Self-drive tourism attributes: Influences on satisfaction and behavioural intention

Abstract

Self-drive tourism differs from other types of tourism in many aspects, such as the importance of accessibility by roads and the attractiveness of multiple destinations along the way. Little research has investigated self-drive tourism attributes systematically. Moreover, the consequences of these attributes, namely, tourist satisfaction and post-visit behavioural intentions, have not been examined. This study aims to fill these gaps. The study is based on 377 observations collected in Xinjiang Province, China, which is a popular domestic self-drive tourism destination. Results show that two factors of self-drive tourism attributes explain the data well. Destination characteristics positively affect tourist satisfaction but driving conditions do not. Tourist satisfaction positively leads to the intention to recommend and revisit. This study contributes to the body of knowledge in the area of self-drive tourism and suggests implications to practitioners.

Keywords: Self-drive tourism; attributes; driving conditions; destination characteristics; satisfaction; behavioural intention; word-of-mouth; revisit intention; Xinjiang; China

Introduction

Self-drive tourism has shown exponential growth in emerging markets such as China in recent years. With the development of the economy and the increase in motor vehicle production, an increasing number of people now own private cars. At the end of 2016, China had approximately 194 million private cars, a 2.7-fold increase from 2012 when the country had 72.2 million private cars (National Bureau of Statistics of China, 2017). The transportation infrastructure and services have been greatly improved. Moreover, environmental deterioration and the pressures of modern life that accompany urbanisation intensify people's desire to temporarily escape from their daily lives to seek relaxation, entertainment or other novel experiences (Hsu & Huang, 2008). Self-drive tourism has become a choice for many people because this type of tourism, which is based on automobiles, provides numerous opportunities for people to reduce stress, embrace individuality and enjoy a sense of freedom or independence (Prideaux & Carson, 2003). China's self-drive tourists reached 2.34 billion person-times in 2015, which accounts for 58.5% of domestic tourists, while the number was approximately 20% in 2006 (China National Tourism Administration

[CNTA], 2017). The growing number of self-drive tourists has generated tourism receipts, created new jobs and strengthened the construction of infrastructure (Fjelstul & Fyall, 2015; Prideaux & Carson, 2010). Some researchers have claimed that self-drive tourism is more likely to benefit communities and economic sectors compared with tourism by air, train or sea (Prideaux & Carson, 2010). Many destinations treat self-drive tourists as an important target market and are concerned about their needs, satisfaction and future behaviours (Zhou & Huang, 2016).

Satisfaction and revisit intention play important roles in the marketing function of service firms. However, the determinants of these constructs may be different in self-drive tourism. If customers perceive that the quality of services provided by a hospitality firm meets or exceeds their expectations, they may be satisfied with the firm (Albayrak & Caber, 2015). However, self-drive tourism usually involves many tourism destinations. Thus, self-drive tourists who gain memorable experiences during their trip may be satisfied with the whole journey rather than a specific destination (Howat, Brown, & March, 2007). Hotel managers may understand what satisfies their customers and take effective measures, whereas destinations have difficulty assessing how they contribute to a self-drive tourist's experience and satisfaction (Prideaux & Carson, 2010; Zhou, Ye, Pearce, & Wu, 2014). The concept of customer loyalty was adopted from marketing based on the practices of service firms. Research found that if a customer is satisfied with a firm's services, he/she may revisit the business or recommend it to others; the level of this satisfaction is also positively related to customer loyalty (Kuo, Chang, Cheng, & Lai, 2013). However, this conclusion may not be applicable to self-drive tourism. Self-drive tourists who are satisfied with a self-drive trip may not be loyal to the destination(s) because they always seek different experiences (Zhou & Huang, 2016). The essence of self-drive tourism, such as seeking freedom and novelty, contradicts the concept of 'loyalty', which partly explains the lack of research on self-drive tourists' revisit intention or loyalty (Prideaux & Carson, 2003). Thus, the satisfaction, revisit intention or loyalty of self-drive tourists must be examined because of their uniqueness and importance to destinations. This current study attempts to address this issue in the context of Chinese self-drive tourism.

Self-drive tourism, which refers to people traveling from origins to destinations 'by car that is either privately owned or rented, and engaging in tourism-related activities during the journey' (Prideaux, Wei, & Ruys, 2001, p.211), is different from other types of tourism and has its own characteristics. Driving for pleasure is one of the characteristics of self-drive tourism (Hallo &

Manning, 2009). Self-drive tourism usually involves various destinations, and this multi-destination feature attracts many tourists (Prideaux & Carson, 2003). It is regarded as a system with considerable markets that provide various services (Shih, 2006; Prideaux & McClymont, 2007). Additionally, a large number of self-drive tourists prefer beautiful scenic byways (Eby & Molnar, 2002). These unique attributes of self-drive tourism exert influences on tourists' decision making and behaviours (Prideaux & Carson, 2010).

Self-drive tourism attributes refer to the features or utilities of services and facilities related to self-drive tours (including tangible and intangible aspects of destinations), supported by private operators or the public sector; and they differ from traditional destination attributes in many ways (Prideaux & Carson, 2010). The self-drive travel experience and behaviours may not be limited to a certain destination or a particular type of activity (Taylor & Prideaux, 2008). However, not many studies have examined these unique attributes of self-drive tourism, and little research has investigated the impact of these attributes on tourists' satisfaction, word-of-mouth (WOM) and revisit intention. Existing studies on the self-drive tourism phenomenon are mainly based on developed economies (e.g. the US and Australia) and are descriptive in nature. The limited studies on China have focused on its development status, overall statistics and tourist motivation (Liu, Zhang, & Nie, 2012; Zhou & Huang, 2016). Little research has investigated the unique attributes of self-drive tourism and their consequences. Therefore, the aim of the present study was to redress this knowledge deficit by systematically examining the dimensionality of self-drive tourism attributes and their influences on tourist satisfaction and intention to recommend and revisit.

Literature review

Self-drive tourism attributes

Self-drive tourism attributes were examined under the guidance of destination attribute models. Attribute in geography describes the intrinsic properties, characteristics or quality of geographic elements; and geographical products are generally viewed as a set of attributes (Rodrigue, Comtois, & Slack, 2013). Correspondingly, destination attributes refer to the amalgam of various elements with certain features, which may attract tourists (Kim, 2014). Identifying destination attributes has important implications to facilitate destination image formation and tourist satisfaction achievement (Litvin & Ling, 2001). Eusébio and Vieira (2013) identified three aspects of destination attributes as basic services, accessibility and attractions, while Kim (2014) listed 10 dimensions of attributes leading to memorable tourism experiences (infrastructure, entertainment, special events, etc.). Another influential model of destination attributes–the

"FAITH" model–proposed by Weaver and Lawton (2006), includes facilities, attractions, infrastructure, transportation and hospitality. These dimensions reflect the intersection of the tangible and intangible factors when tourists explore a destination. The process of tourists' experience seeking involves their exploration and interpretation of destination attributes, which covers attributes recognition at the beginning, attributes consumption during travel, and finally attributes perception and evaluation at the end (Wong & Wan, 2013). The attribute mix varies among the different types of tourism. For example, the attributes of an island may involve sun, sand, and nature and culture resources (Beerli & Martin, 2004), whereas ski resorts may include accommodation and social life, facilities and other resort services (Miragaia & Martins, 2015). Therefore, it is necessary to specifically investigate self-drive tourism attributes, which define the features, characteristics or quality of various elements (i.e., services, facilities and destinations) in self-drive tours provided by private operators or the public sector (Prideaux & McClymont, 2007; Prideaux & Carson, 2010).

A distinct feature of self-drive tourism is its dependency on private automobiles and tourists who are motivated by the driving experience. Hallo and Manning (2009) examined vehicle-based tourists at Acadia National Park in the US and found that driving along the ocean is important to the park visitors' experience, and the freedom/convenience of self-drive tourism is irreplaceable. 'Driving for pleasure' was ranked as one of the most popular recreational activities in considerable destinations, especially the coastal areas in Queensland (Moss & McPhee, 2006). Self-drive tourists are not much restricted by time and places, can bring much of their own equipment and necessities and have the opportunity to fully enjoy camping, adventure, photography and picnics (Prideaux & Carson, 2003; Prideaux & McClymont, 2007). A memorable driving experience relies on the services and amenities provided by tourism destinations and public service sectors. For example, the network of roads should be in good condition so that self-drive tourists do not have to drive for a long time between breaks (Becken & Wilson, 2007). The overall travel time to destinations may be influenced by road condition factors, which include visibility of signs and/or traffic signals, overall roadway width, speed limit on various roads, frequency of unsignalised cross-streets and driveway entrances (Becken & Wilson, 2007; Hallo & Manning, 2009; Mmopelwa, Kgathi, & Molefhe, 2007). Road maintenance and rate of traffic flow (e.g. smoothness, pace and continuity) affect the time visitors have to travel to destinations, the mood of self-drive tourists and their tourism experiences (Lane & Waitt, 2007; Liu et al., 2012). The safety of roads represents another self-drive tourism attribute; dangerous driving conditions (e.g. pedestrians,

bicyclists and narrow streets) may negatively influence the trip planning and decision making of self-drive tourists (Becken & Wilson, 2007).

Access to places of interest and the enjoyment of scenery are also considered in the services provided by suppliers or by public sectors (Prideaux & Carson, 2010; Van Acker, Mokhtarian, & Witlox, 2014). Scenic byways, as a hybrid of scenic destinations and travel routes, play an important role in self-drive trips, and research indicates that poorly designed scenic byways result in the avoidance behaviour of tourists (Shailes, Senior, & Andrew, 2001). Scenic byways are frequently chosen by self-drive tourists because the travel between origin and destination is no longer a cost but a tourism experience itself, which conforms to the motivation of 'drive for pleasure' (Eby & Molnar, 2002; Prideaux & Carson, 2010). Some financial cost is unavoidable for self-drive tourists, such as highway fees and parking charges, which reflects the attributes of self-drive tours and may have an impact on tourists' experiences (Mmopelwa et al., 2007). These factors should be considered when practitioners design self-drive services to improve tourist satisfaction. A unique characteristic of self-drive tourism is its multi-destination nature; many researchers have investigated the spatial behaviour model and tourist routes in terms of time-geographical analysis (Zillinger, 2007), sensitivity to distance of self-drive tourists (Nicolau, 2008), spatial patterns in national parks (Connell & Page, 2008) and network characteristics of self-drive tourism (Shih, 2006). Given these characteristics, the network of destinations of self-drive tours and their easy access are valued by tourists (Prideaux & Carson, 2010; Nicolau, 2008). For example, long distances between destinations and difficulty in finding locations may hinder tourists' intention to visit (Nicolau, 2008; Mahadevan, 2014).

Another aspect of the self-drive tourism attribute lies in the attractions and service facilities of destinations. Attractions, whether cultural, historic, scenic or natural, are indispensable for self-drive tourism experiences, similar to other types of tourism (Kim, 2014; Prideaux & Carson, 2010). Research on this topic has taken place in many contexts, including national parks, scenic byways and coastal and rural areas (Lane & Waitt, 2007; Mahadevan, 2014). Self-drive tourism suppliers must provide diverse range of activities and ways for visitors to live through the unique culture of the destinations (e.g. artwork, handicrafts and performances) to create memorable experiences (Kim, 2014; Liu et al., 2012). In addition, memorable self-drive tourism experiences depend on an appropriate superstructure in the destinations (e.g. accommodation, communication and vehicle repair). Previous studies have suggested that the price and quality of facilities (e.g. accommodation,

food and drinks) are important components of destination attributes that affect the decisions of tourists before travel and their experience during a driving tour (Eusébio & Vieira, 2013; Mahadevan, 2014). The availability of reliable and responsive services by destinations to visitors helps destinations gain an edge over competitors (Prideaux & Carson, 2010). Furthermore, the hospitality and friendliness of the local people and the positive attitudes of the community towards visitors show another facet of the self-drive tourism attribute, which is attracting increasing attention from researchers and managers (Wu & Pearce, 2014). The aforementioned factors, which consist of the features of self-drive tourism, have been investigated by previous researchers from their respective perspectives. However, few studies have been conducted to examine the dimensionality of self-drive tourism attributes, and their influence on tourists' satisfaction and post-tour behaviours remains unclear.

Self-drive tourism attributes and tourist satisfaction

Tourist satisfaction has become the focus of tourism destinations because it is crucial for the long-term development and success of these destinations. Satisfaction, as a psychological state which arises in response to a tourist's experience, is related to a specific service transaction (Chi & Qu, 2008). For self-drive tourism, overall satisfaction is not easy to pinpoint because it can be determined by internal factors (e.g. tourist experience and perceived attractiveness) influenced by many separate destinations and external factors (e.g. traffic condition and local climate) that are beyond the control of service providers (Prideaux & Carson, 2010). The dominant framework employed in the assessment of tourist satisfaction is the expectancy-disconfirmation paradigm or the difference between expectation and service performance (Eusébio & Vieira, 2013). Self-drive tourist satisfaction has much to do with the pre-perception and actual services received based on the assessment of various tourism attributes. Moreover, tourists tend to engage in the evaluation of the physical destination attribute (i.e. functional performance) and the psychological interpretation of potential services provided to make a travel decision (Becken & Wilson, 2007). Such evaluation and interpretation derive from the tourists' expectations. In other words, self-drive tourism attributes may affect tourists' expectation as well as performance perceptions, thus satisfaction level. Nevertheless, it is not easy to accurately measure the expectancy and performance and compare their differences (Kim, Magnusen, & Kim, 2014). As a result, many researchers adopted the direct measure of satisfaction (e.g., how satisfied are you with this destination?); and this direct measure appears to be more

appropriate than the "perception minus expectation" measure in attribute research, which is complicated for tourists to evaluate their expectation and the actual performance, let alone the differences between the two (Albayrak & Caber, 2015; Kim et al., 2014). Thus, the current study evaluated self-drive tourists' satisfaction by asking their satisfaction level directly.

Tourist satisfaction may be influenced by self-drive tourism attributes because of the tourists' quality requirement. Self-drive tourism attributes, such as the natural and cultural characteristics of destinations and highway systems, rely highly on the basic infrastructure and tourism superstructure provided; the service performance perceived by tourists is contingent on their assessment of the quality of these services and facilities (Chi & Qu, 2008). As such, the positive perception of tourism attributes would lead to a high performance assessment (Albayrak & Caber, 2015) and narrow the difference between tourists' expectations and perceived service performance, thus resulting in a high level of satisfaction. Therefore, the following hypothesis was proposed.

Hypothesis 1. Self-drive tourism attributes positively influence self-drive tourist satisfaction.

Satisfaction, WOM and revisit intention

A common consequence of tourist satisfaction is positive WOM, which is a type of information communication between existing tourists and others regarding self-drive tourism. Previous research has found that the satisfaction of tourists significantly leads to the spread of positive WOM (Kim, Kim, & Kim, 2009; Phillips, Wolfe, Hodur, & Leistritz, 2013). For self-drive tourism, one of the most important motivations is 'sharing/showing-off the experiences to others' (Zhou & Huang, 2016, p.918). Tourists who are satisfied with a driving tour are likely to share their memorable experiences with friends and/or relatives and recommend the tour and destinations (Mmopelwa et al., 2007; Zhou & Huang, 2016). Therefore, the current study proposed the following hypothesis.

Hypothesis 2. Self-drive tourist satisfaction positively influences tourist intention to recommend.

Tourists' intention to revisit may also be affected by their satisfaction level of self-drive tourism. The revisit of tourists is of great importance to the sustainable development of tourism destinations or hospitality firms, and thus attracts considerable attention from researchers (Jani & Han, 2014; Li, Cai, Lehto, & Huang, 2010). Previous studies tend to support that tourist satisfaction positively impacts the intention to revisit a destination (Jang & Feng, 2007; Stylos,

Vassiliadis, Bellou, & Andronikidis, 2016). Theoretically, self-drive tourists who are satisfied with their tour refer to this experience in their future travels, acting as an important reference for their trip planning and decision making (Becken & Wilson, 2007; Mahadevan, 2014). However, tourists of self-drive tourism seek to explore a new culture, meet new people and experience adventure, all of which may encourage them to choose different destinations or try new routes after a self-drive tour (Prideaux & Carson, 2010; Zhou & Huang, 2016). The result that tourist satisfaction has a significant and positive effect on revisit intention based on other types of tourism may not be applicable to self-drive tourism. This conclusion should be confirmed in the current research context. Therefore, the following hypothesis was proposed.

Hypothesis 3. Self-drive tourist satisfaction positively influences tourist intention to revisit.

Research methods

Setting and sample

The research setting of this study was self-drive tourism in China. China is the second largest country in terms of the number of private car ownership, next to the US. In addition, the velocity of increase in car ownership is among the highest in the world, with an approximately 20% annual increase from 2011 to 2014. Self-drive tourism in China experienced nearly 20% annual increase from 2005 to 2014, with self-drive tourists accounting for one-third of the tourist population in China in 2014 (CNTA, 2017). The latest data published by CNTA (2017) show that the number of self-drive tourists account for nearly 60% of domestic tourists and contribute 60% of the total tourism receipts during Golden Week holidays in 2016. Thus, self-drive tourism in China is a high-growth phenomenon worthy of investigation.

Self-drive tourists were surveyed in Xinjiang Province in China. Xinjiang is the largest province in China by land mass (1.66 million m^2, approximately three times the size of France). Its vast area, long highways, diverse terrain and culture of various ethnicities make Xinjiang an ideal place for self-drive tourism. The number of self-drive tourists in Xinjiang has shown a steady increase in recent years. Nonetheless, few studies to date have focused specifically on Xinjiang, and none has analysed self-drive tourism attributes and tourist behaviours. This study attempted to examine these attributes and behaviours by using a Xinjiang tourist sample.

A selection process was designed to choose the target respondents. Three research assistants from a major university in Xinjiang were employed to conduct the survey together with the

researchers. A 15:1 ratio of the sample size to the number of free parameters was adopted (i.e. sample size equals the number of all measurement items multiplied by 15) (Westland, 2010). Tourists visiting main scenic spots, expressway service areas and automobile campgrounds in Urumqi, Turpan and Yili (11 sites in total) were surveyed in June and July 2017, the peak tourism season in Xinjiang, using a convenience method of sampling. Screening questions (i.e. Are you a tourist or a local resident? Did you drive here?) were asked to ensure that all participants were self-drive tourists. All qualified individuals were given a copy of the self-administered questionnaire upon their consent for them to complete on site. The research personnel collected the completed questionnaire after an average of 8 minutes. The data collected were analysed using IBM SPSS Statistics 20.0 and AMOS 20.0.

Measurement scale

The study design followed the FAITH model of destination mix (Weaver & Lawton, 2006), with the measurement adopting items from previous self-drive tourism studies, covering all aspects of the FAITH, while keeping the questionnaire concise. As no scale of self-drive tourism attribute was found, the measurement items for this construct were derived from Eusébio and Vieira (2013), Hallo and Manning (2009), Kim (2014) and Van Acker et al. (2014), each of which reflected some aspects of the self-drive tourism attributes. Not all items from the four studies were adopted, because some items did not fall under the domain of self-drive attributes and some overlapped with others. For example, the item 'Quality of the transportation infrastructure' from Eusébio and Vieira (2013, p.72) could be measured by items suggested by Van Acker et al. (2014) (e.g., Cleanliness and maintenance of the road), thus was not used. The positively stated 'sufficient parking' by Van Acker et al. (2014) was preferable to 'lack of parking' by Hallo and Manning (2009). Twenty-eight items were adopted and translated into Chinese using the back-translation method (Table 1). Three experts in a Chinese university were asked to confirm and revise the items in Chinese. The experts were given the definition of self-drive tourism attributes and asked to evaluate to what extent the items represent the construct (from 'clearly representative' to 'not representative'). They were also encouraged to revise the items if necessary. After the expert review, 7 items were removed because they had low representativeness (one or more rated 'not representative'), or they overlapped with other statements based on experts' comments. The remaining 21 items were reorganised, and a pilot study was conducted, where 90 questionnaires were collected in Urumqi

based on a snowball sampling method. All participants in the pilot study were Urumqi residents with self-drive experiences.

Exploratory factor analysis (EFA) was performed to identify the underlying factor structure, where axis factor analysis method and varimax rotation were adopted because the correlations between the derived factors were higher than 0.2 based on Promax rotation (Field, 2013). In addition, item structure was refined following the criteria that a) items should have factor loadings higher than 0.5, b) items should have no cross-loadings and c) removing an item would not lead to construct reliability reduction. The results indicate that the data were suitable for analysis by factor analysis (KMO=0.791, p<0.001), and two factors were ideal for explaining the construct, with 8 and 6 items, respectively, which explained 69.27% of variances. The factor loadings were high, with the average score of 0.597. The two factors were named 'driving conditions' and 'destination characteristics'. In other words, the five dimensions of the FAITH model of destination mix were integrated into two factors for self-drive tourism, thus adhering to the principle of parsimony. Driving conditions and destination attributes account for the main features and quality of self-drive tours. Therefore, according to the nature of self-drive tourism attributes and aforementioned literature review, Hypothesis 1 was divided into two sub-hypotheses as follows: Driving conditions (H1a) and destination characteristics (H1b) positively influence self-drive tourist satisfaction.

(Insert Table 1 Here)

Tourist satisfaction was measured using the scale from Huang and Hsu (2009), with some wording adjustments given the different research context. This scale includes four items and has high reliability (α=0.84). Another scale from Huang and Hsu (2009) on the revisit intention of tourists was also adopted. The four items of this scale indicate consistency in measurement (α=0.91). For the measurement of tourists' intention to recommend, the two-item WOM scale by Kim et al. (2009) was adopted. Moreover, the item 'I would tell other people negative things about…' was added because the communalities of the items may become too small when a construct has two items or less (Hair et al., 2009) and negative evaluation was usually considered as a way to measure WOM (Zhang, Zhang & Law, 2014).

A seven-point Likert scale was adopted to measure the variables. Participants were asked to evaluate the attributes from 1 to 7, where 1 represents 'terrible' and 7 denotes 'perfect'. As for the other three constructs (tourist satisfaction, intention to recommend and revisit intention), respondents were asked to give their level of agreement to the statements (i.e., items), where 1

represents 'strongly disagree' and 7 signifies 'strongly agree'. The main survey questionnaire was designed based on the aforementioned scales and questions on tourist profile.

Tourist satisfaction and post-visit behaviours may be affected by factors other than attributes, including demographic characteristics of tourists. Hence, gender (male vs. female), age (6 groups from "below 18" to "over 60") and monthly income (7 groups from "below ¥2,000" to "more than ¥20,000") were set as control variables, in consideration of the conclusions reached by previous research on attributes (Kim et al., 2014; Meng & Uysal, 2008; Miragaia & Martins, 2015). The addition of these variables would confound the associations among self-drive tourism attributes, satisfaction and post-visit behaviours.

Findings

Demographic profile of participants

For the main survey, 377 questionnaires were collected. Among the 377 respondents, 213 are male (56.5 %) and 125 are female (33.2%). The gender of 39 respondents is unknown. Respondents between ages 35 and 44 accounted for 32.6% of the total respondents, and those between 25 and 34 accounted for 28.9%. Young respondents between ages 18 and 24 accounted for 24.1%. Participants aged below 18 or over 60 accounted for less than 3% (2.1% and 2.2%, respectively). Approximately half (46.4%) of the respondents (n=175) reported a monthly income between ¥4,000 and ¥5,999. The second largest monthly income group with ¥2,000–¥3,999 monthly income accounted for 19.6%. Approximately one-tenth (11.8%) of the participants reported more than ¥8,000 as their monthly income. Most of the respondents have bachelor's or postgraduate degrees (65.3% and 9.6%, respectively), while those with education below high school accounted for 5.3%. Moreover, 48.9% of the respondents are married and have at least one child, 107 participants are single, which accounted for 28.4%, and 21.3% of all participants are married without children. In general, the composition of the participants was similar to the overall domestic tourism in China (e.g. more males and most with ¥4,000–¥5,999 as monthly income) (CNTA, 2017).

Measurement model

The normality tests for the variables were conducted using SPSS, which is necessary for factor analysis and structural equation modelling. The Skewness and Kurtosis values of almost all

variables fall inside the range of −1.50 to +1.50 (except for one variable 'Appropriate speed limit' with Skewness and Kurtosis values slightly higher than 1.5), which indicates a non-substantially skewed or kurtic distribution (Hair et al., 2009). Thus, the data were regarded as approximately normal in distribution. Additionally, Harman's one-factor test (in factor analysis) was also performed, and the results suggest that the percentage of variances explained by one factor is lower than 50% (39.45%). The intraclass correlation coefficients of the measurements (>0.7) show a high interrater reliability. Thus, the common method bias is negligible.

Respondents tend to evaluate the self-drive tourism attributes positively and agree with the statements about their satisfaction and intention to recommend and revisit (Table 2). The positive evaluation of self-drive tourism attributes in the surveyed area was suggested by the result that the means of all 14 variables are higher than 4.0, with only three attributes lower than 5.0. The satisfaction level and WOM intention of tourists were higher, whereas their revisit intention was slightly lower (only REV1 has a mean higher than 5.0). WOM3 (Table 2) was reverse coded, where a response of 1 was replaced with 7, 2 with 6, …, and 7 with 1.

Confirmatory factor analysis (CFA) was conducted for the whole measurement model. The model goodness-of-fit indices were as follows: χ^2=986, df=265, χ^2/df=3.72, comparative fit index (CFI)=0.902, Tucker-Lewis index (TLI)=0.924 and root mean square error of approximation (RMSEA)=0.0801. Overall, the model goodness-of-fit indices marginally met the criteria for CFA (CFI>0.9, TLI>0.9; RMSEA<0.08), which indicates that the measurement fit is acceptable. Therefore, the measurement model appears to fit the data well.

The results of CFA (Table 2) show that all the factor loadings for indicators exceed 0.5 and are significant with p<0.01. Factor loadings high than 0.5 or lower than -0.5 are considered as practically significant (Hair et al., 2009). For high convergent validity, the ideal estimate of loadings is 0.7 or higher. For the present study, the factor loadings, though some being lower than 0.7, are regarded as acceptable in that: a) this is an exploratory study on self-drive tourism attributes; and b) the loadings are relatively strong (critical ratios of most regression weights are higher than 10) (Hair et al., 2009). In addition, the Cronbach's α values of the constructs are higher than 0.7 (see Table 3), which demonstrates an acceptable level of reliability for each construct. The convergent validity of tourist satisfaction and revisit intention is high, as suggested by the average variance extracted (AVE) values of the two constructs. Nevertheless, the AVE values of driving conditions and WOM are relatively low (both lower than 0.5) and lower than the squared

12

correlation coefficients for inter-constructs (Table 3, the underlined numbers). A possible reason is that the correlations between destination characteristics and driving conditions/WOM are significantly high. Further analysis reveals that removing the items DC6 ('Access to important places of interest') and WOM3 ('I would tell other people negative things about this self-drive tour') significantly improved the validity of the constructs. The AVE value of driving conditions increased to 0.492, much higher than the original 0.419; the AVE of WOM increased from 0.458 to 0.517. Also, the α and AVE levels of the overall self-drive tourism attribute construct were high (0.881 and 0.512, respectively). Overall, the measurement model could be regarded as reliable and valid.

(Insert Table 2 Here)

(Insert Table 3 Here)

Hypothesis testing

The structural model constructed based on the three hypotheses was tested using AMOS 20.0. The control variables, including gender, age, and income, were set as extraneous variables, considering of their covariances with the two factors of self-drive tourism attributes. The model goodness-of-fit indices (χ^2=1078.1, df=330, CFI=0.913, TLI=0.906, RMSEA=0.077) suggest that the structural model is statistically adequate to fit the corresponding survey data. The results show that perceived destination characteristics significantly influenced the satisfaction of the participants (β=0.834, t=4.264, p<0.001), whereas driving conditions, as another unique characteristic of self-drive tourism, did not significantly lead to tourist satisfaction (β=0.206, t=1.904), although the p value was close to 0.05 (Figure 1). Thus, Hypothesis 1 was partially supported, with H1a (driving conditions → tourist satisfaction) not supported but H1b (destination characteristics → tourist satisfaction) confirmed. Moreover, the impacts of self-drive tourist satisfaction on WOM (e.g. intention to recommend) (β=0.412, t=2.778, p<0.01) and revisit intention (β=0.672, t=4.190, p<0.001) were positive and significant, which means that Hypotheses 2 and 3 were strongly supported.

(Insert Figure 1 Here)

Discussion and implications

This study focused on the attributes of self-drive tourism in the context of China. It represents a contribution to the body of knowledge in the area of self-drive tourism management and marketing, and carries implications for academic research and managerial practices.

The characteristics and assessment of self-drive tourism supply can be understood in two dimensions: driving conditions and destination characteristics. Self-drive tourism attributes have not been systematically examined before. Thus, the results of the current study will contribute to the enhanced understanding of self-drive tourism and provide a foundation for future research related to the attributes of driving tours. Of the two factors, driving conditions describe the tangible and intangible aspects related to tourists' driving convenience and pleasure, such as traffic safety and sufficient parking. Destination characteristics involve the tourism superstructure and services provided by the destinations of a driving tour, such as the condition of accommodation, diverse range of activities and activities, and hospitality of the locals. EFA based on the pilot data shows that the two factors explained nearly 70% of the variances with high factor loadings. CFA for the measurement scale of self-drive tourism attribute suggests that both the reliability and validity of the construct are high, while the two factors have high reliability but low validity. The relatively low validity of the two factors may be caused by the high correlations between them, which was improved by the removal of DC6.

This study also examined the relationships among the self-drive tourism constructs, which include attributes, tourist satisfaction, intention to recommend and revisit intention. This investigation helps deepen the understanding on the influences of self-drive tourism attributes. Destination characteristics positively influence self-drive tourist satisfaction, and an unexpected result derived was that driving conditions did not significantly affect tourist satisfaction. Thus, destinations remain the main driver of tourist satisfaction in a self-drive context. Measures could be taken to improve offerings (attributes) at destinations to enhance the satisfaction of self-drive tourists. For example, more activities and programs, such as events, festival activities and live theatrical performances (e.g. Impressions Lijiang by the famous director Zhang Yimou), could be offered for self-drive tourists to experience local culture. Scenic byways should be thoughtfully designed using natural (e.g. trees and lakes) and cultural resources (e.g. pavilions) to showcase each destination's unique characteristics. The superstructure conditions in destinations are also important so that self-drive tourists can enjoy their stay (e.g. camping facilities) and personally

experience local charms (e.g. rare delicacy). With a considerable number of Chinese tourists no longer satisfied with sightseeing and demanding highly meaningful experiences, self-drive tourism business operators and managers must provide training on service quality to tourist-contact employees at the destinations and instil them with the hospitality spirit to make tourists feel special.

Driving conditions could be considered as supporting facilities for self-drive tours. After controlling the three demographic variables, the impact of driving conditions on tourist satisfaction was not significant. Nevertheless, self-drive tourists perceived driving conditions as good (all have means higher than 4.8). A possible explanation is that driving conditions serve as a hygiene factor. According to the Herzberg's two-factor theory, satisfaction and dissatisfaction are not on a continuum with one increasing as the other diminishes. The non-parallel relationship between satisfaction and dissatisfaction indicates that the existence of hygiene factors may make the relationships with satisfaction insignificant. The good performance of hygiene factors would avoid the dissatisfaction of tourists, who may only be satisfied when motivational factors are perceived as good. This study contributes to the self-drive tourism research in terms of rejecting the driving aspect as an antecedent of tourist satisfaction, while arousing an interest in testing the role of driving conditions as supplementary factors. Further study is needed to confirm this proposition with tourist dissatisfaction considered in the model.

Tourist satisfaction positively leads to the intention to recommend a driving tour or revisit a certain site. Tourist satisfaction remains one of the most important factors to keep loyal visitors returning and expand markets through WOM. The survey questions on self-drive tourism attributes, satisfaction and WOM intention were phrased as 'this self-drive tour', though the data were collected at specific sites in the Xinjiang Province. The results of the structural model indicate the influence of collective self-drive attributes and tourist satisfaction towards the entire self-drive tour, rather than a single destination, on tourist revisit intention. Thus, the clusters of destinations along the same driving route should work together to ensure the quality of their combined performance, given that only when tourists who are satisfied with the whole driving tour will they likely visit the region again. This study confirms the significant relationship between tourist satisfaction and WOM in the context of self-drive tourism. Satisfied self-drive tourists tend to share their experiences with others and recommend the tour and destination to others. On the contrary, a low level of satisfaction would result in negative WOM, where tourists may complain or warn others off the tour or destination. Therefore, self-drive service providers should pay

attention to customer satisfaction and make great endeavour to increase the level of tourist satisfaction by looking into self-drive tourists' needs and preferences and enhancing the added value of services. This study mainly focuses on tourism attributes. Future research could investigate the relationships between loyalty to a destination and loyalty to the format of self-drive tours. WOM describes tourists' recommendation of a trip to friends and relatives. However, the researchers observed that many participants actually have taken the trip with friends and relatives. Thus, besides intention to recommend, examining the influence of group interaction on self-drive tourist experience, which could be a future direction, is of significance.

The present study has many limitations, which may pave the way for future research. For example, Xinjiang Province is unique in many ways; and thus, the generalisability of the research findings may be limited. This study elaborated self-drive tourism attributes, especially the uniqueness compared with other types of tourism. However, the differences are usually shown by comparisons. Thus, comparing the attributes of self-drive tourism with those of others, such as motor coach, cruise and train tours, would be valuable to understand the appeals of different travel types. In addition, WOM and revisit intention are highly likely to occur. Thus, an understanding of self-drive tourists' experiences is important so that their WOM content could be properly suggested and that the facilitation of future visit programs could be improved. Future research could also investigate tourists' various levels of experiences (e.g. first-time visitors and repeat visitors) and examine the stability of the construct measurement and their relationships. Furthermore, this study explores the conceptualization and operationalization of self-drive tourism attributes with the theoretical foundation in destination attributes, in particular the FAITH model. Only two dimensions were extracted from the data following the principle of parsimony. Other sub-dimensions of self-drive tourism attributes could be investigated in the future with additional study samples, possibly with different cultural backgrounds. Finally, tourists with different motivations may perceive tour or destination attributes differently, which is an area excluded from the current study. Particular designs of self-drive tourism attributes satisfying a group of tourists may not necessarily lead to high evaluation from other tourists. A key element that lies behind this phenomenon is the relationships between self-drive tourism attributes (supply) and tourist motivation (demand), which could be another direction for future research. Many issues are to be addressed in this line of inquiry. For example, self-congruity, the match between self-drive tour characteristics and self-concept of the tourists, could be specifically examined. In addition,

functional congruity, which describes the match between the perception of utilitarian attributes and the tourist desires related to such attributes, needs to be investigated with the consideration of both self-drive tourism attributes and tourist motivations.

References

Albayrak, T., & Caber, M. (2015). Prioritisation of the hotel attributes according to their influence on satisfaction: A comparison of two techniques. *Tourism Management*, *46*, 43-50.

Beerli, A., & Martin, J. D. (2004). Factors influencing destination image. *Annals of tourism research, 31*(3), 657-681.

Becken, S., & Wilson, J. (2007). Trip planning and decision making of self-drive tourists— Quasi-experimental approach. *Journal of Travel & Tourism Marketing*, *20*(3-4), 47-62.

Chi, C.G.Q., & Qu, H. (2008). Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: An integrated approach. *Tourism Management*, *29*(4), 624-636.

China National Tourism Administration. (2017). *The yearbook of China tourism statistics 2016*. Beijing: China Travel & Tourism Press.

Connell, J., & Page, S.J. (2008). Exploring the spatial patterns of car-based tourist travel in Loch Lomond and Trossachs National Park, Scotland. *Tourism Management*, *29*(3), 561-580.

Eby, D.W., & Molnar, L.J. (2002). Importance of scenic byways in route choice: A survey of driving tourists in the United States. *Transportation Research Part A: Policy and Practice*, *36*(2), 95-106.

Eusébio, C., & Vieira, A.L. (2013). Destination attributes' evaluation, satisfaction and behavioural intentions: A structural modelling approach. *International Journal of Tourism Research*, *15*(1), 66-80.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage: London.

Fjelstul, J., & Fyall, A. (2015). Sustainable drive tourism: A catalyst for change. *International Journal of Tourism Research*, *17*(5), 460-470.

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R. (2009). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.

Hallo, J.C., & Manning, R.E. (2009). Transportation and recreation: A case study of visitors driving for pleasure at Acadia National Park. *Journal of Transport Geography*, *17*(6), 491-499.

Howat, G., Brown, G., & March, H. (2007). *Self-drive tourism: Travellers to South Australia's Limestone Coast region*. Gold Coast, Australia: Sustainable Tourism CRC.

Hsu, C.H.C., & Huang, S. (2008). Travel motivation: A critical review of the concept's development. In A.G., Woodside, D., Martin, (Eds.). *Tourism management: Analysis, behaviour and strategy* (pp.14-27). London: Cabi.

Huang, S.S., & Hsu, C.H.C. (2009). Effects of travel motivation, past experience, perceived constraint, and attitude on revisit intention. *Journal of Travel Research*, *48*(1), 29-44.

Jang, S.S., & Feng, R. (2007). Temporal destination revisit intention: The effects of novelty seeking and satisfaction. *Tourism Management*, *28*(2), 580-590.

Jani, D., & Han, H. (2014). Personality, satisfaction, image, ambience, and loyalty: Testing their relationships in the hotel industry. *International Journal of Hospitality Management*, *37*, 11-20.

Kim, J.H. (2014). The antecedents of memorable tourism experiences: The development of a scale to measure the destination attributes associated with memorable experiences. *Tourism Management*, *44*, 34-45.

Kim, T.T., Kim, W.G., & Kim, H.B. (2009). The effects of perceived justice on recovery satisfaction, trust, word-of-mouth, and revisit intention in upscale hotels. *Tourism Management*, *30*(1), 51-62.

Kim, J. W., Magnusen, M., & Kim, Y. K. (2014). A critical review of theoretical and methodological issues in consumer satisfaction research and recommendations for future sport marketing scholarship. *Journal of Sport Management, 28*(3), 338-355.

Kuo, N.T., Chang, K.C., Cheng, Y.S., & Lai, C.H. (2013). Investigating the effect of service quality on customer loyalty in the hotel industry: The mediating role of customer satisfaction and the moderating roles of service recovery and perceived value. *Journal of China Tourism Research*, *9*(3), 257-276.

Lane, R., & Waitt, G. (2007). Inalienable places: Self-drive tourists in Northwest Australia. *Annals of Tourism Research*, *34*(1), 105-121.

Li, M., Cai, L.A., Lehto, X.Y., & Huang, J. (2010). A missing link in understanding revisit intention—The role of motivation and image. *Journal of Travel & Tourism Marketing*, *27*(4), 335-348.

Liu, Y., Zhang, Y., & Nie, L. (2012). Patterns of self-drive tourists: The case of Nanning City, China. *Tourism Management*, *33*(1), 225-227.

Litvin, S. W., & Ling, S. N. S. (2001). The destination attribute management model: an empirical application to Bintan, Indonesia. *Tourism Management, 22*(5), 481-492.

Mahadevan, R. (2014). Understanding senior self-drive tourism in Australia using a contingency behavior model. *Journal of Travel Research*, *53*(2), 252-259.

Meng, F., & Uysal, M. (2008). Effects of gender differences on perceptions of destination attributes, motivations, and travel values: An examination of a nature-based resort destination. *Journal of Sustainable Tourism, 16*(4), 445-466.

Miragaia, D. A. M., & Martins, M. A. B. (2015). Mix between satisfaction and attributes destination choice: a segmentation criterion to understand the ski resorts consumers. *International Journal of Tourism Research, 17*(4), 313-324.

Mmopelwa, G., Kgathi, D.L., & Molefhe, L. (2007). Tourists' perceptions and their willingness to pay for park fees: A case study of self-drive tourists and clients for mobile tour operators in Moremi Game Reserve, Botswana. *Tourism Management*, *28*(4), 1044-1056.

Moss, D., & McPhee, D.P. (2006). The impacts of recreational four-wheel driving on the abundance of the ghost crab (Ocypode cordimanus) on a subtropical sandy beach in SE Queensland. *Coastal Management*, *34*(1), 133-140.

National Bureau of Statistics of China. (2017). *China statistical yearbook 2016*. Beijing: China Statistics Press.

Nicolau, J.L. (2008). Characterizing tourist sensitivity to distance. *Journal of Travel Research*, *47*(1), 43-52.

Phillips, W.J., Wolfe, K., Hodur, N., & Leistritz, F.L. (2013). Tourist word of mouth and revisit intentions to rural tourism destinations: A case of North Dakota, USA. *International Journal of Tourism Research*, *15*(1), 93-104.

Prideaux, B., & Carson, D. (2003). A framework for increasing understanding of self-drive tourism markets. *Journal of Vacation Marketing*, *9*(4), 307-313.

Prideaux, B., & Carson, D. (2010). *Drive tourism: Trends and emerging markets*. London: Routledge.

Prideaux, B., & McClymont, H. (2007). Drive tourists: Who are they, what do they do and how do we attract them?. *ASEAN Journal on Hospitality and Tourism*, *6*(2), 23-30.

Prideaux, B., Wei, S., & Ruys, H. (2001). The senior drive tour market in Australia. *Journal of Vacation Marketing*, *7*(3), 209-219.

Rodrigue, J.P., Comtois, C., & Slack, B. (2013). *The geography of transport systems*. London: Routledge.

Shailes, A., Senior, M.L., & Andrew, B.P. (2001). Tourists' travel behaviour in response to congestion: The case of car trips to Cornwall, United Kingdom. *Journal of Transport Geography*, *9*(1), 49-60.

Shih, H.Y. (2006). Network characteristics of drive tourism destinations: An application of network analysis in tourism. *Tourism Management*, *27*(5), 1029-1039.

Stylos, N., Vassiliadis, C.A., Bellou, V., & Andronikidis, A. (2016). Destination images, holistic images and personal normative beliefs: Predictors of intention to revisit a destination. *Tourism Management*, *53*, 40-60.

Taylor, A., & Prideaux, B. (2008). Profiling four wheel drive tourism markets for desert Australia. *Journal of Vacation Marketing*, *14*(1), 71-86.

Van Acker, V., Mokhtarian, P.L., & Witlox, F. (2014). Car availability explained by the structural relationships between lifestyles, residential location, and underlying residential and travel attitudes. *Transport Policy*, *35*, 88-99.

Weaver, D. B., & Lawton, L. J. (2006). *Tourism Management* (3rd edition). Milton: Wiley.

Westland, J.C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications, 9*(6), 476-487.

Wong, I. A., & Wan, Y. K. P. (2013). A systematic approach to scale development in tourist shopping satisfaction: Linking destination attributes and shopping experience. *Journal of Travel Research, 52*(1), 29-41.

Wu, M.Y., & Pearce, P.L. (2014). Understanding Chinese overseas recreational vehicle tourists: A netnographic and comparative approach. *Journal of Hospitality & Tourism Research*, *41*(6),696-718.

Zhang, Z., Zhang, Z., & Law, R. (2014). Positive and negative word of mouth about restaurants: Exploring the asymmetric impact of the performance of attributes. *Asia Pacific Journal of Tourism Research, 19*(2), 162-180.

Zhou, L., Ye, S., Pearce, P.L., & Wu, M.Y. (2014). Refreshing hotel satisfaction studies by reconfiguring customer review data. *International Journal of Hospitality Management*, *38*, 1-10.

Zhou, Y., & Huang, X. (2016). Aspects of lifestyle change in China: Motivations for self-drive travel–a Chinese domestic market perspective. *Journal of Travel & Tourism Marketing*, *33*(6), 912-928.

Zillinger, M. (2007). Tourist routes: A time-geographical approach on German car-tourists in Sweden. *Tourism Geographies*, *9*(1), 64-83.

Table 1 Measurement items for self-drive tourism attributes

Sources	Original items	After expert panel	After EFA
Hallo & Manning, 2009	1. Allows access to and enjoyment of scenery	–	
	2. Access to important places of interest and attractions		
	3. One-way nature of road	–	
	4. Not too much traffic		–
	5. Cleanliness and maintenance of the road		
	6. Easy of wayfinding because of signs	–	
	7. Fees or fee structure		
	8. Dangerous driving conditions (e.g., pedestrians, bicyclists, narrow)		–
	9. Visibility of signs and/or traffic signals		
	10. Rate of traffic flow (smoothness, pace, continuity, etc.)		–
	11. Speed limit		
	12. Opportunities to drive for pleasure		
Eusébio & Vieira, 2013	13. Quality of food and drinks	–	
	14. Quality of accommodation		–
	15. Signpost/ease in finding locations	–	
	16. Scenery and other natural attractions		
	17. Cultural and historic attractions		–
Kim, 2014	18. An ease access to the destinations of the self-drive tour		
	19. Ways to experience the culture of destinations		
	20. a highly appealing, unique physiography/climate	–	
	21. The conditions of infrastructure in destinations (accommodation, communication, etc.)		
	22. the provision of reliable and responsive services to visitors		–
	23. Hospitality and friendliness of the local people		
	24. The availability of diverse range of local events and activities		
Van Acker et al., 2014	25. Sufficient parking		
	26. Social safety, low crime		–
	27. Traffic safety		
	28. Presence of green areas	–	

Note: A dash in the column "After expert panel" or "After EFA" means that the item in the same row was removed at the stage.

Table 2 Results of descriptive statistics and CFA

Constructs/Factors	Mean[a]	SD	Factor loadings	t-value
Driving conditions				
DC1: Cleanliness and maintenance of the road	4.90	1.42	.590	12.266
DC2: Visibility of signs and/or traffic signals	5.08	1.48	.610	12.793
DC3: Opportunities to drive for pleasure	4.85	1.02	.879	NA
DC4: Sufficient parking	5.34	1.43	.621	13.085
DC5: Reasonable fee structure	5.55	1.22	.589	12.243
DC6: Access to important places of interest	5.48	1.33	.642	13.683
DC7: Appropriate speed limit	5.21	1.36	.587	12.150
DC8: Traffic safety	5.07	1.38	.607	12.719
Destination characteristics				
DeC1: Scenery and other natural attractions	5.84	1.15	.510	9.540
DeC2: Ways to experience the culture of destinations	4.92	1.15	.698	13.015
DeC3: Conditions of superstructure in destinations (accommodation, communication, etc.)	5.11	1.36	.559	10.352
DeC4: Access to the destinations of the self-drive tour	5.32	1.48	.710	13.242
DeC5: Hospitality and friendliness of the local people	5.30	1.47	.741	NA
DeC6: Availability of diverse range of local events and activities	5.84	1.15	.701	13.078
Satisfaction				
SAT1: My overall evaluation on the experience of this self-drive tour is positive.	6.02	0.94	.661	NA
SAT2: My overall evaluation on the experience of this self-drive tour is favourable.	5.74	0.99	.851	14.019
SAT3: I am satisfied with my experience of this self-drive tour.	5.64	0.96	.889	14.424
SAT4: I am pleased with my experience of this self-drive tour.	5.59	1.13	.789	13.229
Word-of-mouth				
WOM1: I would recommend this self-drive tour to other people.	5.25	1.30	.701	5.367
WOM2: I would tell other people positive things about this self-drive tour.	5.36	1.36	.726	5.374
WOM3: I would tell other people negative things about this self-drive tour.	2.37[b]	1.30	.597	NA
Revisit intention				
REV1: I intend to revisit here by self-drive tour in the next two years.	5.10	1.35	.683	NA
REV2: I plan to revisit here by self-drive tour in the next two years.	4.83	1.49	.828	14.640
REV3: I desire to revisit here by self-drive tour in the next two years.	4.84	1.21	.939	16.029
REV4: I probably will revisit here by self-drive tour in the next two years.	4.74	1.53	.832	14.711

[a] 1=lowest, 7=highest; [b] WOM3 was reverse-coded.

Note: (1) NA means that the regression weight was fixed at 1.000; (2) P values of all factor loadings were lower than 0.01.

Table 3 Correlations (squared correlations), reliability and AVEs

	Driving conditions	Destination characteristics	Satisfaction	Word-of-mouth	Revisit intention
Driving conditions	1				
Destination characteristics	.782 (.612[a])	1			
Satisfaction	.522 (.272)	.640 (.410)	1		
Word-of-mouth	.654 (.428)	.710 (.504)	.658 (.433)	1	
Revisit intention	.480 (.230)	.504 (.254)	.493 (.243)	.527 (.278)	1
AVE	**.419**	**.471**	**.643**	**.458**	**.682**
A	**.850**	**.841**	**.877**	**.716**	**.894**

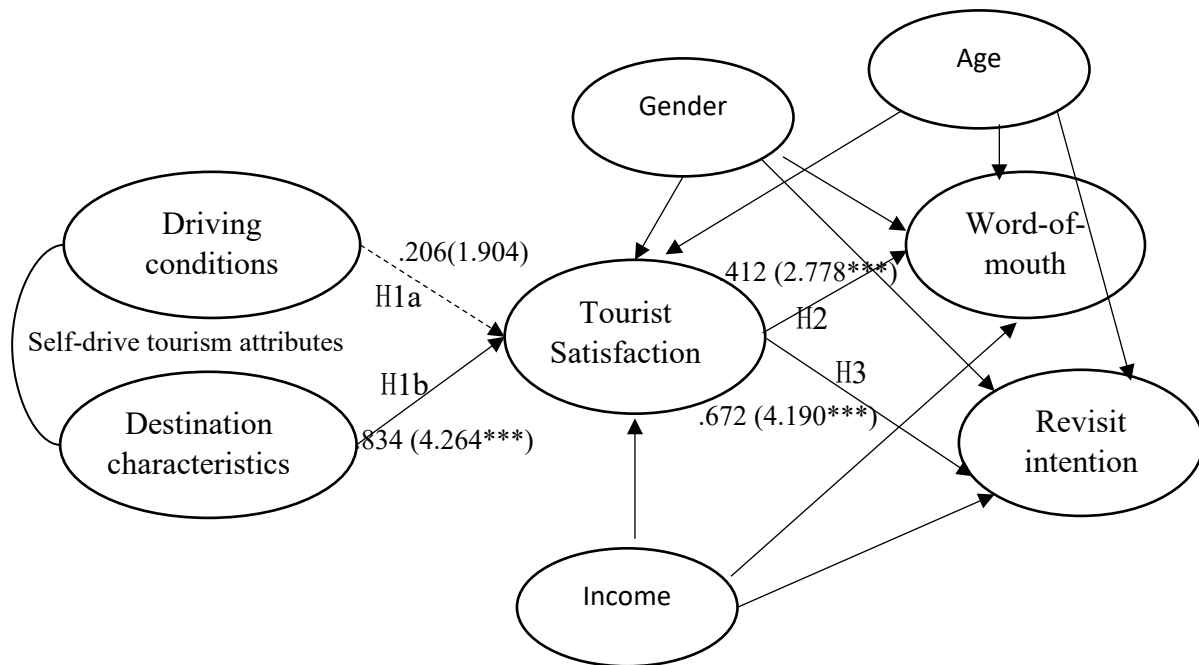[a] The underlined numbers indicate that the squared correlation is higher than the AVE value of the construct.

Figure 1 Results of the structural model