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# The Impact of Tourists' Perceptions of Space-launch Tourism: An Extension of the Theory of Planned Behavior Approach

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## ABSTRACT

Prior studies on space tourism have mainly investigated tourists' engagement in outer space tourism activities. There is no research undertaken as yet related to tourists' perception toward indoor space tourism (i.e., space-launch tourism). The aim of this study is to examine the relationship between attitude, subjective norm, perceived behavioral control, hedonic motivation, and intention toward space-launch tourism activities using the Wenchang spacecraft launch site as the tourism destination. An integrated conceptual research model was proposed based on the theory of planned behavior model. A web-based survey questionnaire was developed where a total of 444 questionnaires were ultimately collected followed by subsequent empirical testing of the postulated hypotheses, using SPSS and Structural Equation Modeling (SEM). The results suggested that attitude, subjective norm, perceived behavioral control and hedonic motivation positively influence intention. Subjective norm also displayed a significant positive influence on attitude, while attitude played a partial mediation role between subjective norm and intention. The findings indicated that the proposed model has more predictive capacity compared to original theory of planned behavior model. The theoretical and practical implications of the results were also discussed, including limitations of the research.

## ARTICLE HISTORY

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## KEYWORDS

Space-launch tourism; wenchang spacecraft launch site; theory of planned behavior; hedonic motivation

## 关键词

太空卫星发射旅游; 文昌航天发射基地; 计划行为理论; 享乐动机

## 游客对卫星发射地旅游的认知:计划行为理论的延伸研究

### 摘要

以往对太空旅游的研究主要是调查游客对外太空旅游活动参与的情况。目前还没有关于游客对室内太空旅游(即太空发射基地旅游)认知的研究。本研究以文昌航天发射基地为旅游目的地,探讨游客的态度、主观规范、行为控制感知、享乐动机与意愿之间的关系。本文在计划行为理论的基础上提出完整的概念研究模型。基于网络调查问卷最终收集了444份问卷,随后使用SPSS和结构方程模型对假设进行实证检验。结果表明游客的态度、主观规范、行为控制感知和享乐动机对意愿有正向影响。主观规范对态度也有显

著的正向影响,同时态度在主观规范和意向之间起部分中介作用。研究表明,与原计划行为理论模型相比,本文所提出的模型具有更强的预测能力。最后本文讨论了研究结果,理论和实践意义,以及局限性。

## 1. Introduction

According to Lele (2018), the twenty-first century is dominated by Asian countries, due to the rapid development in culture, politics, technology, and economics in those nations. Various Asian countries are fortifying their space investments, and smaller states within the region are showing ambitions of establishing national space programs (Lele, 2018). The broad mission of those programs is to establish/observe the remote-sensing, meteorology, communications, artificial intelligence, as well as navigation technology for the programs. Meanwhile, space tourism is also becoming a potential industry that has attracted the attention of governments, businesses and tourists (Olya & Han, 2020). Certain Asian countries (e.g., Japan, India, China, Singapore) have shown the greatest public interest and demand for space travel (DePasquale et al., 2006; Lele, 2018).

China is a leader in space exploration among Asian countries, since China became a spacefaring state in 1970 (Lele, 2018). In 2018, China has launched more than 300 satellites and currently operates 200 satellites in space, and these numbers are higher than other comparable Asian countries, such as Japan, India, etc. (Lele, 2018). More specifically, China has developed human spaceflight and counter space anti-satellite weapon capability, joining the U.S. and Russia as the only other countries with such capacity (Fisher, 2008). Chinese consumers have displayed a high interest in the space tourism market. Le Goff and Moreau (2013) conducted a demand analysis of suborbital space tourism found that China is a sizable market starting with 600 customers, that could reach 128,500 clients by 2030. Specifically, the Chinese and the Americans showed the most promise as potential clients for space tourism (Olya & Han, 2020).

Traditionally, space tourism enables the country or company with the capability of operating a space program to date, to make millions of dollars by selling seats on their rockets to private companies and private citizens (Ormrod & Dickens, 2019). Olya and Han (2020) stated that orbital and suborbital markets are the two main types of space tourism. Today, private space industries in some parts of the world are keen to make investments in projects involving space tourism (Lele, 2018). A number of companies are competing in the space tourism area, such as Space X, XCOR, Blue Origin, etc. (Ormrod & Dickens, 2019; Webber, 2019).

It is clear that there is a paucity of empirical research models that investigate the behavioral intention of space travelers (Olya & Han, 2020). Most of the previous studies investigated space tourism from an outer space orientation perspective of tourists (Ormrod & Dickens, 2019; Webber, 2019). There is no research to date, related to tourists' perception toward indoor space tourism (i.e., space-launch destination tourism). One potential reason for such research is that although space tourism is relatively new for some countries (e.g., Asian countries), there is a potential to develop an ecosystem to support this kind of tourism activities (Lele, 2018).

The theory of planned behavior model (TPB) is one of most popular theories to predict an individual's intention in various tourism studies (Soliman, 2019; Wang & Wong, 2020). Unfortunately, there is no research that has applied the TPB in explaining a tourist's decision-making process by considering its relationship with other critical underlying factors that form a tourist's intention toward space-launch tourism. There is no research that examine the relative importance of immediate volitional and non-volitional antecedent variables in the prediction of tourist's intention to participate in space-launch tourism.

Some scholars suggested that one's positive or negative views or perceived conceptions of novel products or service are influenced by significant referents (e.g., close-friends, relatives, colleagues). This can lead to a favorable or unfavorable attitude, which result in a high or low intention in highly collectivistic countries (e.g., China, Korea, Japan) (Wang & Wong, 2020; Wang et al., 2019). This corresponds to Bashir et al. (2019)'s view that although the existing practices within TPB does not confirm any role of mediation among its principle-independent constructs, the possibility of mediation cannot be ignored in some circumstances. Certain studies investigated the correlation between subjective norm and attitude and confirmed that subjective norm had a positive influence on attitude (Paul et al., 2016; Wang et al., 2019). However, there is no study that explores the relationship between subjective norm and attitude of consumers in the space tourism literature.

Furthermore, many researchers have suggested that a tourist's motivation should be included in the TPB model to predict his/her intention (Durán et al., 2016; Ulker-Demirel & Ciftci, 2020). Hedonic motivation has been considered as a supplementary condition to enhance the application of cognitive-rational process (Yeo et al., 2017). Nevertheless, there is a little knowledge about the motivations involved in space tourism (Olya & Han, 2020), and there is room for further investigation into different kinds of tourism activities. In addition, it is rare to find studies that compare the predictive power between original TPB model and the modified TPB model with an additional construct (i.e., hedonic motivation) in a tourism context.

This study examines the validity of the uses of the theory of TPB model combined with a motivation aspect (i.e., hedonic motivation) to explain the tourists' intention toward space-launch tourism. Three major research objectives are therefore proposed: (1) to determine the relationship between components of TPB and tourist's intention toward space-launch tourism; (2) to determine the relationship between hedonic motivation and tourist's intention toward space-launch tourism; and (3) to compare the predictive capability between the original TPB model, modified model and the proposed model.

## 2. Literature review

### 2.1 *The space-launch destination tourism – wenchang spacecraft launch site*

There are five Chinese satellite launch centers in China, which are Jiuquan Satellite launch center; Taiyuan satellite launch center; Xichang satellite launch center; Wenchang spacecraft launch site (WSLS); and China eastern space port (under construction). Except for China eastern space port, other satellite launch centers are located on the land. The WSLS is the newest space launch center among other land-based space

launch centers, which started construction in 2009 and was completed in 2016. The WSLs is located in Hainan, which is in southernmost China. It is bounded on the north by Guangdong, on the west by Vietnam, on the east by Taiwan, and on the southeast and south by the Philippines, Brunei and Malaysia. It is famous for its tourism natural resources, such as its beach, ocean and tropical fruits. The WSLs is fully open to domestic tourists since March 2016. The WSLs allows tourists to visit the launch tower, launch site, aircraft assembly plant, rocket vertical assembly test plant, command hall, observation room, and remote ignition and launch court. The WSLs also permits visitors to view aerospace models, an aerospace science exhibition, and three dimensions (3D) movies in its visitors' center. There is a space-theme park that also provides the opportunity for tourists to not only learn about space-related science, but also to enjoy its natural attractions. According to Mafengwo Travel Agency (2020), (the largest Chinese user-generated content tourism website) the WSLs is the fifth most popular destination for tourists to visit in Hainan.

## **2.2 Intention to visit wenchang spacecraft launch site**

Researchers have widely used and adapted the TPB model to predict tourists' intentions in various tourism marketing literature, such as visa exemption travel (Han et al., 2011), green hotel selection (Wang & Wong, 2020; Wang & Zhang, 2020), religious tourism (Wang et al., 2020c), destination visit intention (Soliman, 2019), and many others. The core of TPB supports intention as the most important antecedent of behavior, whereby Wang (2020) has described intention as an individual's cognitive motivation to utilize effort in performing a specific behavior. In terms of marketing, intention is the single most important predictor of an individual's actual behavior (Ajzen & Fishbein, 1975), and is considered a precursor and the best predictor of actual behavior (Wang et al., 2019). Some researchers argued that an individual's actual behavior is not always equivalent to his/her behavioral intention (Wang et al., 2020c, 2020a). However, many studies' results demonstrated that intention has a high reliability for predicting the decision-making processes of a tourist (Paul et al., 2016; Wang et al., 2020b). Therefore, intention to visit space-launch place tourism (i.e., WSLs) as a dependent variable is sufficiently justified for this study.

## **2.3 Attitude toward intention**

Undoubtedly, attitude has the most predictive capacity compared to other factors that determine one's behavior (Ajzen & Fishbein, 1977). Specifically, attitude always plays the most important and consistent role in explaining an individual's intention and behavior compared to other components (i.e., subjective norm, perceived behavioral control) in TPB model (Wang et al., 2020b). According to Wang et al. (2020a), attitude can be described as the extent to which an individual has a positive or negative evaluation of a given behavior. It reflects one's psychological evaluation process of a specific product or service when he/she engages with it within a certain purchasing behavior (Wang & Wong, 2020). It can represent an individual's consistently favorable or unfavorable evaluation, tendencies and feelings toward any particular thought or behavior (Wang et al., 2019). Therefore, when individuals have a more positive attitude toward a specific

behavior, it will strengthen their intention to perform the behavior, and vice-versa (Wang et al., 2020c).

Certain studies on tourism marketing have demonstrated how attitude positively influences intention and behavior (Jaiswal & Kant, 2018; Teeroovengadum, 2019). Wang (2020) found that attitude positively affected intention in the context of green hotel selection in the China. Han et al. (2017) adopted the modified TPB model and found that attitude positively affected intention in the emerging bicycle tourism. Likewise, Soliman (2019) reported similar results in Egypt, where attitude significantly affected tourism destination revisit intention. Therefore, the following hypothesis was proposed:

H1: There is a positive relationship between attitude and intention.

## **2.4 Subjective Norm (SN) toward intention**

SN refers to social norm or peer influence in the marketing literature. According to Ajzen (1991), SN is the driving social force of deciding on whether or not to perform a certain behavior. It is an influence on one's decision-making from the perceived opinions of significant others (e.g., relatives, close friends, coworkers, or business partners). Thus, SN is a feeling or moral obligation of an individual (Wang et al., 2019), while it represents a function of an individual's normative beliefs about what significant others think he/she should or should not to do (Ajzen & Fishbein, 1980). Han and Stoel (2017) stated that SN seems to be the weakest component of TPB in past studies. However, Ulker-Demirel and Ciftci (2020) demonstrated that SN may function as a source of social pressure and have the potential to encourage individuals to change their behaviors in different settings at a macro level.

Numerous studies on tourism marketing have shown how SN positively influences intention and behavior (Liu et al., 2020; Wang & Wong, 2020). Wang and Wong (2020) adopted the TPB model and found that SN positively affected intention in the context of environmentally friendly hotel selection. Kim and Kim (2018) found that the SN positively affected intention toward food festival attendees among U.S consumers. Soliman (2019) reported that the SN positively influenced tourism destination revisit intention. Thus, the following hypothesis was proposed:

H2: There is a positive relationship between SN and intention.

## **2.5 Subjective norm (SN) toward attitude**

Some studies have highlighted a significant causative relationship from SN to attitude, and subsequently, behavioral intention (T. B. Chen & Chai, 2010; Wang et al., 2019), while other studies suggested that attitude has a mediating role between SN and intention (Han et al., 2010; Wang & Wong, 2020). These findings diverge from the original formulation of the TPB model. Wang and Wong (2020) mentioned that for researchers who propose the TPB as the underpinning theory for their studies on Asian consumers,

should consider eastern countries such as China, Japan, and Korea as highly collectivistic societies when compared with most western countries. Researchers must therefore consider the role of subjective norm in influencing consumers' attitudes on purchasing novel products or services. Consumers from these eastern high collectivistic countries are more likely to share their positive or negative experiences regarding unfamiliar or novel products or services with important others (e.g., close-friends, colleagues, relatives, worshippers) that lead to high or low level of purchase intention or behavior (Wang et al., 2019).

Wang et al. (2019) demonstrated a significant influence of SN on attitude among 261 hotel customers, while Wang and Wong (2020) also reported that SN positively and indirectly influenced intention via attitude of visiting green hotels. Moreover, Teng et al. (2015) adopted the TPB model and found that SN positively affected attitude to visit hotels in Taiwan, China. Following these findings, the following hypotheses were proposed to account for attitude:

H3: There is a positive relationship between SN and attitude.

H4: Attitude mediates the relationship between SN and intention.

## **2.6 Perceived Behavioral Control (PBC) toward intention**

Wang et al. (2020b) stated that certain studies have shown that PBC cannot lead to purchase intention and behavior because if a particular behavior is under full volitional control, PBC will not influence intention (Paul et al., 2016). However, PBC is a particular important predictor in the TPB model, because of its high explanatory power in situation characterized by high behavioral cost and strong constraints, e.g., time, inconvenience, money compared to normative-orientation theories (e.g., value-belief-norm theory of environmentalism, norm-activation model) (Steg & Vlek, 2009).

PBC refers to an individual's perception of how difficult it is to perform a specific behavior (Wang & Wong, 2020) and to an individual's perceived ability to perform a certain behavior (Botetzagias et al., 2015). Thus, the more an individual is able to have control over any obstacles, the more possibilities he/she will be engaged in the giving behavior (Wang et al., 2019).

Nimri et al. (2019) found that PBC positively affected the intention to visit green hotels in Australia. Soliman (2019) found that PBC was positively associated with the intention to revisit a destination. In addition, Paul et al. (2016) reported that PBC positively affected the intention to purchase green products in the U.S. Based on above considerations, the following hypothesis was proposed:

H5: There is a positive relationship between PBC and intention.

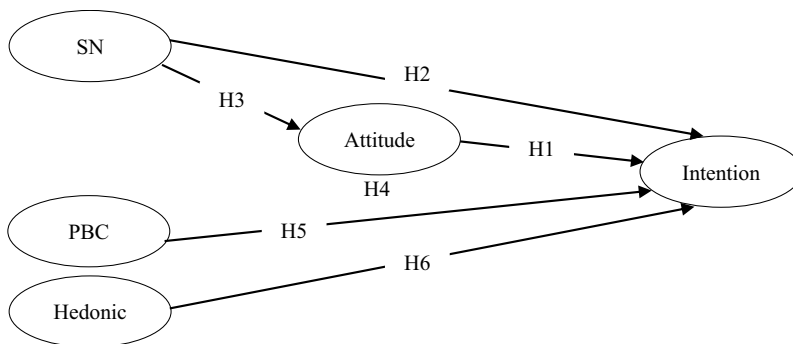


## 2.7 Anticipate hedonic motivation toward intention

Recently, some researchers demonstrated the limitations and criticisms leveled against the TPB model (Durán et al., 2016; Ulker-Demirel & Ciftci, 2020). One of the criticisms of using TPB is on its focus on rational reasoning and its lack of subconscious, associative and impulse factors, feelings, and private standards (Ulker-Demirel & Ciftci, 2020). TPB is a behavioral theory based on a causal process, and while it is extremely rationalistic with regard to decision-making, it is at the same time, neglecting motivational and emotional elements, such as unconscious motives and spontaneous choices (Yuzhanin & Fisher, 2016).

The construct of hedonic motivation is a function of an individual's affect. In contrast with previous studies which viewed that shopping behavior is a rational process of acquiring products (Yeo et al., 2017), hedonism may be representing an irrational process toward shopping for goods or experiencing of services, such as the desire to have fun, be playful (Yeo et al., 2017), or to feel better (Lindenberg, 2001). When consumers search for a particular product or service, they are also seeking expected sensory stimulation, comfort, status, affection, symbolism, and behavioral confirmation during the purchasing and usage process (Lindenberg, 2001; Yeo et al., 2017). Therefore, hedonic motivation would increase/decrease one's arousal and increase/decrease pleasantness (Lindenberg, 2001). Specifically, Yeo et al. (2017) indicated that hedonic motivation does not replace the traditional consumption theories, but rather working as an extension to enhance the application of consumption theories. Only when feelings become the center of an individual's attention, it will be an appropriate precondition (Lindenberg, 2001).

Certain studies postulated the significant role of hedonic motivation in influencing tourists and consumers behavior in different settings (Ingham et al., 2015; Lindenberg & Steg, 2013). Yeo et al. (2017) found that hedonic motivation positively affected convenience motivation and post-usage usefulness; ultimately resulting in behavioral intention. Lindenberg and Steg (2013) reported that hedonic motivation positively influenced and dominated green purchase behavior. Miao and Wei (2013) found that the hedonic motivation positively influenced intention



**Figure 1.** Conceptual research model (proposed model).

*Note:* Subjective norm (SN). Perceived behavioral control (PBC).



to visit environmental-friendly hotels selection. Therefore, the following hypothesis was proposed for testing:

H6: There is a positive relationship between anticipate hedonic motivation and intention.

Figure 1

### 3. Methodology

#### 3.1 Research paradigm

In this study, the positivism philosophical paradigm was adopted through the deductive approach to undertake empirical research and to test the hypotheses. The results obtained were to confirm or reject the relationships of the behaviors, leading to the further development of knowledge in this domain (Saunders et al., 2011). This research was considered to be exploratory in nature, given its concern in understanding what was occurring, and to explore new insights and to evaluate phenomena in a new research domain (Saunders et al., 2011). A survey was undertaken to answer the questions, and this research design was considered a cross-sectional study due to time and cost constraints.

#### 3.2 Measures

A self-administered, closed-ended format questionnaire was adopted in this research that incorporates a set of verified scales (De Vaus, 2013). This method of data collection enabled greater geographical coverage, cost savings, involves less pressure, provides anonymity, allows for quicker collection, and reduces levels of bias when compared with the interview technique (Saunders et al., 2011).

The questionnaire consisted of three sections. The first section included the independent variables; three items belonging to subjective norm, and three items belonging to perceived behavioral control were adapted from Han et al. (2011) and Wang and Wong (2020); and 3 items belonging to anticipate hedonic motivation were adapted from Yeo et al. (2017). The second section included the dependent variable: attitude and intention, of which four items belonging to attitude were adapted from Wang (2020), and 3 items belonging to intention were adapted from Wang et al. (2019). The third section addressed the demographic characteristics. A five-point Likert scale was adopted, as a 5- or 7-point Likert scale would more likely produce slightly higher mean scores within the highest possible attainable score compared and makes comparing data much easier (Dawes, 2008).

#### 3.3 Data collection

The non-probability sampling method was employed. According to Saunders et al. (2011), in social science research, researchers generally have difficulty acquiring an accurate sampling frame from organizations and companies or difficulty locating appropriate respondents in order to answer the research questions (Sekaran, 2006).

An online/web-based sampling method was employed to collect data due to the advantages of this data collection method. For instance, the data can be collected irrespective of the geographic location of respondents; the high speed of data collection; low cost; instant access to a broader audience; and better access to unique populations (Wang et al., 2019). Another important reason in adopting online sampling is that as in March 2020, there were over 904 million individuals noted as regular internet users in China. Interestingly, over 64.5% of the Chinese population were internet users (China Internet Network Information Center, 2020). A number of consumer consumption studies have adopted an online sampling technique to collect the required data that met their expectations (Kumar & Sreen, 2020; Wang & Wong, 2020).

This research developed and posted the research questionnaire in Chinese, on the website, <https://www.wenjuan.com>, between August 1 and September 31, 2020. This free online survey questionnaire collection website is extremely popular among consumers, businesses, and organizations in China, where it frequently serves as the first option in the collection of primary survey data related to internet users (Wang & Wong, 2020). Considering space tourism is new to the Chinese, there are no restrictions on any netizens to complete the questionnaires. An amount of five RMB/per respondent was offered as an incentive to increase the response rate from potential participants who normally browse through the website for prizes, or they may be invited to complete a questionnaire on the website via Tencent QQ and WeChat.

For this research, the limited reasonable sample size of 384 respondents was obtained based on Cochran's formula when the target population is unknown or infinite in number (Sarmah et al., 2013). As for this study, 444 responses were considered for analysis, which was higher than the recommended values for most types of research. A pilot test was conducted involving 30 respondents to ensure that the questionnaire was usable and valid and to reduce any issues that may negatively impact the results.

## 4. Data analysis and results

SPSS version 19 was employed for the descriptive statistics and confirmatory factor analysis and Structural Equation Modeling test was performed using AMOS.

### 4.1 Descriptive statistics

Table 1 displays the descriptive statistics for the demographic characteristics of the samples.

A total of 444 questionnaires were completed and returned for analysis. From those respondents, 52.3% were female, 54.3% were aged between 18 and 30, and 14% earned a monthly income between 3001 and 4500 CNY. About 54.5% of respondents had completed a 4-year bachelor's degree.

### 4.2 Confirmatory factor analysis

For assessing the internal reliability of this research, Hair et al. (2010) suggested a Cronbach's Alpha values of 0.7 and above to be treated as acceptable. According to Hair et al. (2010), the rule of thumb for assessing the practical significance of

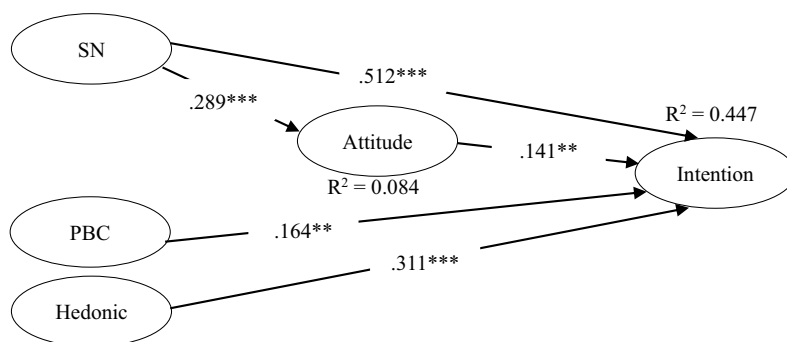
**Table 1.** Sample characteristics ( $N = 444$ ).

Items	Characteristic	Frequency	Percentage (%)
Gender	Male	212	47.7
	Female	232	52.3
Age	Below 18	132	4.7
	18–30	408	54.3
	31–45	88	23
	46–60	26	13.7
	Above 61	5	4.3
	Below 1700	32	7.2
Income level	1701–3000	105	23.6
	3001–4500	201	45.3
	4501–6000	62	14
	Above 6001	44	9.9
Education level	High School	44	9.9
	Diploma	116	26.1
	Bachelor	242	54.5
	Masters and above	42	9.5

standardized factor loadings must be at least 0.5 or higher; ideally 0.7 or higher. All of the factor loadings for this research were more than 0.7. For the convergent validity of the measurement model, the composite reliability (CR) should be greater than 0.7, and the average variance extracted (AVE) should be greater than 0.5 (Hair et al., 2010) (See Table 2).

The discriminant validity was assessed by considering the maximum shared squared variance (MSV), and the average shared squared variance (ASV) which should be less than AVE (Byrne, 2016; Hair et al., 2010). The correlation between the different variables must be less than 0.9 in the measurement model (Meyers et al., 2006). Thus, discriminant validity was established (See Table 3).

Next, the study ensued with the assessment of model fit. According to Ho (2006), at least three indices must be met in order to ensure model fit. In the model fit summary, the chi-square divided by the df value (CMIN/DF) was 1.35, which was below 3.0, and therefore, accepted as a good model fit (Hair et al., 2010). Besides, GFI = 0.962, CFI = 990, AGFI = 0.945, PGFI = 0.665, NFI = 0.962, IFI = 0.99, RMR = 0.044, PNFI = 0.753,

**Figure 2.** Structural model outcomes (proposed model).

Note: \* $p < .05$ , \*\* $p < 0.01$ , \*\*\* $p < .001$ , Critical ratio (C.R.)  $> 1.96$

Note: Subjective norm (SN). Perceived behavioral control (PBC).

**Table 2.** Construct validity for proposed model.

Construct (Cronbach's Alpha)	Item	Item loading	CR	AVE
Anticipate hedonic motivation ( $\alpha = 0.801$ )	AHM1. Visiting Wenchang spacecraft launch site as travel destination will be funny in future	0.747	0.805	0.579
	AHM2. Visiting Wenchang spacecraft launch site as travel destination will be enjoyable in future	0.747		
	AHM3. Visiting Wenchang spacecraft launch site as travel destination will be entertaining in future	0.788		
	AHM4. Visiting Wenchang spacecraft launch site as travel destination will be exciting in future	0.747		
Perceived behavioral control ( $\alpha = 0.757$ )	PBC1. Whether or not I visit Wenchang spacecraft launch site as travel destination is entirely up to me when traveling in future	0.701	0.76	0.514
	PBC2. I am confident that if I want, I can visit Wenchang spacecraft launch site as travel destination when traveling in future	0.773		
	PBC3. I have resources, time and opportunities to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.674		
	PBC4. I have the ability to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.674		
Subjective norm ( $\alpha = 0.861$ )	SN1. Most people who are important to me think I should visit Wenchang spacecraft launch site as travel destination when traveling in future	0.804	0.862	0.677
	SN2. Most people who are important to me would want me to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.848		
	SN3. People whose opinions I value would prefer that I visit Wenchang spacecraft launch site as travel destination when traveling in future	0.815		
	SN4. Most of the people who matter to me think I should visit Wenchang spacecraft launch site as travel destination when traveling in future	0.815		
Attitude ( $\alpha = 0.908$ )	For me, visit Wenchang spacecraft launch site as travel destination when traveling in future is	0.831	0.908	0.712
	Att1. Desirable	0.863		
	Att2. Pleasant	0.842		
	Att3. Wise	0.838		
	Att4. Positive	0.838		
Intention ( $\alpha = 0.835$ )	Inten1. I am willing to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.789	0.837	0.632
	Inten2. I plan to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.829		
	Inten3. I will make an effort to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.765		
	Inten4. I intend to visit Wenchang spacecraft launch site as travel destination when traveling in future	0.765		

**Table 3.** Discriminate validity for proposed model.

Research construct	CR	AVE	MSV	ASV	1	2	3	4	5
<b>1. Attitude</b>	0.908	0.712	0.169	0.118	<b>0.844<sup>a</sup></b>				
<b>2. Anticipate hedonic motivation</b>	0.805	0.579	0.345	0.253	0.411 (.169) <sup>b</sup>	<b>0.761</b>			
<b>3. Perceived behavioral control</b>	0.76	0.514	0.27	0.192	0.269 (.072)	0.52 (.27)	<b>0.717</b>		
<b>4. Subjective norm</b>	0.862	0.677	0.432	0.235	0.29 (.084)	0.479 (.229)	0.442 (.195)	<b>0.823</b>	
<b>5. Intention</b>	0.837	0.632	0.432	0.288	0.384 (.147)	0.587 (.345)	0.478 (.228)	0.657 (.432)	<b>0.795</b>

Note. a denotes square root of AVE. b denotes squared correlations.

PCFI = 0.775, RMSEA = 0.03, all of which met with the recommended thresholds. Thus, the model fit in this research was achieved.

**Table 4.** Structural relationships and hypotheses testing for proposed model.

Items	Parameter	Estimate	P	C.R.	Decision
H1	Attitude – > Intention	0.141	0.007	2.714	Supported
H2	Subjective norm – > Intention	0.512	***	8.516	Supported
H3	Subjective norm – > Attitude	0.289	***	5.128	Supported
H4	Subjective norm – > Attitude – > Intention		0.002 <sup>a</sup> 0.008 <sup>b</sup>		Supported
H5	Perceived behavioral control – > Intention	0.164	0.003	3.02	Supported
H6	Anticipate hedonic motivation – > Intention	0.311	***	5.618	Supported

*Note.* a denotes direct effect from subjective norm to intention. b denotes indirect effect from subjective norm to intention via attitude.

**Table 5.** Reliability and validity for original TPB model.

Research construct	Cronbach's alpha	CR	AVE	MSV	ASV	1	2	3	4
<b>1. Attitude</b>	.907	.908	.712	.147	.101	<b>.844<sup>a</sup></b>			
<b>2. PBC</b>	.954	.76	.515	.228	.165	.27 (.073) <sup>b</sup>	<b>.717</b>		
<b>3. SN</b>	.972	.863	.677	.43	.236	.29 (.084)	.441 (.194)	<b>.823</b>	
<b>4. Intention</b>	.936	.837	.631	.43	.269	.384 (.147)	.478 (.228)	.656 (.43)	<b>.795</b>

*Note:* factor loadings for attitude 1–4 were: 0.833, 0.864, 0.841, 0.836; for PBC1–3 were 0.708, 0.774, 0.666; for subjective norm 1–3 were 0.803, 0.85, 0.814; for intention 1–3 were 0.788, 0.832, 0.762. a denotes square root of AVE. b denotes squared correlations.

**Table 6.** Model fit indices of measurement and structural model for original TPB.

CMIN/DF	Sig.	GFI	CFI	AFGI	PGFI	NFI	IFI	PNFI	PCFI	RMSEA
1.166	0.000	0.975	0.996	0.961	0.632	0.975	0.996	0.737	0.754	0.02
2.573	<i>0.000</i>	<i>0.941</i>	<i>0.963</i>	<i>0.914</i>	<i>0.641</i>	<i>0.941</i>	<i>0.963</i>	<i>0.748</i>	<i>0.765</i>	<i>0.063</i>

*Note:* Numbers with italics spelling denote model fit values for structural model.

**Table 7.** Reliability and validity for modified TPB model (added anticipate hedonic motivation).

Research construct	$\alpha$ value	CR	AVE	MSV	ASV	1	2	3	4	5
<b>1. Attitude</b>	.908	.908	.712	.169	.118	<b>.844<sup>a</sup></b>				
<b>2. Anticipate hedonic motivation</b>	.805	.805	.579	.345	.253	.411 (.169) <sup>b</sup>	<b>.761</b>			
<b>3. PBC</b>	.76	.76	.514	.27	.192	.269 (.072)	.52 (.27)	<b>.717</b>		
<b>4. SN</b>	.862	.862	.677	.432	.235	.29 (.084)	.479 (.229)	.442 (.195)	<b>.823</b>	
<b>5. Intention</b>	.837	.837	.632	.432	.288	.384 (.147)	.587 (.345)	.478 (.228)	.657 (.432)	<b>.795</b>

*Note:* factor loadings for attitude 1–4 were: 0.831, 0.863, 0.842, 0.838; for PBC1–3 were 0.701, 0.773, 0.674; for subjective norm 1–3 were 0.804, 0.848, 0.815; for intention1–3 were 0.789, 0.829, 0.765; for hedonic 1–3 were 0.747, 0.747, 0.788. a denotes square root of AVE. b denotes squared correlations.

**Table 8.** Model fit indices of measurement and structural model for modified TPB model (added anticipate hedonic motivation).

CMIN/DF	Sig.	GFI	CFI	AFGI	PGFI	NFI	IFI	TLI	PNFI	PCFI	RMSEA
1.35	0.014	0.962	0.99	0.945	0.665	0.962	0.99	0.987	0.753	0.775	0.03
3.52	<i>0.000</i>	<i>0.889</i>	<i>0.932</i>	<i>0.849</i>	<i>0.653</i>	<i>0.894</i>	<i>0.921</i>	<i>0.905</i>	<i>0.745</i>	<i>0.767</i>	<i>0.08</i>

*Note:* Numbers with italics spelling denote model fit values for structural model.

4.3 Structural model estimation

The next step was to perform SEM using the structural model and testing the hypotheses. The overall goodness-of-fit indices of the structural model were: CMIN/DF = 3.282, AGFI = 0.868, PGFI = 0.658, CFI = 0.929, GFI = 0.904, IFI = 0.93, NFI = 0.902, PNFI = 0.744, PCFI = 0.766, RMSEA = 0.076. again, the values showed a good fit with the structural model and the outcomes tabulated in Figure 2 and Table 4, accordingly.

4.4 Model comparison

Next, confirmatory factor analysis and structural equation modeling were performed to compare the predictive capacity between the original TPB model, the modified model (i.e., added anticipate hedonic motivation into TPB) and the hypothesized model. Table 5 and Table 6 show the results of internal reliability, convergent validity and discriminate validity for the original TPB model. Table 7 and Table 8 show the results of internal reliability, convergent validity, and discriminate validity for the modified model. In addition, the results of applying the original TPB model and modified model (i.e., added anticipate hedonic motivation) are shown in Figure 3 and Figure 4 respectively.

**Note:** Subjective norm (SN). Perceived behavioral control (PBC).

**Note:** Subjective norm (SN). Perceived behavioral control (PBC).

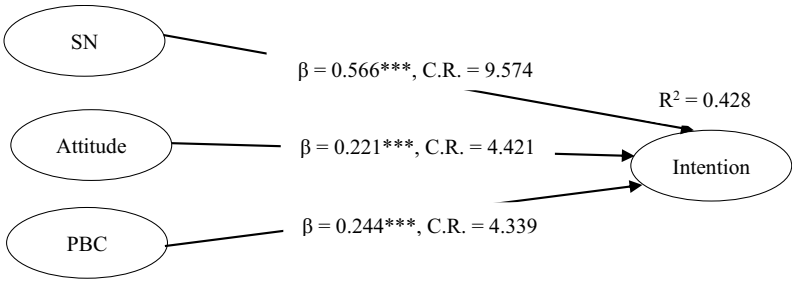


Figure 3. Structural model outcomes (original TPB model).

**Note:** \* $p < .05$ , \*\* $p < 0.01$ , \*\*\* $p < .001$ , critical ratio (C.R.)  $> 1.96$

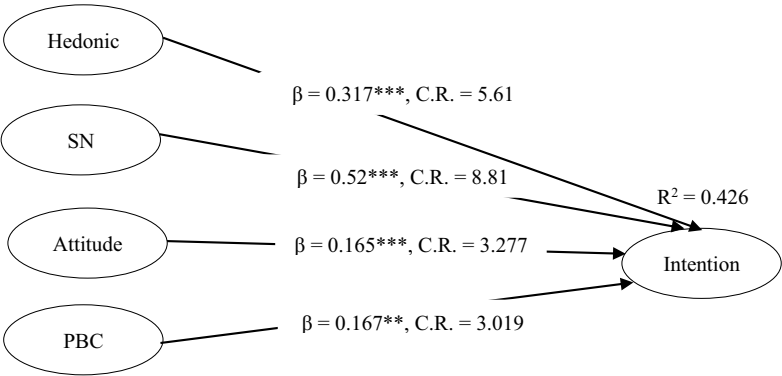


Figure 4. Structural model outcomes (added anticipate hedonic motivation model).

**Note:** \* $p < .05$ , \*\* $p < 0.01$ , \*\*\* $p < .001$ , critical ratio (C.R.)  $> 1.96$

## 5. Conclusion and implications

This study examined the extended framework of the TPB model, in which anticipated hedonic motivation was added into the TPB together with attitude, SN, and PBC as antecedents of tourists' intention to visit a spacecraft-launch site tourism destination, and to identify the mediating role of attitude in the relationship between SN and intention. In previous studies, attitude has been proven to be the one of the most important predictor leading to one's intention and behavior (Paul et al., 2016; Wang et al., 2019). This means that the more positive attitude consumers have, the stronger the consumers' intention to visit the Wenchang spacecraft launch site as travel destination.

In support of the findings reported by Wang and Wong (2020), there is a positive relationship found between SN and attitude, and attitude mediates the relationship between SN and intention. M.-F. Chen and Tung (2014) mentioned that SN has a positive influence on intention in marketing, and in some circumstances, SN has been shown to have a significant influence on intention (Lee, 2008). Space-launch tourism is a novel concept that has just been introduced in China and has met with some practical challenges as the Chinese consumers' concerns and understanding of space-launch tourism are still low. Being a highly collectivistic society (Wang et al., 2020a) the effect of peer influence is more important in China when compared to consumers in western countries. In China, the individuals' close friends, relatives, co-workers/colleagues, or business partners can have a significant influence on their intention to visit a space-launch tourism site.

According to Wang et al. (2019), consumers' purchase intention is positively influenced by PBC. PBC is the most important predictor influencing consumer purchase intention if a particular behavior is not under full volitional control (Paul et al., 2016). This study confirmed that there is a significant positive relationship between PBC and intention. As such, the perceived ease of performing certain actions can be effectively highlighted in promoting favorable attitudes toward space-launch tourism visitation, resulting in more effective marketing of the space-launch destination tourism concept.

Anticipate hedonic motivation shows a positive association with intention in this study. The findings showed that the tourists' behavior is not just a rational process of acquiring products/services with a work mentality (Yeo et al., 2017), but they are seeking expected sensory stimulation and affection during the engagement process. Tourists are willing to engage in any novel kind of tourism activities (e.g., space-launch tourism), which can lead to an increase in tourists' arousal and pleasantness.

In addition, this research showed that the hypothesized model has more predictive capacity compared to the original TPB model and modified model. When the hedonism variable is removed from the hypothesized model, the interrelationship between attitude, SN and intention is affected significantly with the R-square value showing a decrease from 0.447 to 0.428 and 0.426 for the TPB model and modified model, respectively. According to Kumar et al. (2017), the flexible nature of the TPB model allows the means to explore the impact of other contextual variables (e.g., motivational variables) which might help to explain an individual's intention and behavior.



### 5.1 Theoretical contributions

First, although TPB is most widely used as the underpinning theory in tourism literature (Ulker-Demirel & Ciftci, 2020), the TPB model ignores the influence of unconscious and motivational or emotional elements on consumers behavior (Ajzen & Dasgupta, 2015; Durán et al., 2016). Many researchers suggested that a tourist's motivational and emotional elements should be included in the TPB model to predict one's intention (Durán et al., 2016; Ulker-Demirel & Ciftci, 2020), because consumers' behaviors is an irrational process of acquiring stimulation with impulsive emotion. Specifically, hedonic motivation is a supplementary condition that can enhance the application of the cognitive-rational process (Yeo et al., 2017) which influences an individual's purchase predisposition, such as his/her interactions, intentions, behaviors and so forth. This study confirmed that anticipate hedonic motivation significantly influenced tourists' intention to visit Wenchang spacecraft launch site, and it does not replace the role of traditional consumption theories (i.e., components of TPB), but rather working as an extension of consumption theories.

Second, although the existing TPB model does not confirm any role of mediation by its principle-independent constructs, the possibility of mediation cannot be ignored (Bashir et al., 2019). Researchers cannot ignore the causal relationship between SN and attitude of consumers in highly collectivistic cultures (Wang & Wong, 2020). This study confirmed the findings by Wang et al. (2019) that there is a significant relationship between SN and attitude, which can result in intention. Researchers must consider the role of SN in influencing consumers' attitudes on purchasing novel tourism products or services as consumers from highly collectivistic countries are more likely to share the positive or negative experiences regarding unfamiliar or novel products or service with important others that lead to high or low level of intention or behavior.

Third, this study is one of the first papers to explain the relationship between anticipated hedonic motivation and components of the TPB (i.e., attitude, SN, PBC) using the highly rigorous method of SEM in exploring the effect of antecedents on space-launch destination tourism activities. The study's results indicate that there is a significant relationship between attitude, SN, PBC, and anticipated hedonic motivation and intention to visit the Wenchang spacecraft launch site. The modified model's (with the added anticipated hedonic motivation into TPB) explanatory power for intention is similar with the original TPB model ( $R\text{-square} = 0.426$  for modified model V.S.  $R\text{-square} = 0.428$  for original TPB model). However, the modified model provides more exhaustive explanation for intention to visit Wenchang spacecraft launch site as a travel destination, while the anticipated hedonic motivation is the second important predictor in the modified model. These relationships are particularly important for some regions or countries that have highly developed space programs such as China, Japan, U.S. Russian, etc, because most previous studies have investigated space tourism activities from an outer space orientation perspective. There is no research yet that examine tourists' perceptions toward space-launch destination tourism. Our results provide a basic understanding of why potential tourists will visit a spacecraft launch site destination based on their volitional, non-volitional and motivational aspects.

Finally, this study provides a revised conceptual framework (i.e., proposed model) based on the TPB model for academics to investigate tourists' intention to visit

a spacecraft launch site who come from highly collectivistic countries (e.g., China, Korea, Japan, India). The results showed the proposed model had more explanatory power ( $R\text{-square} = 0.447$ ) compared to the modified model and the original TPB model. These results are important to eastern space tourism literature, because there is a lot of room for improvement in investigating space tourism in Asia. Researchers should not only consider the influence of motivational aspects on intention, but also need to take into account the relationship between SN and attitude based on TPB model.

### **5.2 Practical implications**

This study raises some practical implications for the novel space-launch tourism activities. The empirical results showed that the influence of tourist's attitude and PBC are significant in predicting their intention. This means that Chinese tourists who have more positive attitudes will develop stronger intentions to visit the Wenchang spacecraft launch site as their travel destination. They will have more confidence to control non-rational factors or overcome obstacles (e.g., time, money) that may influence their space-launch tourism behaviors. Space-related tourism marketers are encouraged to disseminate space knowledge and perspectives via formal and informal communication channels while focusing on creating a positive space tourism image for potential tourists.

As mentioned in previous studies, a higher level of SN will help to influence one's intention and behavior (Wang & Wong, 2020; Wang et al., 2019). It means that when an individual develops a positive concept of space-launch tourism activities, it will result in a high level of intention to visit this kind of tourism destination. Therefore, space-related tourism managers should develop more effective product and advertising strategies to promote their space tourism activities to the public, such as creating greater awareness for their rocket launch activities schedule and other attractions available at the launch site.

Moreover, Chinese tourists have expressed great interest in engaging in space-related activities. They also possess a high hedonic motivation toward any novel tourism activity. The fun or entertaining element in any specific form of tourism (e.g., space-launch tourism) can be transferred to one's intention via creating more enjoyable experiences through customer interaction. Thus, marketers can devise strategies to encourage tourists' interaction to enhance the tourist's experience which will possibly strengthen a tourist's intention to visit a space-launch tourism destination. Space-related education should be considered a marketing tool for managers, because information on new space technologies and sciences would attract more potential space tourists to visit the site in order to satisfy their curiosity.

### **5.3 Limitations**

First, although the application and use of online surveys have become more prevalent, adopting this approach has various disadvantages, such as non-users may not be included. Specifically, the majority of respondents (54.3%) aged between 18 and 30. The reason is that the generation Y (born between 1980 and 1995) and generation Z (born between 1995 and 2010) are the most frequent internet users. According to Kusumawati et al. (2019), technology is part of Generation Y's everyday life, and

generation Z has never lived without the internet. Thus, it is not surprising that the majority of the respondents were young, which is another limitation for this study. Second, this study solely measured the tourists' intention; despite the argument of many researchers that intention is the single most important predictor of an individuals' actual behavior, a consumer's actual behavior is not always caused by his/her attitudes (Wang et al., 2019). Therefore, future research should measure tourists' actual visit behaviors in this research area. In addition, this research has been conducted with a very limited scope, specifically on the Wenchang spacecraft launch site in China. Thus, the results can only be applicable to China's Wenchang area and cannot be generalized to other districts and countries. The proposed model used in this study should be reproduced and tested in other regions to further confirm its validity and usefulness. Finally, demographic characteristic is one of the most widely used methods to segment and predict tourists' behavior (Wang et al., 2020a). Further research should consider the influence of demographic characteristics on tourists' behavior to visit space-launch tourism destination.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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## References

- Mafengwo Travel Agency (2020). Must-see attraction Top5.. Retrieved September 29, 2020, from <http://www.mafengwo.cn/poi/31899374.html>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I., & Dasgupta, N. (2015). Explicit and implicit beliefs, attitudes, and intentions: The role of conscious and unconscious processes in human behavior. In P. Haggard & B. Eitam (Eds.), *The sense of agency* (pp. 115–144). Oxford University Press.
- Ajzen, I., & Fishbein, M. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888–918. <https://doi.org/10.1037//0033-2909.84.5.888>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice-Hall.
- Bashir, S., Khwaja, M. G., Turi, J. A., & Toheed, H. (2019). Extension of planned behavioral theory to consumer behaviors in green hotel. *Heliyon*, 5(12), 1–8. <https://doi.org/10.1016/j.heliyon.2019.e02974>
- Botetzagias, I., Dima, A.-F., & Malesios, C. (2015). Extending the theory of planned behavior in the context of recycling: The role of moral norms and demographic predictors. *Resources, Conservation and Recycling*, 95, 58–67. <https://doi.org/10.1016/j.resconrec.2014.12.004>
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Routledge, London, UK. <https://doi.org/10.4324/9781315757421>
- Chen, M.-F., & Tung, P.-J. (2014). Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221–230. <https://doi.org/10.1016/j.ijhm.2013.09.006>
- Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management Science and Engineering*, 4(2), 27–39. <https://doi.org/10.3968/j.mse.1913035X20100402.002>
- China Internet Network Information Center. 2020. *Statistical report on internet development in China*. China Internet Network Information Center (CNNIC). <http://cnnic.com.cn/IDR/>
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. *International Journal of Market Research*, 50(1), 61–77. <https://doi.org/10.1177/147078530805000106>
- De Vaus, D. (2013). *Surveys in social research* (5th ed. ed.). Routledge.
- DePasquale, D., Charania, A. C., & Olds, J. (2006) *The emerging orbital space tourism industry: New insight into demand and prospects for success*. Paper presented at the AIAA SPACE 2006 Forum, San Jose, California.
- Durán, M., Ferraces, M.-J., Rodríguez, M., & Sabucedo, J.-M. (2016). The role of anticipated emotions in recycling intention: An extension of the theory of planned behaviour. *PsyEcology*, 7(1), 89–110. <https://doi.org/10.1080/21711976.2015.1114215>
- Fisher, R. D., Jr. (2008). *China's military modernization: Building for regional and global reach*. Praeger.
- Hair, J. F., Black, W. C., Babin, B. J., & Tatham, R. L. (2010). *Multivariate data analysis: A global perspective* (7th ed. ed.). Pearson Prentice Hall.
- Han, H., Hsu, L.-T., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325–334. <https://doi.org/10.1016/j.tourman.2009.03.013>
- Han, H., Lee, S., & Lee, C.-K. (2011). Extending the theory of planned behavior: Visa exemptions and the traveller decision-making process. *Tourism Geographies*, 13(1), 45–74. <https://doi.org/10.1080/14616688.2010.529930>

- Han, H., Meng, B., & Kim, W. (2017). Emerging bicycle tourism and the theory of planned behavior. *Journal of Sustainable Tourism*, 25(2), 292–309. <https://doi.org/10.1080/09669582.2016.1202955>
- Han, T.-I., & Stoel, L. (2017). Explaining socially responsible consumer behavior: A meta-analytic review of theory of planned behavior. *Journal of International Consumer Marketing*, 29(2), 91–103. <https://doi.org/10.1080/08961530.2016.1251870>
- Ho, R. (2006). *Handbook of univariate and multivariate data analysis and interpretation with SPSS*. CRC Press.
- Ingham, J., Cadieux, J., & Berrada, A. M. (2015). E-shopping acceptance: A qualitative and meta-analytic review. *Information & Management*, 52(1), 44–60. <https://doi.org/10.1016/j.im.2014.10.002>
- Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, 41, 60–69. <https://doi.org/10.1016/j.jretconser.2017.11.008>
- Kim, W.-H., & Kim, K.-S. (2018). Pro-environmental intentions among food festival attendees: An application of the value-belief-norm model. *Sustainability*, 10(11), 3894. <https://doi.org/10.3390/su10113894>
- Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services*, 34, 1–9. <https://doi.org/10.1016/j.jretconser.2016.09.004>
- Kumar, S., & Sreen, N. (2020). Role of internal and external values on green purchase. In V. Naidoo & R. Verma (Eds.), *Green marketing as a positive driver toward business sustainability* (pp. 158–185). IGI Global.
- Kusumawati, A., Listyorini, S., Suharyono, & Yulianto, E. (2019). The impact of religiosity on fashion involvement and patronage intention among generation XYZ of Indonesian Muslim consumers. *International Journal of Innovation, Creativity and Change*, 9(10), 237–255. [https://www.ijicc.net/images/vol9iss10/91010\\_Kusumawati\\_2019\\_E\\_R.pdf](https://www.ijicc.net/images/vol9iss10/91010_Kusumawati_2019_E_R.pdf)
- Le Goff, T., & Moreau, A. (2013). Astrium suborbital spaceplane project: Demand analysis of suborbital space tourism. *Acta Astronautica*, 92(2), 144–149. <https://doi.org/10.1016/j.actaastro.2013.03.025>
- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning*, 26(6), 573–586. <https://doi.org/10.1108/02634500810902839>
- Lele, A. (2018). Asia and Space Tourism. *Astropolitics*, 16(3), 187–201. <https://doi.org/10.1080/14777622.2018.1532743>
- Lindenberg, S. (2001). Social rationality versus rational egoism. In J. H. Turner (Ed.), *Handbook of sociological theory* (pp. 635–688). Kluwer Academic/Plenum.
- Lindenberg, S., & Steg, L. (2013). Goal-framing theory and norm-guided environmental behavior. In H. C. M. Van Trijp (Ed.), *Encouraging sustainable behavior* (1st ed ed., pp. 37–54). Psychology Press.
- Liu, M. T., Liu, Y., & Mo, Z. (2020). Moral norm is the key: An extension of the theory of planned behaviour (TPB) on Chinese consumers' green purchase intention. *Asia Pacific Journal of Marketing and Logistics, Ahead-of-print*, 32(8), 1823–1841. <https://doi.org/10.1108/APJML-05-2019-0285> ahead-of-print
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Sage.
- Miao, L., & Wei, W. (2013). Consumers' pro-environmental behavior and the underlying motivations: A comparison between household and hotel settings. *International Journal of Hospitality Management*, 32, 102–112. <https://doi.org/10.1016/j.ijhm.2012.04.008>
- Nimri, R., Patiar, A., Kensbock, S., & Jin, X. (2019). Consumers' intention to stay in green hotels in Australia: Theorization and implications. *Journal of Hospitality & Tourism Research*, 44(1), 149–168. <https://doi.org/10.1177/1096348019862602>
- Olya, H. G. T., & Han, H. (2020). Antecedents of space traveler behavioral intention. *Journal of Travel Research*, 59(3), 528–544. <https://doi.org/10.1177/0047287519841714>

- Ormrod, J., & Dickens, P. (2019). Space tourism, capital, and identity. *Space Tourism*, 25, 223–244. <https://doi.org/10.1108/S1571-504320190000025020>
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123–134. <https://doi.org/10.1016/j.jretconser.2015.11.006>
- Sarmah, H., Hazarika, B. B., & Choudhury, G. (2013). An investigation on effect of bias on determination of sample size on the basis of data related to the students of schools of Guwahati. *International Journal of Applied Mathematics and Statistical Sciences*, 2 (1), 33–48. [https://iaset.us/archives?jname=45\\_2&year=2013&submit=Search](https://iaset.us/archives?jname=45_2&year=2013&submit=Search)
- Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students* (5th ed. ed.). Pearson Education.
- Sekaran, U. (2006). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Soliman, M. (2019). Extending the theory of planned behavior to predict tourism destination revisit intention. *International Journal of Hospitality & Tourism Administration*, Ahead-of-print, 1–26. ahead-of-print. <https://doi.org/doi:10.1080/15256480.2019.1692755>
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3), 309–317. <https://doi.org/10.1016/j.jenvp.2008.10.004>
- Teeroovengadum, V. (2019). Environmental identity and ecotourism behaviours: Examination of the direct and indirect effects. *Tourism Review*, 74(2), 280–292. <https://doi.org/10.1108/TR-11-2017-0190>
- Teng, Y.-M., Wu, K.-S., & Liu, -H.-H. (2015). Integrating altruism and the theory of planned behavior to predict patronage intention of a green hotel. *Journal of Hospitality & Tourism Research*, 39(3), 299–315. <https://doi.org/10.1177/1096348012471383>
- Ulker-Demirel, E., & Ciftci, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. *Journal of Hospitality and Tourism Management*, 43, 209–219. <https://doi.org/10.1016/j.jhtm.2020.04.003>
- Wang, L. (2020). Determinants of consumers purchase attitude and intention toward green hotel selection. *Journal of China Tourism Research*, Ahead-of-print, 1–20. ahead-of-print. <https://doi.org/10.1080/19388160.2020.1816241>
- Wang, L., & Wong, P. P. W. (2020). Marketing of environmentally friendly hotels in China through religious segmentation: A theory of planned behaviour approach. *Tourism Review*, Ahead-of-print, 1–16. ahead-of-print. <https://doi.org/10.1108/TR-08-2019-0327>
- Wang, L., Wong, P. P. W., & Elangkovan, N. A. (2020a). Antecedents of green purchase behaviour: An examination of altruism and environmental knowledge. *International Journal of Culture, Tourism and Hospitality Research*, 14(1), 63–82. <https://doi.org/10.1108/IJCTHR-02-2019-0034>
- Wang, L., Wong, P. P. W., & Elangkovan, N. A. (2020b). The demographic impact of consumer green purchase intention toward green hotel selection in China. *Tourism and Hospitality Research*, 20(2), 210–222. <https://doi.org/10.1177/1467358419848129>
- Wang, L., Wong, P. P. W., & Elangkovan, N. A. (2020c). The influence of religiosity on consumer's green purchase intention towards green hotel selection in China. *Journal of China Tourism Research*, 16(3), 319–345. <https://doi.org/10.1080/19388160.2019.1637318>
- Wang, L., Wong, P. P. W., Elangkovan, N. A., & Chee, W. M. (2019). Green hotel selection of Chinese consumers: A planned behavior perspective. *Journal of China Tourism Research*, 15(2), 192–212. <https://doi.org/10.1080/19388160.2018.1553743>
- Wang, L., & Zhang, Q. (2020). The role of extrinsic religiosity on consumer green hotel selection in China. *International Journal of Tourism & Hotel Business Management*, 3 (2), 405–425. <https://www.scitcentral.com/documents/c60574f33a46b8d75f5454ceab1c43da.pdf>
- Webber, D. (2019). Current space tourism developments. *Space Tourism*, 25, 163–175. <https://doi.org/10.1108/S1571-504320190000025009>
- Yeo, V. C. S., Goh, S.-K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services*, 35, 150–162. <https://doi.org/10.1016/j.jretconser.2016.12.013>



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