi.org/10.1177/0047287514523334

Wong, L. P., & Alias, H. (2021). Temporal changes in psycho behaviourbehavioral responses during the early phase of the COVID-19 pandemic in Malaysia. *Journal of Behavioral Medicine*, *44*, 18-28. https://doi.org/10.1007/s10865-020-00172-z

Xie, C., Zhang, J., Morrison, A. M., & Coca-Stefaniak, J. A. (2021). The effects of risk message frames on post-pandemic travel intentions: The moderation of empathy and perceived waiting time. *Current Issues in Tourism*, *24*(23), 3387-3406.

Yan, H., Wei, H., & Wei, M. (2021). Exploring tourism recovery in the post-covid-19 period: An evolutionary game theory approach. *Sustainability*, *13*(16), 9162.

Yavorsky, J. E., Qian, Y., & Sargent, A. C. (2022). The gendered pandemic: The implications of COVID-19 for work and family. In *Working in America* (pp. 305-317). Routledge.

Ye, H., Chen, S., Law, R., & Zhang, M. (2023). Perceived Risk of Chinese Outbound Tourists in the Risky World. *Journal of China Tourism Research*, 1-20. https://doi.org/10.1080/19388160.2023.2178574

Yoo, J. W., Park, J., Lee, J. H., & Park, H. (2022). Recovering from the COVID-19 shock: The role of risk perception and perceived effectiveness of protective measures on travel intention during the pandemic. *Service Business*, *16*, 557-580. https://doi.org/10.1007/s11628-021-00476-3

Yuduang, N., Ong, A. K. S., Prasetyo, Y. T., Chuenyindee, T., Kusonwattana, P., Limpasart, W., ... & Nadlifatin, R. (2022). Factors influencing the perceived effectiveness of COVID-19 risk assessment mobile application "MorChana" in Thailand: Utaut2 approach. *International Journal of Environmental Research and Public Health*, *19*(9), 5643. https://doi.org/10.3390/ijerph19095643

Yuzhanin, S., & Fisher, D. (2016). The efficacy of the theory of planned behavior for predicting intentions to choose a travel destination: A review. *Tourism Review*, *71*(2), 135-147. https://doi.org/10.1108/TR-11-2015-0055

Zenker, S., & Kock, F. (2020). The coronavirus pandemic–A critical discussion of a tourism research agenda. *Tourism Management*, *81*, 104164. https://doi.org/10.1016%2Fj.tourman.2020.104164

Zhang, J., & Hayashi, Y. (2022). Research frontier of COVID-19 and passenger transport: A focus on policymaking. *Transport Policy*, *119*, 78-88 https://doi.org/10.1016%2Fj.tranpol.2022.02.014

Zhang, S., Sun, T., & Lu, Y. (2023). The COVID-19 pandemic and tourists' risk perceptions: Tourism policies' mediating role in sustainable and resilient recovery in the new normal. *Sustainability*, *15*(2), 1323. https://doi.org/10.3390/su15021323

Zhao, Y., Wang, H., Guo, Z., Huang, M., Pan, Y., & Guo, Y. (2022). Online reservation intention of tourist attractions in the COVID-19 context: An extended technology acceptance model. *Sustainability*, *14*(16), 10395. https://doi.org/10.3390/su141610395

Zheng, D., Luo, Q., & Ritchie, B. W. (2021). Afraid to travel after COVID-19? Self-protection, coping and resilience against pandemic 'travel fear'. *Tourism Management*, *83*, 104261. https://doi.org/10.1016/j.tourman.2020.104261

Zhu, Y., Wen, X., Chu, M., & Sun, S. (2022). Consumers' intention to participate in food safety risk communication: A model integrating protection motivation theory and the theory of reasoned action. *Food Control*, *138*, 108993. https://doi.org/10.1016/j.foodcont.2022.108993

Zorlu, K., Tuncer, M., & Taşkın, G. A. (2023). The effect of COVID-19 on tourists' attitudes and travel intentions: An empirical study on camping/glamping tourism in Turkey during COVID-19. *Journal of Hospitality and Tourism Insights*, *6*(2), 947-965. https://doi.org/10.1108/JHTI-02-2022-0069

Appendix 1.

Variables / Indicators		Mean	SD	Interpretation
Destination COVID status		3.99	0.93	High
CS1	I would consider the number of active cases in the destination at the time of travel.	3.98	1.05	Agree
CS2	I am concerned about the number of COVID tests performed.	3.76	1.19	Agree
CS3	The COVID-19 death rate in the planned destination is important to be considered.	4.09	1.00	Agree
CS4	The general epidemiological pattern is an important factor to assess travel risk in a specific destination.	4.12	0.95	Agree
Health care services		4.50	0.74	Very high
HC1	The availability of quality health care in the destination is something I shall consider when travelling.	4.46	0.80	Strongly agree
HC2	Health care services in the planned destination need to be of a high standard.	4.53	0.79	Strongly agree
HC3	I will travel to a country with a good reputation in medical experience, appropriate equipment, and medication for any infected case.	4.51	0.82	Strongly agree
HC4	I care about the affordability of health care services in the country I will visit.	4.49	0.81	Strongly agree
Distribution channels		4.39	0.75	Very High
DC1	I prefer a wide range of online platforms while purchasing tickets, booking hotels, or buying tour packages.	4.34	0.90	Strongly agree
DC2	I think digital platforms are effective for obtaining information, selecting destinations, and sharing travel experiences.	4.43	0.81	Strongly agree
DC3	The availability of distribution channels helps people reduce the risk of diseases insurgence	4.39	0.76	Strongly agree
Hygiene and safety		4.53	0.72	High
HS1	After Covid-19, my need for hygiene while travelling has changed.	4.55	0.83	Strongly agree
HS2	I prefer destinations equipped with medical facilities	4.57	0.76	Strongly agree
HS3	After Covid-19, I care more about the hygiene and safety of transportation and accommodation services	4.61	0.75	Strongly agree
HS4	I prefer destinations where there is a committing protocol for government and citizens to eradicate the virus.	4.56	0.79	Strongly agree
HS5	Wearing masks, social distancing measures, and cleanliness in public and tourist spaces determines which country has minimal risks.	4.38	0.87	Strongly agree
Perceived travel risk		3.51	1.16	Moderate
TR1	I would be at risk of catching COVID-19 during my travel.	3.52	1.28	Agree
TR2	I would be worried that, overall, I wouldn't have a good experience during my trip because of COVID-19.	3.46	1.30	Agree
TR3	I would worry about feeling stressed most of the time, during my trip.	3.43	1.30	Agree
TR4	I feel nervous about travelling because of COVID-19 status.	3.40	1.32	Agree
TR5	The effect of the Covid-19 pandemic has created international anxiety for travelling destinations.	3.86	1.12	Agree
TR6	I prefer to spend my leisure time alone due to the Covid-19 pandemic.	3.38	1.38	Neutral
Travel attitude		3.39	1.07	Moderate
TA1	I believe it is a good idea to travel in the near future.	3.53	1.18	Agree

Variables / Indicators		Mean	SD	Interpretation
TA2	In the current status of COVID-19, I believe travelling will be safe.	3.37	1.15	Neutral
TA3	During my trip, I will join tour groups.	3.30	1.16	Neutral
TA4	I will consider traveling within the next 3-6 months.	3.35	1.14	Neutral
Subjective norms		3.39	1.10	Moderate
SN1	Most people who are important to me think I should travel in the near future.	3.34	1.13	Neutral
SN2	I intend to travel for leisure with my friends and family in the near future.	3.44	1.18	Agree
SN3	My family and friends intend to travel in the near future.	3.38	1.17	Neutral
Perceived behavioral control		3.40	1.16	Moderate
BC1	I have resources, time and opportunities to travel in the near future.	3.39	1.20	Neutral
BC2	I will have the availability in my schedule to go on with my holiday plan in the near future.	3.37	1.20	Neutral
BC3	I am confident that I can travel in the near future.	3.45	1.19	Agree
Future travel intention		3.39	1.09	Moderate
TI1	I will make a plan to travel in the near future.	3.45	1.18	Agree
TI2	I intend to travel in the near future.	3.43	1.20	Agree
TI3	I feel I will not experience serious barriers while traveling internationally.	3.19	1.13	Neutral
TI4	I feel excited about traveling in the near future.	3.49	1.17	Agree