To travel, or not to travel? The impacts of travel constraints and perceived travel risk on travel intention among Malaysian tourists amid the COVID-19

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Abstract
The tourism and hospitality industry has been deeply disrupted by the COVID-19 pandemic since its inception in December 2019. Many tourists are too anxious to travel. Thus, understanding how travel constraints and perceived travel risk influence travel intention is crucial for many destinations in their post-crisis recovery. Drawing upon 357 Malaysian respondents, this study finds that structural constraints initiate tourists' negotiation process for travel decisions, which is inconsistent with the original Leisure Constraints Model. Nevertheless, it is reaffirmed that intrapersonal constraints remain the centrality of the negotiation process as they mediate the relationship between structural constraints, perceived travel risk and travel intention. These findings provide some theoretical contributions with regard to the Leisure Constraints Model and perceived travel risk in the context of the COVID-19. Based on the theoretical contributions, this study also sheds light on tourism revival from a practical perspective. Tourism authorities, destination marketing organizations, and business operators are suggested to take measures to restore tourists' confidence toward travel by reducing structural constraints and mitigating tourists' risk perception in a cooperative manner.

1 | INTRODUCTION

Due to its inherent nature of human mobility, the tourism and hospitality industry is particularly susceptible to a variety of risks, such as war, crime, terrorism, disaster, and contagious disease (Caber et al., 2020; Gössling et al., 2020). Since its inception in December 2019, the COVID-19 pandemic has deeply disrupted the sector in unprecedented ways. As a result, the mobility of international tourists almost ceased to exist. To prevent the spread of the airborne disease, many countries closed their borders to non-residents. It is estimated that the global tourism and travel industry may decline 58% to 78% with regard to international arrivals in 2020, which roughly equals a loss of USD 320 billion (UNWTO, 2020). Furthermore, at least 75 million jobs are at immediate risk, and the annual loss of global tourism and hospitality may reach 2.1 trillion USD in 2020 (WTTC, 2020). Based on McKinsey’s prediction, the industry may take 3–4 years to achieve a full recovery, and the cumulative losses may reach USD 3–8 trillion (McKinsey & Company, 2020).

Given the immense impacts of the COVID-19, researchers and practitioners are intensively discussing crisis management for effective recovery in tourist flow (Rasoolimanesh et al., 2021; Rastegar et al., 2021). The pandemic has changed tourists’ perceptions and habits toward travel. Thus, it becomes less appealing to travel, which leads to a disastrous impact on the tourism industry (Hugo, 2021; Zenker & Kock, 2020). Significantly, tourist flow, as a complex system, is mutually determined by both destination-related and tourist-related factors (Jin et al., 2019). However, most of the extant studies in relation to risk management are conducted from the destination perspective (Hassan & Soliman, 2021), and only a few studies discuss tourism market recovery after crises from the tourist perspective (Jin et al., 2021; Ritchie & Jiang, 2019). Furthermore, the COVID-19 has a profound influence on people’s travel behaviors as well. Out of health...
concerns, many tourists may feel enormous anxieties toward travel, especially international travel (Neuburger & Egger, 2020). At the same time, most countries restrain human mobilities (e.g., inbound and outbound travel), and the entry process to another country is very tedious and costly (Hall et al., 2020). Because of these internal obstacles and external barriers, tourists’ travel behaviors are changing amid the global pandemic. For example, tourists are more likely to choose less crowded destinations with good medical facilities where they are perceived with low health risks after the outbreak of the COVID-19 pandemic (Wen et al., 2020). Therefore, tourist psychology and travel constraints must be discussed for the purpose of post-pandemic tourism recovery.

There are many prior studies discussing the interplay among travel constraints, perceived travel risk, and travel intention (Godbey et al., 2010; Mei & Lantai, 2018; Park et al., 2017). Nevertheless, how a health related crisis influence post-crisis tourists’ travel intention is not well-developed, especially among tourists from an emerging market (Pan et al., 2021). Besides, it remains largely unclear how different types of travel constraints influence tourists’ intention to travel, and how tourists’ risk perception influences their inner psychological evaluation toward travel and consequent travel intention/behavior amid the ongoing pandemic that we have not encountered a similar one since the outbreak of the Spanish Flu (Pan et al., 2021). Matiza and Kruger (2021) argue that it is necessary to explore COVID-19 associated perceived risk and travel behaviors in different regions and countries for the purposes of post-crisis communication and marketing promotion. In addition, this pandemic has made it even more important to understand psychological factors influencing travel decision making amid of the pandemic that is still in a dearth of examination. Comprehending tourists’ behaviors from cognitive and affective perspectives is pivotal for destination marketing in times of crisis (Seyfi et al., 2021).

To fill the knowledge gap, this study aims to investigate the interplay among travel constraints, perceived travel risk, and travel intention by drawing upon Malaysian tourists amid the COVID-19 pandemic. More specifically, how does structural constraints (i.e., cost, time, and space) influence intrapersonal constraint and travel intention; how does perceived travel risk influence intrapersonal constraint and travel intention; and whether intrapersonal constraint mediate the relationship between structural constraints/perceived travel risk and travel intention. Thus, this research deepens our knowledge of tourists’ travel-related behaviors after a global health crisis, and provide deeper insights in relation to impacts of perceived travel risk and travel constraints on travel intention, which facilitates tourism authorities, tourism promotion agencies, and related businesses gaining a better understanding of how tourists make travel decisions amid a global health crisis in a Malaysian context so as to cope with the negative impacts of the COVID-19 pandemic accordingly.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Travel constraints have been widely discussed for decades. According to Jackson (1991), constraints are defined as factors that inhibit individuals’ from forming preferences and participation in leisure activities. To be more specific, constraints negatively influence individuals’ ability to maintain or increase travel frequency (Hung, 2014). From the definition, we know that constraints hinder people from traveling or participating in a particular leisure activity. As a result, demand for tourism products and services will probably decrease, so it is very important to figure out how constraints influence travel behaviors. To understand the effects of travel constraints on leisure behaviors, Crawford and Godbey (1987) initially proposed the Leisure Constraints Model (LCM), which is further enhanced by Crawford et al. (1991), and Jackson et al. (1993). According to the extant literature, much knowledge on travel constraints are drawn based on the LCM (Mei & Lantai, 2018).

Since the inception of the model over three decades ago, it has received considerable attention in academia, and inspired much noticeable research in leisure studies (Godbey et al., 2010). According to Crawford and Godbey (1987) and other researchers who make significant contributions to leisure constraints studies, the LCM is constructed by intrapersonal, interpersonal, and structural constraints (Godbey et al., 2010). Based on the LCM, intrapersonal constraints are defined as people’s inner psychological states and attributes, related to an individual’s perceptions of personal skills, abilities, and self-esteem (e.g., values, beliefs, and social roles), which shape people’s behavioral preferences (Jackson, 1993). Interpersonal constraints are related to an individual’s social interactions with other people (e.g., lack of companionship to participate in a leisure activity) (Crawford et al., 1991). Structural constraints refer to external barriers to an individual (e.g., limited time, resources, opportunities, and accessibility issues) (Crawford & Godbey, 1987).

It is suggested that constraints have a negative impact on behavioral intention (Karl et al., 2020), which is supported by previous studies (Park et al., 2017). For example, Lai et al. (2013) investigated Chinese tourists’ intention to visit the USA, and they found that travel constraints negatively influenced travel intention. In addition, Koronios et al. (2020) state that only structural and interpersonal constraints negatively affect sport spectators’ consumption intention, and interpersonal constraints do not significantly influence consumption intention. However, Lee et al. (2012) conclude that there is no significant correlation between constraints and travel intention in disabled tourism market. The inconsistency suggests that a further examination is needed with regard to the relationship between constraints and travel intention. Moreover, some researchers state that the importance of different travel constraints should be analyzed contextually (Jackson & Dunn, 1991). In addition, Mannell and Zuzanek (1991) argue that travel constraints are relatively unstable, and they may change in various contexts (Jackson & Dunn, 1991). Therefore, the current research intends to investigate how constraints influence travel intention amid the ongoing COVID-19 pandemic that has brought serious disruptions to the tourism and hospitality industry. Arguably, the change of social context may reshape the interplay between constraints and travel behaviors (Godbey et al., 2010; Li et al., 2020).

Meanwhile, Crawford et al. (1991) proposed that the LCM was a sequential hierarchy, and intrapersonal constraints were the most fundamental factors. In other words, individuals have to overcome
intrapersonal constraints first before they can move to interpersonal constraints, then structural constraints. This proposition is further discussed by Jackson et al. (1993) who added travel negotiations to the model. They argue that the whole negotiation process influences individuals’ final decision on whether to participate in a certain activity and participation frequency. Individuals will try to negotiate through encountered constraints. Some people may manage to overcome constraints because of their high travel motivations or other personal factors, and some others may eventually give up due to a strong perception of travel constraints (Alexandris et al., 2017). Therefore, constraints do not necessarily result in non-participation but restrict type, level, and frequency of leisure activity participation (Mei & Lantai, 2018).

The proposition of the sequential hierarchy in relation to constraints is supported by statistical procedures conducted by Raymore et al. (1993). Nevertheless, opposite findings on the hierarchy are also reported by previous studies (Godbey et al., 2010; Walker et al., 2007). As a matter of fact, some researchers argue that intrapersonal, interpersonal and structural constraints may interrelate with one another (Gilbert & Hudson, 2000; Godbey et al., 2010). Furthermore, Hughes et al. (2015) proposed another travel constraints hierarchy by exploring Chinese international students’ travel patterns in Australia. They argue that control barriers (e.g., cost and time) are the most powerful constraints, other barriers (e.g., perceived self-skills, emotions, and attitudes) appear to be less influential. From a practical point of view, individuals are not likely to travel without required resources (e.g., cost and time) even if they are keen to travel (Hughes et al., 2015). More importantly, these barriers may reshape people's perception of intrapersonal constraints under the current situation of a global pandemic (Li et al., 2020).

Significantly, Godbey et al. (2010) point out that the LCM is circular rather than linear, and the starting point of constraints negotiation is determined by the specific situation or context where an individual is. Thus, they argue that structural constraints may make people experience intrapersonal constraints when structural constraints are salient in a certain situation. Given the ongoing COVID-19 pandemic, most destinations require quarantine-related measures, and they also implement other travel restrictions (Li et al., 2020). As a result, structural constraints become even more powerful, especially when tourists want to cross borders. In such cases, individuals’ are inclined to perceive a higher level of constraints with regard to financial and time-related costs, which may construct a new negotiation process starting from structural constraints. Amid the current COVID-19 crisis, structural constraints may heavily influence people’s psychological states toward travel and consequently their travel behaviors. For example, tourists probably will avoid long-haul destinations, and alternatively choose less crowded attractions nearby (Chua et al., 2021; Fuchs & Reichel, 2006; Li et al., 2020). In this research, we argue that structural constraints have a negative impact on intrapersonal constraints. Thus, the following hypotheses are proposed:

H1. Structural cost has a negative impact on intrapersonal constraints among Malaysian tourists.

H2. Structural time has a negative impact on intrapersonal constraints among Malaysian tourists.

H3. Structural space has a negative impact on intrapersonal constraints among Malaysian tourists.

Based on previous studies examining the relationship between constraints and behavioral intention, it is argued that constraints negatively influence travel intention (Karl et al., 2020; Lai et al., 2013; Park et al., 2017). Among all the constraints, it is found that individuals do not necessarily encounter interpersonal constraints (Koronios et al., 2020), especially when they are truly interested in travel (Bonn et al., 2016; Gilbert & Hudson, 2000; Lai et al., 2013; Mei & Lantai, 2018). In fact, the solo travel market had been steadily growing before the pandemic (Seow & Brown, 2018). This may be attributable to the fact that information technology effectively ameliorates solo tourists’ feelings of loneliness. They can keep close contact with their friends, family, and significant others via video-chat or virtual streaming, and they can also find a sense of belonging and community on social media (Du et al., 2020). Therefore, the influence of interpersonal constraints is arguably diminishing.

Thus, this research excludes interpersonal constraints. In addition, constraints do not definitely result in non-participation, but restrict travel frequency, activity type, and destination selection (Mei & Lantai, 2018). Whether an individual will travel largely depends on the result of his/her negotiation process toward travel (Jackson et al., 1993). The negotiation process is mainly determined by the individual’s inner psychological attributes rather than external factors (Lye, 2012; Xie & Ritchie, 2019). Therefore, we argue that intrapersonal constraints are the most central constraints, and they may take a mediating role between constraints at other levels and behavioral intention (Godbey et al., 2010). The following hypotheses are proposed:

H4. Structural cost has a negative impact on travel intention among Malaysian tourists.

H5. Structural time has a negative impact on travel intention among Malaysian tourists.

H6. Structural space has a negative impact on travel intention among Malaysian tourists.

H7. Intrapersonal constraints have a negative impact on travel intention among Malaysian tourists.

H8. Intrapersonal constraints mediate the negative relationship between structural cost and travel intention among Malaysian tourists.

H9. Intrapersonal constraints mediate the negative relationship between structural time and travel intention among Malaysian tourists.
H10. Intrapersonal constraints mediate the negative relationship between structural space and travel intention among Malaysian tourists.

As an important factor influencing travel behaviors, perceived travel risk has received an increasing attention from both academia and industry (Caber et al., 2020). According to the United Nations Environment Programme (2008), risk refers to something that should be avoided and it is related to a possible loss. Tourism, as a service-intensive industry relying on human mobilities, is susceptible to the negative influence of various uncertainties and risks (Caber et al., 2020). In the context of tourism, Sharifpour et al. (2014) categorize travel risk into (1) physical risk, (2) destination specific risk, and (3) general risk. Physical risk is a reflection of physical harm as a result of travel, including crime, terrorism, political instability, food safety, and health concerns. Meanwhile, tourists’ concerns on health, safety, and well-being usually are uncontrollable factors (Simpson & Siguaw, 2008). How does a tourist perceive risk may be seen as a cognitive process of an individual’s subjective evaluation toward a threatening situation (Neuburger & Egger, 2020). Similarly, Resinger and Movondo (2005) define perceived travel risk as an individual’s overall evaluation in relation to uncertainties and possible losses.

Based on the evaluation result, an individual may change his/her psychological states toward travel and related behaviors (Neuburger & Egger, 2020). If an individual perceives a high level of risk toward a destination, such as disease, crime or terrorism, s/he probably will form negative emotions that will influence his/her behavioral preferences and consequent behaviors (Khan et al., 2019). In tourism literature, the relationship between perceived travel risk and travel-related behaviors are often discussed (Abraham et al., 2020; Godovykh et al., 2021). By examining a case of post disaster Japan, Chew and Jahari (2014) found that perceived travel risk indirectly influenced revisit intention via cognitive and affective destination image. In another study, Khan et al. (2019) examined potential tourists’ intention to visit India, and they concluded that perceived travel risk had a negative impact on travel intention. Furthermore, Yüksel and Yüksel (2007) found that tourists’ emotions mediate the relationship between perceived travel risk and behavioral intentions. With regard to the COVID-19, Neuburger and Egger (2020) argue that the global pandemic influences tourists’ perception of health-related risks, and tourists are inclined to avoid travel for their health (Godovykh et al., 2021). Similarly, Luo and Lam (2020) state that fear over COVID-19 increases tourists’ anxiety level, and reduces their intention to visit “travel bubble” destinations. Comparatively, tourists may prefer domestic over international travel for lower perceived travel risk (Abraham et al., 2020). Even in situations where people have to travel, they prefer to participate in “untact” tourism (Bae & Chang, 2020). Thus, the following hypotheses are proposed:

H11. Perceived travel risk has a negative impact on intrapersonal constraints among Malaysian tourists.

H12. Perceived travel risk has a negative impact on travel intention among Malaysian tourists.

3 | RESEARCH METHODOLOGY

This study used a self-administered questionnaire to collect data via a convenience sampling method. The measurement items are all adapted from prior studies to ensure the questionnaire’s reliability and validity (Churchill Jr., 1979). The questionnaire was arranged into five different sections. Section one contains 11 items measuring structural constraints (i.e., cost, time, and space), which are modified from Bonn et al. (2016). Section two includes five items developed by Nyaupane and Andereck (2008) to measure intrapersonal constraints. Section three contains six items measuring perceived travel risk developed by Desivilya et al. (2015). Section four includes three items adapted from Khan et al. (2019) to measure travel intention. Section five provides demographic information of the respondents. A six-point Likert scale from “Strongly Disagree” to “Strongly Agree” is used for all the variables of the proposed framework. Aziz (2018) argues that using a six-point Likert scale could prevent responses clustering at the neutral point. In addition, respondents are more likely to be non-committed to the questionnaire when there is a neutral point in the Likert scale (Quee, 2002).

After the completion of the questionnaire, a pre-test was conducted to check whether the respondents interpreted the questionnaire the same way as the questionnaire was designed for (Long & Aziz, 2021). Based on the respondents’ feedback, a few items were re-worded to avoid possible misunderstandings (Dillman, 2011). The re-worded items were forwarded to the respondents, and they expressed that these items were easy to understand. The surveys were initially sent to 20 Malaysians who worked at different companies located in the Klang valley via the researchers’ personal network. Then, the 20 Malaysians distributed the questionnaire to their colleagues. From 15 June to 15 July 2020, 500 copies of questionnaire were distributed to office workers in the Klang valley of Malaysia through a snowball sampling technique.

Office workers were chosen because they have stable income and thus are more likely to purchase travel products. In addition, the Klang valley has the highest median household income in Malaysia (Department of Statistics Malaysia, 2020). To ensure that the respondents are tourists, we added a filter question asking whether they have traveled for leisure purposes in the last 24 months. With regard to snowballing method, the rationale to use it is to speed up the whole data collection process and receive reliable responses (Aziz, 2018). By the end of 15 July 2020, we had received 357 usable responses.

The Klang Valley is the largest metropolitan area of Malaysia. The Klang Valley is located within the state of Selangor and the Federal Territory of Kuala Lumpur, and it is acknowledged as being the most advanced and modern region in Malaysia. It is surrounded with trade, administrative, and cultural centers as well as providing work opportunities in various jobs. Thus, it represents different social classes, lifestyles, and cultures. Several researchers in the Malaysian context
adopted this approach because the sample drawn from these areas is likely to reflect the general population of Malaysia. Researching the actual consumer group allows a more valid and reliable explanation because employees/office workers have purchasing power and they are responsible in making purchase decisions, especially about vacations. Today, most adults in Malaysian households are working. Therefore, it is easier to capture data from the target respondents by distributing the questionnaires to various workplaces in the Klang Valley (Aziz et al., 2010).

4 | DATA ANALYSIS

In this study, PLS-SEM method was employed, and software SmartPLS 3 was used for data analysis (Ringle et al., 2015). In terms of a sampling threshold of PLS-SEM, previous studies argue that 100 is the minimum number of samples (Reinartz et al., 2009). Besides, both “ten times rule” and G*Power were referred to, and the sample size of the current research is adequate for applying PLS-SEM (Hair et al., 2017).

The measurement model and structural measurement model have to be established for hypothesis testing purposes (Hair et al., 2014). This paper generally followed the analysis procedure suggested by Hair et al. (2017). Therefore, internal consistency, convergent validity, and discriminant validity were assessed one by one. Table 1 shows that the outer loadings of all items are above 0.40 (Hulland, 1999), and the Composite Reliability (CR) value of each latent variable is greater than 0.70, so the internal consistency is confirmed (Hair et al., 2017). The Average Variance Extracted (AVE) value of each latent variable is higher than the threshold of 0.50, convergent validity thus is established (Hair et al., 2017).

In relation to discriminant validity, Fornell and Larcker’s (1981) criterion used to be widely applied, but Henseler et al. (2016) suggest that heterotrait-monotrait (HTMT) ratio of the correlation is a better approach due to its high sensitivity and specificity. Table 2 shows that all the HTMT values are less than 0.90, which indicates that the latent variables are not overlapping with each other (Gold et al., 2001). Therefore, discriminant validity of the research is confirmed.

Then, the variance inflation factor (VIF) was examined to assess lateral collinearity (Ringle et al., 2015). As is it shown in Table 3, all VIF values are no more than the threshold of 5 (Hair et al., 2017). Thus, the lateral collinearity issue could be ignored in this research.

After the establishment of the measurement model, t-values, p-values, coefficient of determination ($R^2$), effect size ($f^2$), predictive

| Construct                     | Item     | Outer loading | CR   | AVE   |
|-------------------------------|----------|---------------|------|-------|
| Structural cost (SC)          | SC1      | 0.890         | 0.923| 0.750 |
|                               | SC2      | 0.810         |      |       |
|                               | SC3      | 0.908         |      |       |
|                               | SC4      | 0.852         |      |       |
| Structural time (ST)          | ST1      | 0.848         | 0.868| 0.688 |
|                               | ST2      | 0.871         |      |       |
|                               | ST3      | 0.766         |      |       |
| Structural space (SS)         | SS1      | 0.551         | 0.810| 0.526 |
|                               | SS2      | 0.869         |      |       |
|                               | SS3      | 0.574         |      |       |
|                               | SS4      | 0.847         |      |       |
| Intrapersonal travel constraints (ITTC) | ITTC1   | 0.834         | 0.879| 0.598 |
|                               | ITTC2    | 0.757         |      |       |
|                               | ITTC3    | 0.549         |      |       |
|                               | ITTC4    | 0.849         |      |       |
|                               | ITTC5    | 0.835         |      |       |
| Perceived travel risk (PTR)   | PTR1     | 0.829         | 0.890| 0.582 |
|                               | PTR2     | 0.844         |      |       |
|                               | PTR3     | 0.887         |      |       |
|                               | PTR4     | 0.596         |      |       |
|                               | PTR5     | 0.547         |      |       |
|                               | PTR6     | 0.808         |      |       |
| Intention to travel (IN)      | IN1      | 0.927         | 0.835| 0.644 |
|                               | IN2      | 0.917         |      |       |
|                               | IN3      | 0.483         |      |       |

Abbreviations: AVE, average variance explained; CR, composite reliability.
relevance ($Q^2$) and effect sizes ($f^2$) were assessed to examine the structural model (Hair et al., 2017). As suggested by Hair et al. (2017), a bootstrapping procedure with 5000 resamples was conducted to test the proposed structural paths of the research. As indicated in Table 4, H1, H3, H7, H11, and H12 are supported at 95% confidence intervals with one-tailed testing, and H2, H4, H5, and H6 are rejected.

**Table 2** Discriminant validity

|       | IN  | ITTC | PTR | SC  | SS  |
|-------|-----|------|-----|-----|-----|
| ITTC | 0.224 |     |     |     |     |
| PTR  | 0.157 | 0.261 |     |     |     |
| SC   | 0.103 | 0.462 | 0.120 |     |     |
| SS   | 0.157 | 0.361 | 0.295 | 0.261 |     |
| ST   | 0.053 | 0.291 | 0.340 | 0.204 | 0.282 |

Note: Discriminant validity established at HTMT0.90.

**Table 3** Collinearity test (VIF)

|       | IN  | ITTC |
|-------|-----|------|
| ITTC | 1.346 |     |
| PTR  | 1.199 | 1.177 |
| SC   | 1.217 |     |
| SS   | 1.193 | 1.136 |
| ST   | 1.190 | 1.180 |

Abbreviation: VIF, variance inflation factor.

**Table 4** Results of hypotheses testing (direct relationship)

| Hypothesis | Relationship | Beta  | Std error | $T$ value | $p$ value | LL   | UL   | Decision   |
|------------|--------------|-------|-----------|-----------|-----------|------|------|------------|
| H1         | SC -> ITTC   | 0.332 | 0.053     | 6.266     | .000      | 0.224| 0.398| Supported  |
| H2         | ST -> ITTC   | 0.088 | 0.049     | 1.779     | .038      | −0.002| 0.158| Rejected   |
| H3         | SS -> ITTC   | 0.207 | 0.054     | 3.862     | .000      | 0.116| 0.291| Supported  |
| H4         | SC -> IN     | 0.015 | 0.068     | 0.224     | .411      | −0.102| 0.121| Supported  |
| H5         | ST -> IN     | 0.095 | 0.062     | 1.538     | .062      | −0.007| 0.188| Rejected   |
| H6         | SS -> IN     | −0.023| 0.081     | 0.279     | .390      | −0.139| 0.122| Rejected   |
| H7         | ITTC -> IN   | −0.178| 0.078     | 2.269     | .012      | −0.291| −0.040| Supported  |
| H11        | PTR -> ITTC  | 0.127 | 0.047     | 2.703     | .004      | 0.043| 0.195| Supported  |
| H12        | PTR -> IN    | −0.149| 0.067     | 2.219     | .013      | −0.244| −0.025| Supported  |

Note: LL (lower limit) and UL (upper limit) at 95% confidence intervals.

**Table 5** Results of hypotheses testing (mediating relationship)

| Hypothesis | Relationship | Beta  | Std error | $T$ value | $p$ value | LL   | UL   | Decision   |
|------------|--------------|-------|-----------|-----------|-----------|------|------|------------|
| H8         | SC -> ITTC -> IN | −0.059| 0.027     | 2.219     | .013      | −0.102| −0.016| Supported  |
| H9         | ST -> ITTC -> IN | −0.016| 0.012     | 1.261     | .104      | −0.039| 0.000| Rejected   |
| H10        | SS -> ITTC -> IN | −0.037| 0.020     | 1.795     | .037      | −0.074| −0.007| Supported  |
| H13        | PTR -> ITTC -> IN | −0.023| 0.014     | 1.571     | .058      | −0.050| −0.002| Rejected   |

Note: LL (lower limit) and UL (upper limit) at 95 percent confidence intervals.

Based on the parameters in the table, structural travel constraints (i.e., structural cost and structural space) and perceived travel risk have a positive effect on intrapersonal constraints. Meanwhile, perceived travel risk and intrapersonal constraints have a negative effect on travel intention. Significantly, structural travel constraints are not correlated with travel intention, which contradicts with the findings of some prior studies (Lai et al., 2013; Park et al., 2017).

According to Table 5, H8 and H10 are supported, indicating intrapersonal constraints mediate the relationship between structural cost/structural space and travel intention, and intrapersonal constraints do not have a mediating effect on the relationship between structural time/perceived travel risk and travel intention.

Table 6 shows information in relation to the coefficient of determination ($R^2$), effect size ($f^2$), and predictive relevance ($Q^2$) of the exogenous variables and endogenous variables. The $R^2$ value of...
intrapersonal constraints and travel intention is 0.257 and 0.06, respectively, indicating a moderate and weak level of predictive accuracy of the model on intrapersonal constraints and travel intention (Cohen, 1988). In terms of $r^2$, intrapersonal constraints and perceived travel risk have a small effect size on travel intention; structural cost, structural space, and perceived travel risk have a small effect on intrapersonal constraints, which is consistent with the path coefficients indicated in Table 4. At last, the $Q^2$ values of intrapersonal constraints and travel intention are all greater than 0, so the structural model has a predictive relevance on intrapersonal constraints and travel intention (Hair et al., 2017).

5 | DISCUSSION AND CONCLUSION

This research attempts to advance our understanding of the interplay among travel constraints, risk perception, and travel intention amid the COVID-19 crisis in the context of Malaysia. The findings indicate that structural constraints have a significant impact on intrapersonal constraints, but they are not significantly correlated with travel intention among Malaysian tourists, which is inconsistent with the original Leisure Constraints Model (LCM) highlighting a sequential hierarchy of the model (Crawford et al., 1991; Godbey et al., 2010). In addition, perceived travel risk has an association with intrapersonal constraints and travel intention respectively (Chew & Jahari, 2014; Neuburger & Egger, 2020). At last, intrapersonal constraints mediate the relationship between structural cost, structural time, perceived travel risk, and travel intention (Godbey et al., 2010).

Based on the aforementioned findings, the current research provides some theoretical contributions to the extant tourism literature. Firstly, this study reaffirms Godbey et al. (2010)’s argument that the Leisure Constraints Model (LCM) is circular rather than a sequential framework. With regard to the original LCM, Crawford et al. (1991) state that intrapersonal constraints are the starting point of an individual’s cognitive negotiation concerning whether s/he will participate in a certain travel activity. However, where does the whole negotiation process start may change in different situations and contexts (Godbey et al., 2010). Due to the COVID-19, most countries keep their borders close, and international visitors have to go through mandatory quarantine and health screening to enter another country. Thus, structural constraints (i.e., cost, time, and space) are particularly salient (Hall et al., 2020), and they directly influence an individual’s intrapersonal constraints. In short, structural constraints become the starting point of the cognitive negotiation process determining an individual’s travel decisions. As a result, many people have to carefully think about these structural constraints even if they are eager to travel.

Nevertheless, intrapersonal constraints remain the centrality of the LCM (Crawford et al., 1991; Crawford & Godbey, 1987; Jackson, 1993; Lye, 2012; Xie & Ritchie, 2019). Although the impact of structural constraints are amplified by the global pandemic, these constraints can only take effect upon travel intention via intrapersonal constraints. That is, structural constraints do not influence travel intention directly. Instead, intrapersonal constraints mediate the relationship between structural constraints (i.e., cost and space) and travel intention. Specifically, individuals are not likely to give up traveling simply because of their concerns over structural constraints, but their inner psychological attributes (e.g., emotions) toward travel (intrapersonal constraints) will be influenced by these structural constraints. Then, the change of tourists’ intrapersonal constraints may determine their decisions on whether they will travel, where they will travel to, and what kind of travel activity they want to join (Mei & Lantai, 2018). Significantly, tourists’ mental wellbeing concerning travel (e.g., emotions) has a considerable impact their future travel behaviors (Chua et al., 2021). Interestingly, it is found that structural time does not influence travel intention via intrapersonal constraints amid the COVID-19, which may be explained by the aggressive travel restrictions implemented by Malaysian and many other governments. Malaysians were not allowed to travel abroad for leisure purposes when this research was conducted. Thus, they had limited choices on travel destinations (Nyaupane & Andercek, 2008). In addition, it takes much money to fulfill the mandatory quarantine and health screening to enter another country (Hall et al., 2020; Wen et al., 2020). Comparatively, travel constraint with regard to structural time seems less important for tourists.

Thirdly, the research confirms the importance of perceived travel risk on travel-related behaviors, such as travel intention, among Malaysian tourists. It is found that perceived travel risk have a direct and negative impact on travel intention, and this finding is consistent with previous research (Caber et al., 2020; Chew & Jahari, 2014; Godovykh et al., 2021; Khan et al., 2019). More importantly, perceived travel risk is also correlated with intrapersonal constraints, which is rarely discussed by past studies. During the COVID-19 pandemic, it is not unusual that people experience anxiety, fear, and other negative emotions over their health, especially when they need to travel to places with higher risks in relation to the contagious disease (Bae & Chang, 2020; Chua et al., 2021). Not only does perceived travel risk influence an individual’s psychological attributes (intrapersonal constraints), but also his/her travel intention (Neuburger & Egger, 2020).

However, intrapersonal constraints do not mediate the relationship between perceived travel risk and travel intention as proposed. Probably, it is because that perceived travel risk is so powerful among Malaysian tourists that it can influence their travel-related behaviors directly. Due to Malaysian government’s efforts on public information through mass media and social media, Malaysians generally have a high literacy level of the COVID-19 pandemic, and they also believe that the disease has severe consequences (Ting & Sim, 2021). Besides, Godovykh et al. (2021) argue that risk perceptions directly influences travel intention. For example, Bae and Chang (2020) found that high risk perception in relation to the COVID-19 pandemic result in strong intention to participate in “untact” tourism by examining Korean tourists. In addition, there probably are another factors, such as attitude, trust, and past experience, instead of intrapersonal constraints mediate the relationship (Godovykh et al., 2021; Lebrun et al., 2021; Yüksel & Yüksel, 2007).
Similarly, the proposed research framework has a weak predictive accuracy in explaining travel intention as the $R^2$ of travel intention is only at 0.06, which does not mean the framework is less valuable but suggests the necessity to explore other significant antecedents from both tourist and destination perspectives, such as trust, fear, past experience, crisis management, and health care system (Hassan & Soliman, 2021; Rasoolimanesh et al., 2021; Rastegar et al., 2021). All in all, travel decision making is a very complex process that is affected by socio-economic factors, psychographic characteristics, and destination-related factors (Jin et al., 2021). Nevertheless, this study sheds light on post-COVID-19 tourism recovery from the tourist perspective, and makes contribution to crisis management, tourism recovery, and tourist behavior literature in relation to Malaysian consumers.

Based on the theoretical contributions mentioned above, this research also provides some practical implications to tourism authorities, destination marketing organizations (DMO), and related businesses amid the global pandemic in the context of Malaysia. Due to the pandemic, people’s travel preferences and behaviors may have been reshaped (Wen et al., 2020). It is crucial to understand these changes and related barriers that prevent people from traveling. Then, tourism authorities, marketers, and operators are able to adopt suitable strategies for mitigating the negative impacts of travel constraints and risk perception. Firstly, governments have to take effective measures to reduce structural constraints, particular structural cost, and time. For example, they can collaborate with other countries with low COVID-19 cases to introduce a “travel bubble” scheme for recovering the tourism and hospitality industry (Luo & Lam, 2020). In addition, tourists who are already vaccinated may be exempted from mandatory quarantine to further reduce the negative impact of structural cost and space. With less external barriers, international tourists are more likely to travel abroad. Secondly, destinations and businesses are encouraged to cater to domestic tourists as well. People’s travel preferences may have been heavily influenced by the global pandemic, more and more tourists may prefer short-distance trips over long-haul travels (Wen et al., 2020). Domestic tourism plays an indispensable role in reviving tourism (Woyo, 2021).

Meanwhile, tourism authorities, DMO, and tourism-related businesses have to restore mutual trust between them and tourists. It is crucial to understand tourists’ perception toward their future travel plans (Rasoolimanesh et al., 2021; Rastegar et al., 2021). It has been mentioned that risk perception in relation to the COVID-19 enhances tourists’ intrapersonal constraints and reduces their travel intention. Therefore, destinations and businesses must take tourists’ health as a priority by implementing necessary efforts (e.g., standard operating procedure), and deliver the message of their commitment to tourists. By doing so, tourists may have less negative emotions related to travel, such as fear and anxiety. Consequently, their psychological states toward travel may become more positive, and they are inclined to participate in travel activities again (Neuburger & Egger, 2020). It is not an easy task to fulfill the commitment for tourists’ physical and emotional health amid the COVID-19 pandemic. Therefore, tourism authorities, DMO, tourism business, healthcare facilities, and other stockholders have to work together in a dynamic and strategic direction for tourism revival (Gössling et al., 2020).

With regard to Malaysia, it is important to publicize the efforts done by the government for combating the COVID-19 pandemic. Malaysian government should minimize intrapersonal constraints, such as anxiety and other negative emotions, by utilizing several marketing communication channels so as to gain tourists’ trust to Malaysia as a safe travel destination, which could improve Malaysian tourists’ travel intention and their willingness to support the community at the destination (Abubakar et al., 2017; Kim et al., 2021; Li et al., 2020; Rasoolimanesh et al., 2021; Rastegar et al., 2021). Tourism marketers and local authorities need to keep providing current information and status on main tourism spots. While DMOs can repackage their products/services to reduce any high-risk related activities. They should also pay more attention to create tourists’ positive emotions toward travel by taking appropriate precautionary measures to prevent the spread of the COVID-19. These can be achieved through joint efforts by the governments, public health agencies and local authorities (Resinger & Movondo, 2005; Seyfi et al., 2021).

6 | LIMITATIONS

This study has a few limitations. Firstly, only travel constraints (structural constraints and intrapersonal constraints), perceived travel risk and travel intention are identified as the main components of the research framework. However, there are other factors that may impose significant impacts on travel intention among Malaysian tourists during the COVID-19 crisis, such as subjective norms (Bae & Chang, 2020), destination image (Caber et al., 2020), and travel motivation (Khan et al., 2019). Secondly, this study collected data only from the Klang Valley area via a convenience sampling method, so the respondents may not represent the whole population of Malaysian tourists. Future studies are suggested to adopt either quota or other sampling methods to improve the representativeness of the respondents. In addition, the data of this research is cross-sectional, and future studies are suggested to collect longitudinal data to compare whether there are significant differences concerning travel intention during and after the COVID-19 pandemic. At last, it is suggested that future studies should examine actual travel behavior. Behavioral intention is considered the most important single predictor of a certain behavior, but individuals may not always conduct the behavior following their behavioral intention (Ajzen, 2020).

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

DATA AVAILABILITY STATEMENT

Data are not shared.
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