Extending the theory of planned behaviour to foreign students’ perceptions of traditional Chinese medical tourism
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ABSTRACT

Medical tourism is becoming an increasingly important component of the international tourism industry, and Chinese medical tourists make up a big percentage of this growing tourism market segment. Most previous studies on Chinese medical tourism have focused on Chinese outbound medical tourism, but there has little research undertaken as yet, on foreign tourists’ perception towards traditional Chinese medical tourism. Specifically, most of the previous studies utilized the measurement scale of destination image in medical tourism research, resulting in a limited representation of the nature of medical tourism. This study aims to examine the relationship between attitude, subjective norm (SN), perceived behavioural control (PBC), familiarity, perceived ease of visa application (PEVA) and intention toward traditional Chinese medical tourism. A quantitative approach was used, adopting a survey methodology involving 344 foreigners which was followed by subsequent empirical testing of the postulated hypotheses. The results suggested that attitude, PBC, familiarity and PEVA positively influence intention. PEVA positively influences attitude, PBC and intention respectively. Results also demonstrated that familiarity influenced attitude and PBC, and SN positively influenced familiarity. This study expands the existing knowledge on how PEVA and familiarity influenced visitation in medical tourism literature which can benefit key stakeholders in the tourism industry.

Keywords: familiarity; perceived ease of visa application; theory of planned behaviour; tourists travel to China; traditional Chinese medical tourism

1. Introduction

Globalisation has resulted in both a smaller world and simpler travel across countries due to advancements in information technology and infrastructure[1]. The sector of medical tourism was developed as a result of the rapid economic boom that many nations have experienced in recent years[2]. Medical tourism is defined as “where people who live in one country travel to another country to receive medical, dental and surgical care while at the same time receiving equal to or greater care than they would have in their own country, and are travelling for medical care because of affordability, better access to care or a higher level of quality of care”[3]. The definition of medical tourism has expanded recently to encompass vacations to spas and wellness centres,
among many other things\textsuperscript{[4]}\textsuperscript{[4]}. Patients from less developed nations have historically travelled to more developed nations for medical care\textsuperscript{[5]}\textsuperscript{[5]} because they can access higher-quality healthcare in more comfortable settings\textsuperscript{[6]}\textsuperscript{[6]}. However, this trend of travelling for medical reasons has started to shift\textsuperscript{[1]}\textsuperscript{[1]}, modern medical tourism is the phenomenon of middle-class people from developed countries who are open to travelling to some developing countries\textsuperscript{[7]}\textsuperscript{[7]} or even third world countries for medical treatment because of the lower medical costs\textsuperscript{[8]}\textsuperscript{[8]}, highly advanced medical services, and an abundance of leisure travel opportunities\textsuperscript{[9]}\textsuperscript{[9]}.

The specialised tourism industry of medical tourism has shown promising growth and has the potential to contribute to the economic progress of the host nations, which are typically categorised as developing or less developed countries\textsuperscript{[11]}\textsuperscript{[11]}. Numerous studies have demonstrated that medical tourism can serve as one of the industry’s main pillars. For example, Grand View Research predicted that by 2027, medical tourism will generate approximately USD 207.8 billion worldwide\textsuperscript{[10]}\textsuperscript{[10]}; Medical Tourism Index predicted that the global tourism market could reach USD 3 trillion by 2025 with a projected growth of 25\% per year\textsuperscript{[1]}\textsuperscript{[1]}. A conservative annual estimate of over USD 100 billion can be made from medical tourism globally\textsuperscript{[9]}\textsuperscript{[9]}, notwithstanding the lack of specific data on the quantity and revenue involved\textsuperscript{[7]}\textsuperscript{[7]}. Many developing nations, especially those in Asia like India, Malaysia, Singapore, Thailand, etc., are contributing to the expansion of medical tourism\textsuperscript{[10]}\textsuperscript{[10]}. For example, India receives over 230,000 foreign patients annually\textsuperscript{[3]}\textsuperscript{[3]}, Jordan receives over 120,000 foreign patients annually and generates USD 1 billion in revenue\textsuperscript{[9]}\textsuperscript{[9]}, Malaysia treated about 1.2 million patients in 2018 and generated USD 362 million in revenue\textsuperscript{[11]}\textsuperscript{[11]}. The majority of surgery costs in India, Thailand, and Singapore are only about 10\% of those charged in the USA\textsuperscript{[9]}\textsuperscript{[9]}, making these Asian nations more affordable medical tourism destinations\textsuperscript{[8]}\textsuperscript{[8]}. As a result, these countries attract more medical tourists.

The medical tourism market in China contributes significantly to the worldwide medical tourism market\textsuperscript{[1]}\textsuperscript{[1]}. Nearly 20\% of all tourism-related spending is USD 258 billion on travel\textsuperscript{[2]}\textsuperscript{[2]}. Particularly, it was calculated that there are over 500,000 outbound Chinese medical tourists who spend more than USD 10 billion annually in search of medical care abroad\textsuperscript{[2]}\textsuperscript{[2]}. For instance, Chinese visitors accounted for 31.2\% of all international patients in Korea’s medical tourism business in 2018\textsuperscript{[16]}\textsuperscript{[16]}. Chinese mainland visitors are the primary recipients of medical care in Hong Kong\textsuperscript{[11]}\textsuperscript{[11]}, and Macao\textsuperscript{[12]}\textsuperscript{[12]}, and they are the largest source of new customers for Malaysia’s medical tourism sector\textsuperscript{[1]}\textsuperscript{[1]}. As the global and China’s medical tourism industry is growing fast, some top-tier cities such as Beijing, Guangzhou, and Shanghai have shown great interest in developing their medical tourism facilities, and Hainan plans to invest about USD 3 billion to become a major international medical tourism destination and also to attract the domestic medical tourism market\textsuperscript{[2]}\textsuperscript{[2]}. The Chinese government had also actively promoted the growth of medical tourism. In 2015, the number of private hospitals had already surpassed that of public hospitals, accounting for 58\% of all hospitals\textsuperscript{[13]}\textsuperscript{[13]}. By enabling foreign investment in the healthcare sector to open more than 100 private clinics in top-tier cities, China also intends to develop an extra 89,000 new hospital beds and 140,000 medical staff posts by 2020\textsuperscript{[2]}\textsuperscript{[2]}. Only recently has there been a significant quantity of research on medical tourism within China\textsuperscript{[2]}\textsuperscript{[2]}. Prior research has mostly focused on Chinese outbound medical tourism\textsuperscript{[2,4,11]}\textsuperscript{[2,4,11]}, ignoring the international patients who travel to China for medical tourism\textsuperscript{[14]}\textsuperscript{[14]}. Additionally, the destination image measuring scale, which was adapted from other general tourism destination studies, was used in the majority of earlier studies to analyze medical tourism\textsuperscript{[1]}\textsuperscript{[1]}. These studies aim to explain why medical tourists choose their travel destinations, but their findings are constrained to a single location and are not all-inclusive\textsuperscript{[7]}\textsuperscript{[7]}. These research results primarily focus on travel motivations, perceived value, destination image, service quality, service satisfaction, and perceived trust, all of which are connected to destination choice and visit intention\textsuperscript{[7,10]}\textsuperscript{[7,10]}. Based on the tourists’ perceptions of medical-related aspects, the results from these earlier research could not be appropriate to represent the nature of medical tourism and do not reflect the distinctive qualities of medical tourism\textsuperscript{[1]}\textsuperscript{[1]}. Furthermore,
geographical location, socioeconomic level, and country of origin are not taken into account in research that attempts to explain the decision-making processes of medical tourists\[7\]. Overall, although some studies examining various facets of medical tourism have been published, empirical insight into the practice is still lacking\[15\], and the scarcity of studies that operationalize the various concepts of medical tourism points to a gap that needs to be filled\[1,14\]. Therefore, this study may be regarded as a pioneer study because it is the first to apply an expanded theory of planned behaviour (TPB) model to investigate how familiarity and perceived ease of visa application can affect the intention to engage in traditional Chinese medical tourism among international students in China.

2. Literature review

2.1. Brief introduction to traditional Chinese medicine (TCM)

Chinese researchers claimed that the discovery of alcohol in the Xia dynasty (20th–16th BC) is the earliest proof of TCM\[16\], however, the earliest records of TCM were written on pieces of tortoiseshell and bone in the Shang dynasty (15th–11th BC)\[17\]. Chinese ancestors initially came across specific plants and animals that might be used as painkillers and eventually learned how to perfect their uses\[16\]. Doctors started to divide TCM into four categories during the Western Zhou era (10th–7th BC): physician, dietician, doctor of decoctions and veterinary\[16\]. China is regarded as having one of the greatest levels of biodiversity and a wealth of traditional medical resources\[18\]. Beginning in the early Qin dynasty (221 BC) and spreading to the rest of the world in the Ming dynasty (13th AD), TCM had a significant influence on other Asian countries’ traditional remedies until the development of the smallpox vaccine method in the late 18th century\[16\]. TCM is quickly evolving and becoming more widely accepted in the modern world, where it contributes significantly to the global health system. For instance, recent studies revealed that TCM interventions have shown great promise in treating COVID-19 patients\[19,20\] and that the World Health Organization confirmed that TCM and integrated Chinese and Western medicines can be used to treat SARS\[16\]. TCM’s influence on the worldwide medical systems has grown over time, and it has acquired approval and has been recognised as an approved pharmaceutical in the global system of prescription drugs\[21\]. TCM has thus started to gain increasing international attention as a tourism resource in China’s medical tourism business\[19\], which has led to TCM being a significant draw factor among foreigners (e.g., Russian) tourists travelling to China\[14\].

2.2. Underpinning theory

Based on Figure 1, this study’s theoretical foundation was a modified TPB model. The most potent supporting models in the literature on hospitality and tourism are the theory of reasoned action (TRA) and TPB\[22\]. Intention refers to a person’s cognitive incentive to expend effort in completing a specific behaviour, and the centre of both models emphasizes the impact of purchasing intention on actual behaviour\[23\]. In marketing literature, the most significant and accurate predictor of someone’s actual behaviours is their intentions\[24\]. The main distinction between TRA and TPB, although both models explain one’s rational decision-making behaviour, is that TRA holds that consumer behaviour is solely determined by volitional factors\[25\], whereas TPB added perceived behavioural control (PBC) as an additional factor in behaviour determination\[26\]. Accordingly, attitude, subjective norm (SN), and PBC have an impact on intention, and ultimately, behaviour. Numerous research has used these models to examine various aspects of travellers’ intentions and actions, including green hotel selection\[27\], destination perception\[28\], and destination visit intention\[29\]. One benefit of using both models is that they can both be expanded if additional exploratory factors can successfully capture a sizable fraction of the diversity in intention\[30\].
2.3. Attitude

Attitude is considered the most significant determinant of intention in the marketing literature\textsuperscript{[29]}, as it refers to a persona’s level of favourability or unfavourability toward a certain object\textsuperscript{[27]}. Individual attitudes are a crucial component of the marketing environment that can raise or decrease one’s intention depending on how likely one expects a particular outcome to be by evaluating the provided behaviour favourable or unfavourable\textsuperscript{[31]}. A more positive attitude improves one’s intention to engage in a particular behaviour\textsuperscript{[25]}, making attitude crucial to the idea of how individuals make decisions\textsuperscript{[32]}. Previous studies in the field of tourism have shown that attitude can have a significant role in predicting tourists’ behavioural intentions\textsuperscript{[33,34]}. A more optimistic attitude is associated with a higher likelihood of staying in green hotels\textsuperscript{[23]}, and a more positive attitude is associated with a better evaluation of one’s destination image and visit intention\textsuperscript{[27]}. Therefore, the following hypothesis is proposed:

H1: Attitude positively influences intention for TCM.

2.4. Subjective norm (SN)

SN has been identified as the TPB model’s weakest determinant\textsuperscript{[22]} as earlier research has demonstrated that SN yields erratic findings when predicting an individual’s behaviour\textsuperscript{[35]}. However, SN is influenced by peer pressure and encourages people to change their behaviours in a variety of macro-level settings\textsuperscript{[36]}. The SN is based on the belief that an individual’s close referents would accept or disapprove of a particular behaviour, as well as the incentive to follow these referents’ recommendations for the behaviour\textsuperscript{[37]}. An individual’s SN will be significantly impacted by the social dynamics of his/her interactions with others who share one’s ideas, thoughts, and principles\textsuperscript{[27]}. For example, Chinese citizens will be more concerned with their significant others’ opinions and will typically have a strong urge to follow those important others’ comments and thoughts because Chinese society is more collectivistic than Western societies\textsuperscript{[32]}. Previous studies revealed a substantial correlation between SN and intention, as demonstrated by the study that found a greater SN was associated with a stronger intention to stay at a hotel\textsuperscript{[30]} and visit intention towards a destination\textsuperscript{[38]}. Therefore, this study proposed the following hypothesis:

H2: SN positively influences intention for TCM.

2.5. Perceived behavioural control (PBC)

PBC has been included as an extra predictor in the TPB model to address the claim that people cannot make decisions solely based on elements that are under their volitional control\textsuperscript{[26]}. PBC is defined as a person’s assessment of how simple or complex a particular behaviour is to perform\textsuperscript{[25]}. It is shown to be a result of
control beliefs that are created based on the availability of specific resources needed for behaviour (e.g., money, time, chance) and confidence in one’s capacity to carry out this behaviour\[29\]. Therefore, PBC includes people’s beliefs in their ability to manage non-volitional elements that can enable or restrict particular activities\[35\]. Ideally, behaviour is more likely to be carried out the more control an individual has over the opportunity and resources to engage in it\[27\]. Nimri et al.\[30\] claimed that PBC has the most power in determining tourists’ intention to visit green hotels and Wang et al.\[35\] observed that hither PBC will lead to increased visitors’ intention to visit space-launch destinations. Nonetheless, certain studies demonstrated that PBC cannot influence tourists’ intentions in tourism areas\[34,39\]. Despite the inconsistency in the findings of the relationship between PBC and intention in the tourism literature, this study proposes that:

H3: PBC positively influences intention for TCM.

2.6. Familiarity and the theory of planned behaviour

One of the most significant determinants in the marketing literature\[40\], familiarity refers to the quantity of brand- or product-related experiences that the consumer has gathered\[41\]. In the context of tourism, familiarity has typically been equated with the frequency of previous visits\[42,43\], and in particular, has studied and contrasted the perceptions of a certain destination held by repeat visitors and first-time visitors\[41\]. In other words, familiarity offers a fundamental explanation for the variations in traveller behaviours between frequent visits and first-time visitors\[43\]. Previous studies demonstrated that familiarity has a significant impact on visitors’ cognitive and affective aspects of the destination\[41,44\] because first-time visitors frequently have different observations than repeat visitors as they are more motivated by novelty than familiarity\[43\]. Kim et al.\[40\] noted that increased familiarity with a destination enhances feelings and psychological comfort, both of which can result in a stronger attachment to a destination. In contrast, regular visitors experience emotional attachment rather than feelings of newness\[45\]. The process of accessing destination familiarity and then showing the attitudes and intentions of visitors about the destination can be impacted by being aware of the satisfaction\[43\]. Hence, the following hypotheses are proposed:

H4: Familiarity positively influences attitude for TCM.

H5: Familiarity positively influences intention for TCM.

Since familiarity has traditionally been treated as a single dimension measured through prior destination experience\[41\], the majority of prior studies on destination familiarity measure the overall familiarity without taking tourists’ indirect familiarity with a destination into account\[40\]. Other indirect sources of information\[46\], like education, books, travel guides, media sources, and notably personal interactions with others\[41\] can also be used to access location familiarity\[47\]. Familiarity with a tourist destination should be thought of in terms of two dimensions: experiential and informational familiarity\[48\]. Informational familiarity refers to the range of information sources utilised, operationalised as singular or varied sources, while experiential familiarity refers to first-hand personal experience with a destination\[29\]. Tourists are more likely to choose a destination when they have at least some background knowledge about it since the knowledge and images they have of the locations can pique their curiosity in a potential visit\[46\]. As a result, travellers can develop a certain level of familiarity through interaction with other people\[43\], but tourists with high familiarity will rely more on internal knowledge to choose their destination\[49\]. When tourists are making decisions, informational familiarity may at times be more important than experiential familiarity\[40\]. As SN is working at a macro level and functioning as a social pressure element that inspires an individual’s decision-making process\[27\], it is expected that SN can be a source of informational familiarity. Therefore, the following hypothesis is proposed:

H6: SN positively influences familiarity for TCM.
Risks associated with transnational tourism are a significant factor in the informational familiarity demands of travellers (e.g., knowledge obtained from exposure to marketing, reviews from friends and family, etc.)[46]. Familiarity is a crucial feature that affects tourists’ perceptions of danger and their choice of places[50]. Prior studies on tourism discovered that many visitors feel safe in well-known surroundings[29], but potential visitors are likely to view novel surroundings as riskier[43]. Consumers typically place more trust in brands or items that they are more familiar with[40]. The importance of familiarity in the tourism industry is notably collected by prior experiences, and it can help travellers feel less uncertain or risky while choosing a destination[29,40]. Previous studies demonstrated that greater familiarity increased tourists’ confidence to travel to a particular destination[29,51]. As PBC reflects an individual’s perception of the ease or difficulty in performing a given behaviour[52], it is believed that a tourist’s familiarity with a destination can affect his PBC expectation. Therefore, the following hypothesis is proposed:

H7: Familiarity positively influences PBC for TCM.

2.7. Perceived ease of visa application (PEVA)

A nation’s regulations can influence travelers’ desire to travel there[27]. The convenience of applying for a visa to visit a country tends to draw more tourists there[53], and a visa policy is a rule that specifies who may or may not enter the country[54]. The simplicity of obtaining a visa may, in addition to encouraging travellers to visit, cause travellers to switch their travel plans[55]. Thus, the simplicity of applying for visas encourages international travel and makes it easier for the tourism business to grow[54]. In contrast, the difficulty of applying for a visa in a country may negatively influence travellers to choose a different destination[54,56]. This is because the need for a visa restricts travel as it has financial costs as well as non-financial costs related to the amount of time and effort required[57].

Previous studies have shown that PEVA would have a significant impact on tourists’ decision-making processes[54,58]. According to Yudhistira et al.[57], adopting an easy visa application policy greatly boosts the attractiveness of less traditional destinations while PEVA is not a significant factor in the appeal of traditional destinations. Studies on medical tourism revealed that PEVA considerably influenced travellers’ sentiments and confidence to travel to a specific destination. For example, mainland Chinese mothers gave birth to more live births in Hong Kong than any other ethnic group in 2011 because Chinese tourists believed it was simple to apply for the individual visit scheme in Hong Kong[11]. According to Lam et al.[12], mainland Chinese tourists accounted for more than 50% of all visitors to Macao who came for a variety of reasons, including TCM, as a result of Macao relaxing its visa requirements for travellers from southern China. Another study by Cham et al.[1] demonstrated that Malaysia has become one of the most popular locations for Chinese medical tourists due to the introduction of a simple visa application process there. Similar to other countries, China’s Belt and Road Initiative has sped up and simplified the visa application process[1]. Hence, it is expected that PEVA will attract more foreign medical tourists to China. Therefore, the following hypotheses are proposed:

H8: PEVA positively influences attitude for TCM.
H9: PEVA positively influences PBC for TCM.
H10: PEVA positively influences intention for TCM.

3. Methods

3.1. Data collection

The non-probability sampling method was used in this study because, in general, tourism researchers have trouble getting a precise sampling frame from businesses and organizations or finding the appropriate
respondents to respond to research questions. Given that it is frequently employed when it is difficult to identify members and produce appropriate desirable characteristics of the sample, the snowball sampling technique was chosen. The target respondents were the foreign students in China, because 1) the younger generations play a significant role in shaping forthcoming marketing segmentation in the future; and 2) they generally express high intention to purchase novel products or services in the future. According to Global Times, China is host to between 700,000 and 900,000 foreigners, the majority of whom are enrolled in higher education. Over 80,000 foreigners who are studying in Guangzhou are among these students. Thus, the questionnaire was posted on the largest online survey questionnaire collection website (http://www.wenjuan.com) and was then distributed to four foreign students who were studying at Guangzhou University, and they were asked to identify other student respondents, between 1 September and 30 December 2022. This technique of data collection was chosen as it can be done cheaply, instantly, with a large audience, and with better access to a niche population, regardless of where the respondents are physically located.

Many researchers recommend sample sizes for structural equation modeling should be 200 or more, with 10 to 20 cases per parameter. 344 respondents are more than the suggested sample size for this kind of inquiry—were taken into account for analysis in this study. To ensure the questionnaire was reliable and valid and to minimise any problems that might have an impact on the results, a pilot test with 30 respondents was done. Furthermore, this study took a number of mitigating actions to address the problems with common method bias (CMB). First, the measurements made used a variety scale types, including semantic, differential, bipolar, and Likert scales. Second, a latent variable was added to the confirmatory factor analysis model by linking it to observable factors because, as Podsakoff et al. stated, a common latent factor can examine CMB. Prior to comparing the new model to the baseline model, the standardised regression evaluated the new model. The results for both models were comparable. Lastly, The Harman’s single factor test results showed an exploratory factor analysis with a single factor accounted for 48.746% of the variance that is less than 50% benchmark value, indicating CMB is not a substantial issue in this study.

3.2. Measurement

The questionnaire was designed in four sections. The first section contains the additional variables of the TPB: PEVA and familiarity. Four items belonging to PEVA were adapted from Song et al.; and five items belonging to familiarity were adapted from Chi et al. The second section included the TPB variables: attitude, SN, and PBC. Five items that were used to measure attitude were adapted from Wang et al. and Han et al.; four items belonging to SN and four items belonging to PBC were adapted from Wang et al. and Song et al. The third section items were used to measure intention, in which four items used to measure it were adapted from Wang et al. The last section elicited relevant demographic characteristics. All the measurement items were evaluated using a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

4. Findings

The SPSS (statistic package for social science) is regarded as the most generally used and accessible all-inclusive statistical calculating software for marketing. It offers a huge array of programmes for univariate, bivariate, and multivariate statistical analysis. In order to use descriptive statistics for this study, SPSS version 27 was used. Additionally, we tested the model’s ability to predict the covariance matrix for the sample data using confirmatory factor analysis and structural equation modelling with AMOS in order to validate the theory.
4.1. Descriptive analysis

Normality has not been violated as the results showed the skewness varied from −1.902 to −0.568 and kurtosis varied from −0.731 to +3.719 which falls within the acceptable benchmark of skewness ranging from −2 to +2 and kurtosis ranging from −7 to +7. The sampling adequacy had been achieved as the KMO and Bartlett’s test of Sphericity showed that the KMO Measure of Sampling Adequacy value was 0.937, \( p < 0.001 \). Of the 344 valid questionnaires returned, 62.2% were male, 35.5% of respondents reported that they either have a Ph.D. or pursuing a Ph.D. As for the respondents’ years of living in China, 43.7% of the respondents are between 1 and 3 years. Most of the respondents (48.6%) came from other Asian countries (See Table 1).

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of living in China</td>
<td>Less than 1 year</td>
<td>66</td>
<td>19.1</td>
</tr>
<tr>
<td></td>
<td>1–3 years</td>
<td>150</td>
<td>43.7</td>
</tr>
<tr>
<td></td>
<td>More than 3 years</td>
<td>128</td>
<td>37.2</td>
</tr>
<tr>
<td>Education level</td>
<td>Bachelor</td>
<td>112</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>98</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>Ph.D. (including pursuing)</td>
<td>122</td>
<td>35.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>12</td>
<td>3.5</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>214</td>
<td>62.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>130</td>
<td>37.8</td>
</tr>
<tr>
<td>Origin of area</td>
<td>Asian</td>
<td>167</td>
<td>48.6</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
<td>41</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>African</td>
<td>86</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>19</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>North America</td>
<td>23</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>Oceanian</td>
<td>8</td>
<td>2.3</td>
</tr>
</tbody>
</table>

4.2. Measurement model

In the measurement model, all factor loadings should be greater than 0.5, and ideally higher than 0.7\(^{[71]}\). Higher factor loadings imply more shared variance between the construct and its measures\(^{[67]}\), and factor loadings below 0.6 were removed from this study (i.e., PEVA4, PBC4). Next, the model fit has checked as following: \( X^2 = 826.675, \) DF = 235, \( p < 0.001, \) CMIN/DF = 3.518, RMR = 0.048, GFI = 0.828, CFI = 0.925, AGFI = 0.781, PGFI = 0.649, NFI = 0.899, RFI = 0.882, IFI = 0.926, TLI = 0.912, PNFI = 0.766, PCFI = 0.788, RMSEA = 0.086. The results showed that the measurement model contained an adequate fit to the data. Moreover, the composite reliability (CR) values for each construct were greater than 0.7 and the average variance extracted (AVE) values for each variable were higher than 0.5 which demonstrated the presence of convergent validity\(^{[71]}\). For discriminate validity, the AVE values should greater than the average shared squared variance (ASV) and maximum shared squared variance (MSV)\(^{[72]}\), while the correlation coefficient between different constructs under study must be lower than 0.9\(^{[73]}\). Table 2 illustrates the results of convergent validity and Table 3 shows discriminate validity was achieved.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor loadings</th>
<th>Composite reliability</th>
<th>Averaged variance extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived ease of visa application (( \alpha = 0.954 ))</td>
<td>1. I agree that free visa should be introduced for foreigners’ tourists intending to travel to China for TCM</td>
<td>0.956</td>
<td>0.955</td>
<td>0.877</td>
</tr>
<tr>
<td></td>
<td>2. I expect free visa to be introduced for foreigners’ tourists intending to travel to China for TCM</td>
<td>0.951</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Free visa will encourage foreigners’ tourists to travel to China for TCM</td>
<td>0.902</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. (Continued).

<table>
<thead>
<tr>
<th>Constructs (Cronbach’s Alpha)</th>
<th>Items</th>
<th>Factor loadings</th>
<th>Composite reliability</th>
<th>Averaged variance extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarity (α = 0.901)</td>
<td>1. Compared to an average foreigner, I am very familiar with TCM in China 2. Compared to my friends, I am very familiar with TCM in China 3. Compared to people who travel a lot, I am very familiar with TCM in China 4. I often spend time gathering information about TCM in China 5. I am very familiar with information on TCM in China</td>
<td>0.897</td>
<td>0.899</td>
<td>0.642</td>
</tr>
<tr>
<td>Attitude (α = 0.944)</td>
<td>All things considered; I think visiting China for TCM would be: 1. Positive 2. Desirable 3. Wise 4. Pleasant 5. Valuable</td>
<td>0.880</td>
<td>0.945</td>
<td>0.776</td>
</tr>
<tr>
<td>Subjective norm (α = 0.896)</td>
<td>1. People who are important to me agree that I should travel to China for TCM 2. People who are important to me support my decision to travel to China for TCM 3. People who are important to me understand I should travel to China for TCM 4. People who are important to me recommend that I travel to China for TCM</td>
<td>0.867</td>
<td>0.901</td>
<td>0.695</td>
</tr>
<tr>
<td>Perceived behavioural control (α = 0.796)</td>
<td>1. Whether or not I visit China for TCM is completely up to me 2. I am confident that if I want, I can visit China for TCM 3. I have enough financial resource, time and opportunities to travel to China for TCM</td>
<td>0.737</td>
<td>0.821</td>
<td>0.607</td>
</tr>
<tr>
<td>Intention (α = 0.936)</td>
<td>If I fall ill: 1. I plan to look for TCM in China 2. I am willing to look for TCM in China 3. I intent to look for TCM in China 4. I plan to recommend TCM to others</td>
<td>0.891</td>
<td>0.937</td>
<td>0.787</td>
</tr>
</tbody>
</table>

Table 3. Discriminate validity and correlation metrics.

<table>
<thead>
<tr>
<th>Items</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PBC</td>
<td>0.607</td>
<td>0.501</td>
<td>0.313</td>
<td>0.779</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. PEVA</td>
<td>0.877</td>
<td>0.521</td>
<td>0.353</td>
<td>0.708</td>
<td>0.937</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SN</td>
<td>0.695</td>
<td>0.428</td>
<td>0.243</td>
<td>0.334</td>
<td>0.286</td>
<td>0.834</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Attitude</td>
<td>0.776</td>
<td>0.766</td>
<td>0.430</td>
<td>0.560</td>
<td>0.589</td>
<td>0.567</td>
<td>0.881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Familiarity</td>
<td>0.642</td>
<td>0.456</td>
<td>0.362</td>
<td>0.499</td>
<td>0.558</td>
<td>0.654</td>
<td>0.636</td>
<td>0.801</td>
<td></td>
</tr>
<tr>
<td>6. Intention</td>
<td>0.787</td>
<td>0.766</td>
<td>0.488</td>
<td>0.655</td>
<td>0.672</td>
<td>0.520</td>
<td>0.875</td>
<td>0.675</td>
<td>0.887</td>
</tr>
</tbody>
</table>

Notes: Perceived behavioural control (PBC). Perceived ease of visa application (PEVA). Subjective norm (SN).

4.3. Structural model and hypotheses testing

Results from Structural Equation Modelling (SEM) tests showed that the proposed structural model has achieved an adequate level of goodness-of-fit statistics. In the model summary: $X^2 = 975.270$, DF = 240, $p < 0.001$, CMIN/DF = 4.064, GFI = 0.807, CFI = 0.907, AGFI = 0.759, PGFI = 0.646, NFI = 0.881, RFI = 0.863, IFI = 0.908, TLI = 0.893, PNFI = 0.766, PCFI = 0.789, RMSEA = 0.095. Details on the structural model evaluation results are illustrated in Figure 2 and Table 4, respectively.
10

Figure 2. The structural model outcomes.

Table 4. Results of the path analysis.

<table>
<thead>
<tr>
<th>Items</th>
<th>Parameter</th>
<th>Estimate</th>
<th>C.R.</th>
<th>S.E.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Attitude → Intention</td>
<td>0.630</td>
<td>12.495***</td>
<td>0.054</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>Subjective norm → Intention</td>
<td>0.019</td>
<td>0.415**</td>
<td>0.057</td>
<td>Non-supported</td>
</tr>
<tr>
<td>H3</td>
<td>Perceived behavioural control → Intention</td>
<td>0.114</td>
<td>2.293*</td>
<td>0.041</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>Familiarity → Attitude</td>
<td>0.505</td>
<td>8.684***</td>
<td>0.029</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>Familiarity → Intention</td>
<td>0.117</td>
<td>2.175*</td>
<td>0.071</td>
<td>Supported</td>
</tr>
<tr>
<td>H6</td>
<td>Subjective norm → Familiarity</td>
<td>0.671</td>
<td>10.204***</td>
<td>0.061</td>
<td>Supported</td>
</tr>
<tr>
<td>H7</td>
<td>Familiarity → Perceived behavioural control</td>
<td>0.134</td>
<td>2.688**</td>
<td>0.080</td>
<td>Supported</td>
</tr>
<tr>
<td>H8</td>
<td>PEVA → Attitude</td>
<td>0.394</td>
<td>8.204***</td>
<td>0.071</td>
<td>Supported</td>
</tr>
<tr>
<td>H9</td>
<td>PEVA → Perceived behavioural control</td>
<td>0.667</td>
<td>10.354***</td>
<td>0.051</td>
<td>Supported</td>
</tr>
<tr>
<td>H10</td>
<td>PEVA → Intention</td>
<td>0.262</td>
<td>5.187***</td>
<td>0.033</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Notes: Standardized Estimate (S.E.). Critical Ratio (C.R.). Perceived ease of visa application (PEVA). *p < 0.05; **p < 0.01; ***p < 0.001.

5. Discussion

This study proposes that attitude positively influences intention for TCM. The results demonstrated that a person’s attitude influences their intention to travel to a particular destination positively since attitude and intention were positively and significantly connected ($\beta = 0.63, p < 0.001$). Foreigners who lived in China typically had favourable opinions of TCM and believed that receiving treatment there was a worthwhile and effective way to address health problems. As a result, they had positive intentions of searching for and recommending TCM locations to other foreigners. H1 was endorsed because, as Wang and Wong [25] found, tourists’ attitudes influence whether or not they choose to travel to a particular destination.

This study proposes that SN positively influences one’s intention for TCM. Due to its poor and erratic capacity to forecast tourists’ intentions and behaviour [61], SN was previously acknowledged as the most complex component of the TPB [74]. Certain studies showed that SN can encourage travellers to travel to a particular location [61, 75]. However, other studies discovered there was an insignificant link between SN and intention [25, 39]. This study found no association between SN and intention ($\beta = 0.019, p > 0.05$), indicating that the opinions of the international students’ countrymen, classmates, and close friends regarding TCM cannot have a substantial impact on their intention to try TCM. Thus, H2 was rejected. Moreover, based on the direct and indirect effects of the two-tailed significance test under bootstrapping at the 0.05 level, the mediation impact of familiarity was calculated. Results showed that the standardised direct relationship between SN and
intention was insignificant \((p > 0.05)\), whereas the standardised indirect relationship between SN and intention was significant \((p < 0.01)\). Hence, familiarity was found to play a full mediation role in the relationship between SN and intention.

This study postulated that PBC positively influences intentions for TCM. PBC has been demonstrated in other studies to be a significant antecedent that led to positive intention\(^{[29,76]}\). This study showed that PBC positively influences intention, as the path coefficient was 0.114 and the \(p\)-value was <0.05. Non-Chinese people reported that they have a high confidence in visiting China for TCM and have high level of control over PBC elements like time, opportunities, and resources when deciding to visit China for TCM. Thus, H3 was supported.

Our study aimed to show that familiarity positively influences attitude and intention for TCM, respectively. Previous studies demonstrated that tourists with a strong familiarity background are more likely to report a greater attitude and intention to visit and revisit a given site\(^{[41,43]}\). This study showed that familiarity was positively correlated with attitude \((\beta = 0.505, p < 0.01)\) and intention \((\beta = 0.117, p < 0.05)\) separately. Potential foreign patients who believe they are better knowledgeable about TCM are more likely to have a positive attitude, which increases their intention to travel to China for TCM treatment. Thus, H3 and H4 were supported.

The current study proposes that SN positively influences familiarity with TCM. Chi et al.\(^{[43]}\) assert that tourists’ interactions with other people can help them become more familiar with a place. When choosing their travel destination, travellers may at times rely heavily on outside information\(^{[49]}\). H6 was confirmed by the study’s findings that SN is positively correlated to familiarity \((\beta = 0.671, p < 0.001)\). Meanwhile, this study proposes that familiarity positively influences PBC for TCM. Tourists’ high familiarity beliefs can diminish risk perceptions and increase their confidence in making their destination selections\(^{[29,77]}\). According to this study, foreign potential tourists who are more familiar will often have a higher PBC \((\beta = 0.134, p < 0.01)\), which in turn leads to intention. Thus, H7 was accepted.

This study proposed that PEVA positively influences attitude, PBC, and intention for TCM separately. The ease or complexity of applying for a visa may affect visitors’ decisions when choosing a destination for international travel\(^{[54]}\). This study indicated that PEVA was a significant variable with a positive relationship with attitude \((\beta = 0.394, p < 0.001)\) and intention \((\beta = 0.262, p < 0.001)\) respectively. Tourists are generally constrained by the need to apply for visas as doing so incurs both financial and non-financial costs, such as time spent on the process\(^{[37]}\). This study indicated that there is a significant relationship between PEVA and PBC as the standardised coefficient was 0.667, \(p < 0.001\). To attract more foreigners to China for TCM tourism, international visitors believe that China’s visa policy should be more flexible (lower visa fees, shorter application duration, visa exemption). Thus, H8, H9 and H10 were supported.

### 5.1. Theoretical contributions

Medical tourism has grown dramatically in recent years\(^{[1]}\), and traditional Chinese medical travel has made a big contribution to international travel marketing\(^{[18]}\). Specifically, the majority of earlier studies on Chinese outbound medical tourism were driven by the prominence of Chinese outbound travellers in particular countries’ traditional medical tourism sector\(^{[2,4]}\). There has not been much research done on or understanding the factors that cause foreigners to travel to China as potential patients or medical tourists\(^{[14]}\). This study is the first to successfully apply an enlarged TPB model to add to the body of knowledge on TCM tourism in China. The results demonstrated that foreigners’ intentions to travel to China for TCM were highly impacted by the extra variables (i.e., PEVA, familiarity) and the TPB components (i.e., attitude, PBC). The findings confirmed the TPB’s flexibility, allowing researchers to incorporate new variables and offer a different perspective on
China’s intention to visit TCM.

The majority of past studies on medical tourism looked into travellers’ attitudes, intentions, and perceptions based on aspects of the destinations, including destination image, perceived value, traveller satisfaction, and many others. The results of past studies may need to adequately reflect the nature of medical tourism or the particular traits that affect patients’ views of aspects of medicine. Although familiarity is frequently utilised in the literature on destination tourism, little is known about how it affects travellers’ perceptions of medical tourism destinations, specifically on the choice of TCM destinations. This study found that travellers’ attitudes, PBC, and intentions were influenced by familiarity.

There have been no previous research on the geographic location and country of origin of medical tourists. Travellers’ opinions and confidence in their ability to reach a particular place can be impacted by visa restrictions. However, no evidence in the tourism literature, particularly for TCM tourism, of the effect PEVA has on visitors’ intention to travel. According to this study, PEVA had a big impact on travellers’ attitudes, PBC, and intentions to travel to China for TCM. Future research in tourist marketing, particularly in international medical tourism marketing, must thus take these findings into consideration when employing the TPB model to replicate analogous studies in other countries.

Additionally, given that SN is difficult and weak by its very nature, several researchers have questioned its place in the TPB model. According to numerous empirical investigations, SN had no discernible impact on intention. Our results demonstrated that SN was unable to predict TCM intention. The findings of this study, however, showed a direct relationship between SN, familiarity, and intention to embrace TCM. Therefore, to confirm the usefulness, the future research should take into account the aforementioned findings.

5.2. Practical implications

The study’s conclusions suggest a number of practical uses. Travellers’ attitudes were the first and most crucial component in determining whether they intended to travel to China for TCM. Most patients who have health problems seek treatment from Western medicine, however, it is now required to enhance public awareness of TCM’s use as a supplementary or alternative type of therapy for foreign patients in order to enhance public perception of its efficacy. The TCM industry in China needs to promote itself as an advantageous and sensible option for medical tourists seeking alternative TCM medical care there, as such therapy can produce superior results for particular conditions. Since they have been employed in conjunction with other acknowledged medical systems during several pandemic epidemics (e.g., SARS, COVID-19), more information about cases that have been successfully treated utilising traditional Chinese medical procedures needs to be disclosed and made public on a global scale.

Second, potential medical tourists’ misconceptions about their visa status seriously limit their ability to visit China for TCM. Travellers who are interested in TCM in China will consider constraints like time, resources, and opportunity costs. Furthermore, familiarity and PEVA affect travellers’ PBC. This suggests that travellers who are more knowledgeable about TCM and believe it is easier to obtain a visa for China are more inclined to visit China. PEVA was strongly associated with the desire to visit China for TCM; as a result, China’s first step in drawing more foreigners to the country for TCM will be to establish a simplified or visa-free application process. The ease of applying for visas has a significant impact on the number of outbound tourists travelling to a certain location for TCM. In order to cater to certain medical tourist groups, the Chinese tourism business may develop specialised tourist products or services. For example, certain Korean travel agencies may have designed specific plastic surgery packages with Chinese women travellers seeking cosmetic surgery in mind.

Third, knowledge with TCM was an important component in this study since it is influenced by
recommendations about traditional Chinese medical treatments provided by travellers’ significant others. Travelling to China for TCM, meantime, had a real effect on how people saw themselves and their ability to overcome obstacles. Through both traditional and digital media marketing, target countries should be made aware of the benefits of TCM’s features. For instance, the traditional Chinese medical tourism business can run advertisements on airport billboards, local radio and television programmes, and of course, social media to promote the Chinese medical services that are offered in their own city or province. This study discovered that opinions of significant others might indirectly and favourably influence intention through familiarity. As a result, presentations on TCM’s effectiveness provided by TCM specialists and practitioners can be organised in various target countries at sites like hospitals and universities. Potential TCM tourists who travel to China for treatment will feel more confident as a result of this.

5.3. Limitations and future suggestions

This study was conducted with certain limitations. First, tourists’ actual behaviours are not always consistent with their declared intentions. Second, while the snowball sampling technique can be used successfully when the sample respondents cannot be readily identified, there is a high chance of bias when using this technique because respondents are more likely to identify other potential respondents who are similar to themselves, resulting in a homogeneous sample. Third, the majority of respondents were from Asian and African nations, which is not enough to represent all foreigners in China accurately. To further support the validity and dependability of the proposed model in this study, it should be duplicated and tested in other nations. Lastly, future research should take into account the influence of tourists who come from similar religious and cultural backgrounds, as Zarei et al. noted that individuals prefer to go for medical services to nations that have a similar region and culture.

6. Conclusion

There are not many studies that attempt to explain how medical tourists decide which countries to visit for medical tourism. Few studies have been done, but most of them have been used to measure the scale of destination image when looking at factors including service quality, supporting infrastructure, and satisfaction. Limited research has looked into how visitors’ opinions of medical tourism are influenced by other variables like familiarity and PEVA. In particular, there is little study on foreigners travelling to China to receive traditional Chinese medicine. In order to analyse the intention of international visitors to visit China for traditional Chinese medical tourism, this study employed an extended TPB model that included PEVA and familiarity. The model withstood empirical testing to establish its robustness. The results indicate that a favourable attitude and high behavioural control lead to intention. SN insignificantly influenced one’s intention but significantly influenced his or her familiarity with TCM. Familiarity positively influenced foreign students’ attitudes, PBC, and intentions for TCM. Additionally, PEVA played an important role in shaping foreign students’ perceptions of TCM because it positively influenced their attitude, PBC, and intention. This study expands the body of knowledge on medical tourism marketing by studying factors influencing potential consumers’ propensity to adopt TCM in tourism literature.

Author contributions

Conceptualization, LW and PPPW; methodology, LW, HXJ and SJC; software, LW, HXJ and SJC; validation, LW and PPPW; formal analysis, LW, HXJ and SJC; investigation, LW and PPPW; resources, LW and PPPW; data curation, LW, HXJ and SJC; writing—original draft preparation, LW, HXJ and SJC; writing—review and editing, LW and PPPW; visualization, LW and PPPW; supervision, LW and PPPW; project administration, LW and PPPW. All authors have read and agreed to the published version of the
manuscript.

**Conflict of interest**

The authors declare no conflict of interest.

**References**


