Impact of Travel Behavior on Travel Motivation and Perceived Risk: Exploring COVID-19 Risk Factors in the Post-Pandemic Era *

Yu-Lun Hsu
Bachelors' Program of Sports and Health Promotion, Fo Guang University, Taiwan (R.O.C.)
Email: ylhsu@gm.fgu.edu.tw

Abstract

This study explores the impact of COVID-19 on travel motivation, perceived risk, and travel behavior in the post-pandemic era. The pandemic has significantly reshaped global travel, influencing individuals' travel motivations, destination choices, and behavior. This research examines how COVID-19 risk perception has altered travelers' decisions, including their use of online travel agencies and information-seeking behaviors. Using a quantitative survey and statistical analysis, the findings reveal that risk perception plays a key role in shaping travel choices, emphasizing the importance of health and safety.

The study offers valuable insights for the tourism industry in adapting to evolving traveler preferences in the wake of global health crises.

Keywords: travel behavior; tourism industry; travel motivation; risk perception

* ได้รับบทความ: 16 ตุลาคม 2567; แก้ไขบทความ: 3 ธันวาคม 2567; ตอบรับตีพิมพ์: 20 ธันวาคม 2567
Received: November 16, 2024; Revised: December 3, 2024; Accepted: December 20, 2024

1. Introduction

COVID-19is a respiratory infectious disease caused by a coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This virus was first identified in Wuhan, Hubei Province, China, at the end of 2019, and subsequently spread rapidly worldwide, becoming a global pandemic. The symptoms of COVID-19 range from mild cold-like symptoms to severe respiratory distress, particularly posing severe health risks, and potentially leading to death, for the elderly and individuals with underlying health conditions. To prevent the spread of the virus, countries around the world have implemented a series of preventive measures, including social distancing, mask-wearing, quarantine, and lockdowns.

The outbreak of the COVID-19 pandemic has had extensive and profound impacts on individuals, not only in terms of health but also encompassing social, economic, and psychological dimensions. Research published in The Lancet indicates that the global COVID-19 pandemic has affected people's lifestyles, economic activities, and mental health (Silvestri, 2020). This crisis has led to significant changes in people's lives, challenging healthcare systems, altering work and social interactions, and reshaping daily routines (Manchia et al., 2022).

The outbreak of the COVID-19 pandemic has also had a profound impact on the global tourism market, significantly altering travel behaviors and the operations of tourism businesses. A study published in Tourism Management Perspectives pointed out that the global tourism industry faced unprecedented setbacks during the pandemic, and its recovery will require a multifaceted approach (Sigala, 2020). Early in the pandemic, countries implemented travel restrictions, lockdown measures, and quarantine requirements to curb the virus’s spread, leading to a sharp decline in both international and domestic tourism activities. Airlines canceled flights, and hotels and travel agencies faced numerous challenges with cancellations and refunds, resulting in a steep decline in tourism

revenue. Additionally, the pandemic has shifted people's travel attitudes and behaviors. Concerned about the risk of infection, travelers tend to cancel or delay their travel plans, with a growing preference for self-driving tours, suburban vacations, or short-distance trips. This shift has had varying effects on traditional tourist destinations and transportation hubs (Gössling, Scott, & Hall, 2020).

COVID-19 has forced people to consider additional factors when planning travel. During the pandemic, many travelers' motivations and preferences changed, primarily influenced by health and safety concerns, as well as the practicality of travel. Travelers are now more cautious in evaluating risks, often avoiding high-risk areas. With fears of contracting the virus during travel, health and safety have become primary factors driving travel motivation. Regions with better pandemic control or those closer in distance are preferred to minimize travel risks. Tourists are also more inclined to select destinations with open spaces and natural environments, and to opt for less crowded modes of travel, such as self-driving tours, camping, or suburban vacations. Travel motivations vary among tourists, but the knowledge, joy, and satisfaction derived from travel continue to inspire persistence in engaging in travel activities, contributing to mental and physical relaxation (Chiu & Chen, 2022). Understanding these motivations, particularly under the heavy impact of the COVID-19 pandemic over the past two years, is essential for analyzing evolving travel behavior.

Theories on risk perception related to COVID-19 primarily focus on individuals' perception and response to pandemic-related risks. Among these, the Health Belief Model (HBM) and Protection Motivation Theory (PMT) are commonly cited frameworks. PMT suggests that when individuals perceive a threat, their protective motivation compels them to take actions to mitigate that threat (Rogers, 1975). In the context of COVID-19, PMT can explain how travelers assess the risk of infection and how these assessments drive them to adopt preventive behaviors. The perceived threat of COVID-19 infection has altered travelers' motivations,

making health and safety top concerns. As a result, travelers are more likely to choose low-risk destinations, adopt cautious travel methods, and seek reassurance during their trips.

Travel motivations, COVID-19 risk perception, and destination selection collectively shape travel patterns during the pandemic. Understanding travel motivations helps reveal the underlying reasons why people choose to travel. The pandemic has altered people's values and life priorities, thus influencing their travel motivations. Additionally, safety and health considerations have become integral to travel decisions, forming a core research focus. Risk perception, particularly regarding health risks, has a direct influence on individuals' decisions to travel and their destination choices. Areas with perceived severe outbreaks are typically avoided, further highlighting the role of risk perception in shaping travel behaviors (Gössling, Scott, & Hall, 2020).

Recent research underscores the profound impact of the COVID-19 pandemic on the global tourism industry, urging tourism operators and governments to rethink the future of travel (Gössling, Scott, & Hall, 2020). This highlights the importance of understanding changes in travel behavior and the need for research on travel motivations, risk perception, and destination selection. This study aims to explore how COVID-19 risk perception influences individuals' travel motivations and destination choices. Given the unprecedented challenges faced by the tourism industry during this global health crisis, understanding travelers' risk perceptions and their impact on travel behavior is crucial. This research will employ a quantitative survey and statistical analysis to examine how COVID-19 risk perceptions, changes in travel motivations, and destination preferences influence travel behavior during the pandemic.

2. Research Objectives

1. How does COVID-19 risk perception affect travel motivations? This question aims to explore how individuals' perceived risk of contracting COVID-19 influences their decisions to travel and the factors that drive their travel behavior.

2. How does COVID-19 risk perception impact destination selection? This question investigates how travelers' risk perception influences their choice of destinations, focusing on health and safety concerns during the pandemic.

3. What is the moderating role of COVID-19 risk perception in the relationship between travel motivation and destination selection? This question examines how different levels of risk perception affect the influence of travel motivation on destination choice, particularly in high-risk contexts.

4. What actionable insights can be provided for the tourism industry? This question explores strategies that tourism operators can adopt to address changing traveler preferences in response to health and safety concerns.

3. Methods

Previous research has shown that travel motivation significantly impacts destination selection. It has been found that travel motivation determines travelers' interest in different destinations, thereby influencing their final choice (Gartner, 1993). It has been emphasized that travel motivations are reflected in the activities and experiences that travelers seek (Dann, 1977). Further analysis of the relationship between travel motivation and attitude demonstrated how different motivations can form specific attitudes and affect travelers' decision-making processes (Gnoth, 1997). These studies collectively highlight the importance of travel motivation and its profound impact on destination selection. Therefore, this study proposes the first hypothesis:

H1: Travel motivation has a significant impact on destination selection.

Researching risk perception, travel motivation, and destination selection during the pandemic holds significant importance. Firstly, the pandemic has altered people's perception of travel risks, with many travelers becoming more concerned about health and safety issues, actively seeking reliable information and preventive measures. This change in risk perception has also led to shifts in travel motivations: people may prefer destinations that involve close proximity and outdoor activities to reduce the risk of infection. In terms of destination selection, travelers are more willing to choose places with good sanitation facilities and controllable risks, and they will flexibly adjust their itineraries based on the latest pandemic information and related policies. Therefore, this study proposes the second and third hypotheses:

H2 : COVID-19 risk perception has a significant impact on travel motivation.

H3 : COVID-1 9 risk perception has a significant impact on destination selection.

However, when travelers perceive a high risk of COVID-1 9 infection, they may become more cautious about travel activities, thereby changing their travel motivations and destination preferences. In high-risk situations, travelers may tend to choose destinations with lower risks and stricter pandemic management. For travelers who prioritize sanitation facilities, destinations with comprehensive medical and sanitation facilities might be more attractive, even taking precedence over other travel motivations. COVID-1 9 risk perception might influence the prioritization of travel motivations, making the desire for relaxation and mental rejuvenation more prominent. Consequently, travelers might opt for more remote, outdoor-focused destinations to avoid crowds and reduce contact risks. Therefore, this study proposes the fourth hypothesis:

H4 : COVID-1 9 risk perception moderates the relationship between travel motivation and destination selection.

This study explores the impacts among COVID-19 risk perception, travel motivation, and destination selection, using COVID-19 risk perception as a moderating variable between travel motivation and destination selection. The research framework is illustrated in Figure 1.

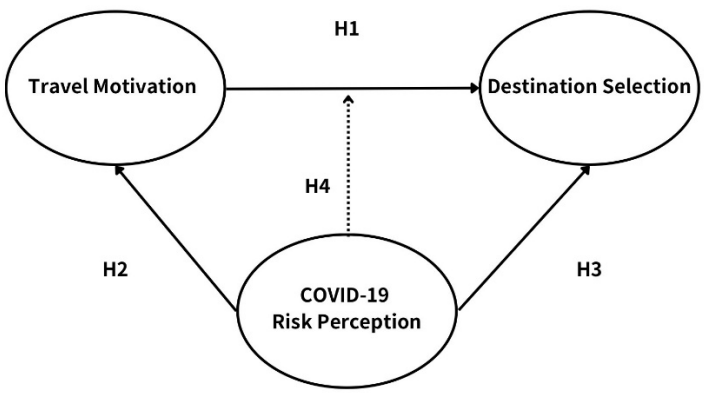

Figure 1. The research framework

This study adopted the "online convenience sampling" method to conduct the survey. A total of 400 questionnaires were distributed, and 368 were classified as valid, achieving a valid response rate of 92%. The questionnaire was divided into four parts: respondents' basic information, travel motivation scale, COVID-19 risk perception scale, and destination selection scale. Reliability tests were conducted using Cronbach's α coefficient to evaluate the internal consistency of the scales. The Cronbach's α for the travel motivation scale was 0.828, for the COVID-19 risk perception scale was 0.835, and for the destination selection scale was 0.826, indicating good internal consistency among the items in the scales.

Before conducting factor analysis, the study performed the KMO test and Bartlett's test of sphericity to assess the suitability of the data for factor analysis. The KMO value for the travel motivation scale was 0.876 with a significant

sphericity test; the KMO value for the COVID-19 risk perception scale was 0.803 with a significant sphericity test; and the KMO value for the destination selection scale was 0.868 with a significant sphericity test. These values indicate sufficient common variance among the variables for factor extraction, and the results of Bartlett's test further confirmed the appropriateness of factor analysis.

After extracting factors, the cumulative total variance explained for each dimension was 65.23% for the travel motivation scale, 74.59% for the COVID-19 risk perception scale, and 66.12% for the destination selection scale. These results provided a solid foundation for subsequent analyses. The results of the reliability and validity analysis of each scale are summarized in Table 1.

Table 1. Reliability and validity analysis

Scale	KMO	Bartlett's test	Cumulative explanatory variance	Cronbach's α
Travel motivation	0.876	Chi-sq =1032.26 (Sig=0.000<0.05)	65.23%	0.828
COVID-19 Risk perception	0.803	Chi-sq =455.092 (Sig=0.000<0.05)	74.59%	0.835
Destination selection	0.868	Chi-sq =804.325 (Sig=0.000<0.05)	66.12%	0.826

4. Results

In this study, we conducted a regression analysis to explore the impact of travel motivation on destination selection. The analysis results showed that the β value was 0.660, indicating that when travel motivation increases, the positive impact on destination selection also increases. The overall regression model was significant (F=282.705, p-value=0.000), with an adjusted R^2 of 0.634, indicating that the model

explained 63.4% of the variance in the dependent variable (destination selection). This suggests that travel motivation plays a crucial role in destination selection. Based on these results, we can confirm that hypothesis H1: "Travel motivation has a significant impact on destination selection" is supported (see Table 2).

In the regression analysis of the impact of COVID-19 risk perception on travel motivation, the regression coefficient (Beta value) was 0.515, with a t-value of 11.504 (p-value < 0.001), indicating that COVID-19 risk perception has a significant positive impact on travel motivation. As COVID-19 risk perception increases, people's travel motivation correspondingly strengthens.

The model's F-value was 132.336 (p-value < 0.001), indicating significance. The adjusted R-squared value was 0.264, showing that the model explains 26.4% of the variance in travel motivation. Although this value suggests that other factors may also influence travel motivation, COVID-19 risk perception has been confirmed as an important factor. Therefore, we can confirm that hypothesis H2: "COVID-19 risk perception has a significant impact on travel motivation" is supported (Table 3).

In the context of the pandemic, high awareness of health risks may instead stimulate people's desire to travel, potentially stemming from a pursuit of freedom, emotional release, or escape from daily life. This desire reflects a psychological and emotional need, where, in the face of the pressure and uncertainty of a global health crisis, people seek to restore a sense of control and obtain psychological relief through travel. The study found a significant positive relationship between COVID-19 risk perception and travel motivation, which is closely related to the phenomenon of "revenge travel" observed after the pandemic's restrictions eased. Revenge travel describes the behavior of people actively engaging in travel activities after the lockdown and travel restrictions are lifted. This behavior is not only a rebound from prolonged restrictions but also a psychological and emotional release. The increase in travel activity may be an

attempt by people to compensate for experiences and freedoms lost during the pandemic.

Table 2. Regression analysis of Travel motivation and Destination selection

Dependent variable	**Destination selection**			
	Unstandardized coefficient		Standardized coefficient	t-value
Independent variables	β-value	Standard error	Beta	
Travel motivation	0.746	0.044	0.660	16.814***
Adjusted R^2= .634 F = 282.705***				

Note: ***$p < 0.001$

Table 3. Regression analysis of COVID-19 Risk perception and Travel motivation

Dependent variable	**Travel motivation**			
	Unstandardized coefficient		Standardized coefficient	t-value
Independent variables	β-value	Standard error	Beta	
COVID-19 Risk perception	0.414	0.036	0.515	11.504***
Adjusted R^2=0.264 F = 132.336***				

Note: ***$p < 0.001$

In the study, we explored the impact of COVID-19 risk perception on destination selection. The regression analysis results showed that COVID-19 risk perception has a significant positive impact on destination selection. Specifically, the regression coefficient (Beta value) was 0.588, indicating that as the perception of COVID-19 risk increases, people are more likely to consider this risk factor when choosing a travel destination. Additionally, the t-value was 13.912, with a corresponding p-value of less than 0.001, strongly suggesting that the impact of COVID-19 risk perception on destination selection is statistically significant. This

emphasizes the significant influence of travelers' health and safety awareness on their behavior choices during the current global health crisis. The model's F-value was 193.545, indicating that the overall model fits the data very well and has high explanatory power. The adjusted R-squared value was 0.344, indicating that the model explains 34.4% of the variance in destination selection. Therefore, we can confirm that hypothesis H3: "COVID-19 risk perception has a significant impact on destination selection" is supported (Table 4). These results not only provide empirical support for understanding how COVID-19 affects travel decisions but also offer important insights for market strategies in the tourism industry and the development of health and safety measures at destinations.

Table 4. Regression analysis of COVID-19 Risk perception and Destination selection

Dependent variable	**Destination selection**			
	Unstandardized coefficient		Standardized coefficient	t-value
Independent variables	β-value	Standard error	Beta	
COVID-19 Risk perception	0.534	0.38	0.588	13.912***
Adjusted R^2=0.344 F = 193.545***				

Note: ***p < 0.001

Table 5. Moderation of COVID-19 Risk Perception on Travel Motivation and Destination Selection

Dependent variable	**Destination selection**				
Independent variables	Standardized coefficient Beta	t-value	p-value	F-value	Adjusted R^2
Travel motivation	0.477	11.323	.000	282.705***	0.434
COVID-19 risk perception	0.325	7.706	.000	197.314***	0.517
Interaction term (Travel motivation * COVID-19 risk perception)	-0.100	-2.727	.007	136.343***	0.525

Note: ***p < 0.001

In this study, we conducted hierarchical regression analysis to explore the moderating effect of COVID-19 risk perception between travel motivation and destination selection. The analysis results showed that the Beta value for the moderating interaction term was -0.100, indicating that risk perception somewhat weakens the impact of travel motivation on destination selection. Specifically, when risk perception is high, the positive impact of travel motivation on destination selection is significantly reduced. The t-value for this moderating effect was -2.727, with a p-value of 0.007, indicating that the moderating effect of risk perception is statistically significant. The overall model fit was good, with an F-value of 136.343 (p-value < 0.001), demonstrating the overall significance of the model. The adjusted R-squared value was also 0.525, indicating that the model explains 52.5% of the variance in destination selection. This further confirms the moderating role of COVID-19 risk perception between travel motivation and destination selection and highlights the importance of high-risk perception in

reducing the influence of travel motivation on destination selection. Therefore, we can confirm that hypothesis H4: "COVID-19 risk perception moderates the relationship between travel motivation and destination selection" is supported (Table 5). These findings have practical implications for tourism operators in strategy formulation during the pandemic, especially in attracting consumers who are more sensitive to health and safety.

5. Discussion

The discussion in this study revolves around the impact of COVID-19 on travel behavior, motivation, and perceived risk. The study empirically supports how these factors interrelate, especially in a global health crisis. Specifically, COVID-19 has fundamentally reshaped people's travel motivations, emphasizing health and safety. This shift has made travelers more cautious, prioritizing low-risk destinations and outdoor activities that minimize exposure to the virus. The findings confirm that risk perception plays a significant role in influencing travel decisions. The regression analysis showed that as perceived risk increases, so does travel motivation, albeit in a different direction than traditional motivations. For instance, the concept of "revenge travel," where people travel more intensely after restrictions ease, highlights the psychological need to regain control and seek emotional relief. These insights underline the tourism industry's need to adapt, particularly by emphasizing health protocols and promoting destinations that can address these new traveler concerns. The moderating effect of risk perception was also evident, weakening the direct impact of travel motivation on destination selection. High-risk perception encourages travelers to opt for destinations with more robust safety measures, even if those destinations might not align with their original preferences.

6. New Knowledge

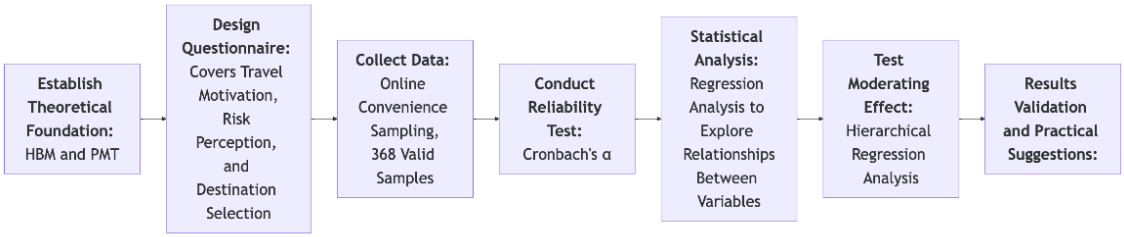

Figure 2. Research Framework and Methodological Process

This study is demonstrated through the use of quantitative surveys and statistical analyses. Specifically, the researchers applied foundational theories such as the **Health Belief Model (HBM)** and the **Protection Motivation Theory (PMT)** from health behavior studies to explain how COVID-19 risk perception influences travel motivations and behaviors. The study utilized a revised questionnaire to collect data and employed reliability tests (e.g., Cronbach's α) and regression analysis to validate hypotheses, ensuring the data's reliability and the results' effectiveness. Statistical methods like hierarchical regression analysis were used to explore the role of risk perception as a moderating variable, further examining the relationship between travel motivation and destination selection. By applying these quantitative tools and theoretical frameworks, the researchers systematically gained insights into travelers' behavioral patterns and motivations, providing specific recommendations for addressing the impacts of the pandemic. This application of research knowledge highlights how statistical techniques and theoretical models are employed to answer specific research questions, advancing academic and practical understanding.

7. Suggestion

From the government's perspective, strengthening travel suggestions should focus on public health and restoring travelers' confidence. One of the key strategies is enhancing health and safety measures by implementing stringent health protocols in tourist areas, including regular sanitation, health checks, and vaccination requirements. These actions aim to address travelers' perceived risks and make destinations safer and more attractive. Additionally, governments can promote low-risk destinations, particularly domestically, by identifying and marketing areas with low infection rates. Incentives for local tourism, such as subsidies or discounted travel packages, can also help reduce the risk perception linked to international travel and foster safer tourism experiences.

Another crucial approach is to ensure flexible travel policies. Governments should mandate that tourism operators provide flexible cancellation and refund policies to encourage tourists to make travel plans without fearing financial loss due to sudden pandemic-related changes. Public awareness campaigns are equally important; these campaigns can educate the public about safety protocols, risk reduction strategies, and the positive aspects of traveling during the post-pandemic period, ultimately reducing perceived risks and restoring public confidence in travel.

References

Chiu, J. C., Chen, C. A. (2022). The Relationship among Tourists' Travel Motivation, Perceived Risk and Travel Intention in the Post-Epidemic Era-A Case of Tainan Historic Sites. *Information and Management Science, 15*(2), 26-45. https://www.airitilibrary.com/Article/Detail?DocID=20720971-N202302030007-00002

Dann, G. M. S. (1997). Anomie, ego-enhancement and tourism. *Annals of Tourism Research, 4*(4), 184-194. doi: 10.1016/0160-7383(77)90037-8

Gartner, W. C. (1993). Image formation process. *Journal of Travel & Tourism Marketing, 2*(2-3), 191-216. doi: 10.1300/J073v02n02_12.

Gnoth, J. (1997). Tourism motivation and expectation formation. *Annals of Tourism Research, 24*(2), 283-304. doi.org/10.1016/S0160-7383(97)80002-3

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

Manchia, M., Gathier, A. W., Yapici-Eser, H., Schmidt, M. V., Quervain, D., Amelsvoort, T., ... Vinkers, C. H. (2022). The impact of the prolonged COVID-19 pandemic on stress resilience and mental health: A critical review across waves. *European Neuropsychopharmacology*, *55*, 22-83. doi: 10.1016/j.euroneuro.2021.10.864.

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. http://doi.org/10.1080/00223980.1975.9915803

Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research, 117*, 312-321. http://doi.org/10.1016/j.busres.2020.06.015

Silvestri, M. (2020). COVID-19: too little, too late?, *Lancet, 395*(10226), 755. doi: 10.1016/S0140-6736(20)30522-5.