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Motivation-based Segmentation of Chinese Senior Travelers: The Role of Preferences, Sociodemographic, and Travel-related Features

Abstract:

This study was designed to investigate factors associated with Mainland China's senior overseas travel motivations and the role in explaining preferences, sociodemographic and travel features. The study was conducted with 496 seniors. The statistical analyses included factor analysis, cluster analysis, one-way analysis of variance, and chi-square test. Result showed that eight domains defined the overseas travel motivations of Mainland Chinese seniors. Cluster analysis produced a five-cluster solution based on motivations. The cluster with lowest motivations were older, primary school graduates with lowest income and generally low set of preferences. Ultimately, understanding motivation can effectively promote travel among the aging population.

Keywords: Senior tourism; motivation; segmentation; preference; Mainland China

Introduction

Although the full potential of the senior travel segment is futuristic, the senior travel market has expanded in importance and market significance in recent years. The forces driving the changes within this market segment include a great awareness on travel as a quality of life optimizer, disposable income, availability of free time during old age, and a healthy aged population (Kim, Woo, & Uysal, 2015, 2016; Losada, Alén, & de Carlos-Villamarín, 2017). Although these indicators provide an overview of growth, the factors accounting for travel within specific populations are complex and intricate (Alén, Losada, & de Carlos, 2017; Carneiro, Eusébio, Kastenholz, & Alvelos, 2013; Jang & Wu, 2006).

Exploring the Chinese senior travel market has been limited by critical research gaps. First, studies on the growing tourism potential of Chinese senior segment are scarce, although China has become the leading aging society. At the same time, today' elderly Chinese population tend to be different from past generations who considered overseas holiday as an anti-social behavior (Ryan, 2010). Until now, the question of whether travel overseas remains socially unacceptable among the Chinese elderly population is not fully explored. Therefore, there is industry requirement to understand today's Chinese seniors' travel motivation to engage in an oversea travel as motivation is a critical step to understanding a market segment (Alén et al., 2017; Otoo & Kim, 2020; Sangpikul, 2008). The inadequacy of empirical research on the multifaceted nature of the Chinese senior travel segment implies that targeting and maximizing the gains from this markets is currently limited.

Second, recent fluctuations in tourism demand across the globe indicate the need for a careful attention to the overseas travel motivation of largest tourist generating regions, in this case, China. China progressed from the sixth tourist-generating market in 2000 to become the fourth

second largest in 2004. In 2017, although China generated 60.7 million in number of visitors and $257.7 billion in expenses, the country's ranking declined from 5th to 12th (UNWTO, 2018). As tourism continues to be affected by externalities, including unstable events in neighboring Hong Kong, harnessing the potential of the senior market as an alternative demand source is critical for Mainland China and related countries. In 2014, approximately 10 million Chinese, between ages 55 and 65, embarked on international leisure-related travel (China Tourism Academy, 2014). This event is against the backdrop that people born in the 1950s have high spending ability in travel (Cummings, 2006; González, Sánchez, & Vila, 2017). There is, hence, economic importance in understanding issues related to Chinese senior travel market.

Third, previous studies have varying conclusions regarding role of senior motivations in explaining the activity preferences, tourism product preferences, or tourism types according to their segments. While they concur that the senior market is heterogeneous, the extent of variation is not adequately explored. A systematic review by Otoo and Kim (2020) in a review of evolution of senior travel motivations from 1980 to 2017 found that although senior travel motivations have changed over the years, the micro-level reasons for specific markets are not always evident. Besides, researchers have varying conclusions regarding the issue of senior motivation. Available literature suggests that the problems associated with Chinese seniors differ from those of other countries (Hsu & Kang, 2009; Wang, Wu, Luo, & Lu, 2017). Therefore, assessing the preferences of senior travelers is important to suggest practical implications for tourism stakeholders, industries, and policymakers.

In view of the aforementioned issues, the present study attempts to segment the travel market of Mainland Chinese seniors according to their travel motivations and assess how motivation explains their travel preferences. This study addresses four objectives. The first

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objective is to identify the underlying dimensionality of the overseas travel motivation of Mainland Chinese seniors. The second objective is to attempt to use motivation as an indicator to segment Mainland Chinese senior travelers. The third objective is to investigate whether sociodemographic and travel-related variables are different across Mainland Chinese seniors' motivation clusters. The fourth objective is to investigate whether preferred tourism, attraction, and activity types are different across Mainland Chinese seniors' motivation clusters.

Literature review

Case for senior travelers

Seniors are considered persons aged 55 years or above (Fleischer & Pizam, 2002; Hsu, Cai, & Wong, 2007; Otoo & Kim, 2020). This age is characterized by significant changes in cognitive, functional, and physiological abilities, as well as legal or statutory recognition (Hsu et al., 2007; Tiago, de Almeida Couto, Tiago, & Faria, 2016; Wang et al., 2017). Meanwhile, there are indications that senior are heterogeneous in their socio-psychological, demographic or travel attributes (Littrell, Paige, & Song, 2004; Otoo & Kim, 2020).

The senior travel market is projected to be a growth engine in the coming decades. To demonstrate this point, Figure 1 presents a graphical simulation of the increase of projected population among key tourist generating countries based on data obtained from United Nations' Department of Economic and Social Affairs (UNDESA, 2017). Particularly, China will account for the largest number of elderlies by 2050. China is not only expected to have the largest population of elderlies, but the country's growth rate is also unmatched by all key tourist generating countries.

[FIGURE 1 HERE]

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Role of sociodemographic and travel characteristics in senior travel

Similar to other tourism studies, this research considers the influence of motivation of sociodemographic and travel-related attributes. These variables have long been identified in the tourism literature to provide causal insights into tourism phenomena (Kim & Kim, 2018; Kim & Qu, 2002). Given that much of the variations defining senior tourists as a heterogeneous niche stem from these variables, their role in profiling travel segments is axiomatic (Baloglu & Shoemaker, 2001; Carneiro et al., 2013; Jang & Wu, 2006; Littrell et al., 2004). Baloglu and Shoemaker (2001) determined that senior travelers who patronize motor coach tours differ in terms of income, but age is not a significant variable at the 0.5 significance level. Similarly, motivational factors among senior tourists are affected differently by their income or health status but not by their age or gender (Jang & Wu, 2006).

Senior travel motivations

Travel motivation is the socio-psychological or mental drive to temporally seek leisure engagement as a past time (Otoo & Kim, 2020; Pearce & Lee, 2005). Understanding travel motivation is valuable for the following reasons: first, travel motivation is a pre-requisite to satisfy tourists activity needs, facility or service use needs, and visitor preferences (Littrell et al., 2004; Jang & Wu, 2006). Second, understanding travel motivation is crucial to matching the interests, personal and lifestyle choices of tourists to their destination choice (Albayrak & Caber, 2018a). Third, travel motivation is important to defining loyalty to destination, image formation, and behavioral intentions (Albayrak & Caber, 2018a; Kim & Prideaux, 2005).

The consensus is that senior travel motivations are diverse and complex; thus, findings demonstrate slight heterogeneity on a case to case basis (Alén et al., 2017; Carneiro, et al., 2013;

Hsu et al., 2007; Jang & Wu, 2006; Losada et al., 2017). For example, Sangpikul (2008) applied pull–push theory to Japanese senior tourists to Thailand and identified novelty and knowledge seeking, rest and relaxation, ego enhancement, cultural and historical attractions, travel arrangements and facilities, shopping and leisure activities, and safety and cleanliness as dimensions of motivation. Jang and Wu (2006) identified knowledge seeking, relaxation, ego enhancement, and socialization, whereas Otoo and Kim (2020) discovered 13 motivation themes from over three decades of tourism research.

Meanwhile, the adoption of different methodological approaches has generated diverse senior travel motivations. In a qualitative study of seniors in Shanghai and Beijing, China, Hsu et al. (2007) noted well-being, escaping routines, socializing, seeking knowledge, pride and patriotism, personal reward, and nostalgia among their study participants. Given both the qualitative delimitation and scope of their study, further investigation is required on Chinese senior travel. Indeed, for many Chinese seniors, an overseas holiday might be considered a socially irresponsible pursuit (Hsu et al., 2007; Ryan, 2010). The current study, thus, contributes to understanding whether travel overseas is socially desirable among Chinese senior groups.

Nature of preference among travelers

Tourist preference is the act of selecting from among a set of choices as influenced by one's motivations (Tran & Ralston, 2006, p. 428). By exploring the theory of human needs, Tran and Ralston (2006) proposed motivation as a salient predictor of tourist preferences for transportation modes, destination choice decisions, lodging choice, and travel companions. Thus, researchers should investigate the role of travel preferences in shaping service performance, tourism product

and development, and the design of tourist experiences (Kim, Raab, & Bergman, 2010; Tran & Ralston, 2006).

Varied tourist preferences, such as choice of travel mode and lodging, service choice, and choice of travel companion, are associated with tourist motivations (Kim & Prideaux, 2005; Otoo, Kim & Choi, 2020a; Tiago et al., 2016; Tran & Ralston, 2006). Therefore, the results imply that seniors' travel preferences are distinctive. For example, preference for ecolodges differs from other types of motivations (Chan & Baum, 2007; Lieux, Weaver & McCleary, 1994). Specifically, Chan and Baum (2007) showed that pull forces and escape attract tourists to locations with ecolodges. However, the extent to which motivations differ in their influence on preferences and other attributes requires critical academic attention. Given that the relationships between senior travel motivations and preferences have not been explored adequately, this study attempts to investigate these associations.

Segmentation of senior travel market

Segmentation analysis is conducted by clustering a heterogeneous group on the basis of shared similarities, characteristics, or needs to develop an effective destination marketing strategy (Kim & Kim, 2018; Losada et al., 2017). Tourist segmentation can make marketers understand the characteristics of each market subset, predict potential behavior, and focus on specific marketing programs for each cluster by catering to the specific needs of certain types of tourists (Alén, Losada, & de Carlos, 2017; Kim & Kim, 2018). Essentially, segmentation helps to identify which markets are attractive for businesses and destinations. An effort to segment the senior tourist market should use a validated motivation scale. In this regard, a factor–cluster analysis is salutary. The literature also supports that the senior market is highly heterogeneous (e.g., Huber, 2019;

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Ward, 2014). The manner in which the specific traits of seniors differ across clusters should also be considered.

Conceptual framework

Figure 2 presents a conceptual framework of this study. The study used factor analysis, cluster analysis, one-way analysis of variance (ANOVA), and chi-square test as statistical tools to attain the objectives. First, factor analysis was used to extract the dimensionality of the overseas travel motivations of Mainland Chinese seniors. Second, the motivation clusters were extracted by using a cluster analysis. Third, through one-way ANOVA and chi-square test, the motivation clusters were used for segmentation based on preferred attraction types, activity, and tourism types and sociodemographic attributes.

[FIGURE 2 HERE]

Method

Delimitation

As a previous study on Mainland Chinese seniors was predominantly conducted in Central China including Beijing and Shanghai (Hsu et al., 2007; Wang et al., 2017), the current study focused on seniors in the East Coastal China. While several definitions of seniors exist, the current study adopts the commonly applied 55 years or above criterion (Otoo & Kim, 2020; Sie et al., 2016).

Measurement

The study draws on 38 senior travel motivation items extracted from a scale development process involving several studies including the motivations to "escape from the stress of daily life", "tell others about my travel experiences" and "make contact with new people" (e.g., Alén et al., 2017; Carneiro et al., 2013; Eusébio, Carneiro, Kastenholz, & Alvelos, 2017; González et al., 2017; Hsu & Kang, 2009; Huang & Tsai, 2003; Jang & Wu, 2006; Lu et al., 2016; Tiago et al., 2016; Tran & Ralston, 2006; Wang et al., 2017; Ward, 2014). To measure the preferences of senior tourists, items were drawn from the literature to represent preference for tourism, attraction, and activity types (Littrell, et al., 2004; Wang et al., 2017). The set of items for measuring senior tourists' overseas travel motivation, preferred tourism, attraction, and activity types were constructed on a five-point Likert-type scale, from 1="strongly disagree" to 5="strongly agree." Sociodemographic features, including age, marital status, sex, educational level, income before tax, and travel-related features (including duration of travel, preferred travel partner, preferred accommodation type, preferred travel arrangement type, and level of information technology acceptance), were measured categorically.

Data collection

A pretest was conducted with 50 Mainland Chinese doctoral students majoring in tourism and hospitality. They helped amend items and suggested changes, including removal or rewording of statements to convey clear meanings. Certain words, such as "please," were added to emphasize respect. In addition, phrases, such as "while I am alive" and "my remaining time," were removed because they were noted to be inappropriate. A pilot test was conducted with 80 seniors who were 55 years or above in Nanjing. The respondents in the pilot test noted valuable comments, including merged similar items (e.g., "to meet friends" was merged with "to meet co-workers," "Because my partner likes to travel" was rephrased to "To be with my partner").

The main data collection took place between June 2018 and October 2018. A convenience sampling approach was adopted because of the specific characteristics of seniors, including difficulty in reaching them and difficulty in building a sampling frame of the population (Groves, 2006). Respondents were approached by the researchers in six provinces or cities, namely, Guangdong, Fujian, Jiangsu, Wuhu–Anhui, Schengen, and Zhejiang at regional airports, railway stations, or community parks while undertaking travel or having a past-time. To qualify for the survey, respondents met the following screening criteria: 55 years or above, native Mainland Chinese, and an overseas leisure traveler within the past three years. Those who confirmed all three criteria were invited to participate in this study. Seniors who agreed to participate in the survey were asked to respond to the questionnaire after a brief explanation and assurance of the study aim and confidentiality. They were also free to disengage in the process at any point. Although 521 persons participated in the main survey, only 496 were usable for analysis. The regional percentages of the respondents were Guangdong (28.1%), Fujian (7.2%), Jiangsu (6.2%), Wuhu–Anhui (13.5%), Schengen (25.0%), and Zhejiang (20.0%).

Factor-cluster approach

The factor-cluster approach, as an analytical tool, has been critiqued for certain caveats, as cluster differences are not plainly distinguished (Dolnicar & Grün, 2008; Dolnicar, 2019). Critics acknowledge that factor analysis is useful for combining variables into one factor, thereby preventing a situation where a factor is highly weighted in a segmentation solution. Measurement items may be obviously distinct within the context of a univariate variable. However, factor analysis is appropriate to describe and represent several variables in a multivariate situation (Hair et al., 2010). Moreover, given that an EFA produces rigorous statistical analyses, factor-cluster analysis is more advantageous than "artificially created segments" (Dolnicar, 2019).

Thus, the factor-cluster approach has been popularly adopted in tourism scholarship despite the critiques (Albayrak & Caber, 2018b; Caber, Ünal, Cengizci & Güven, 2019; Errichiello, Micera, Atzeni & Del Chiappa, 2019; Murdy, Alexander & Bryce, 2018; Ramires, Brandao & Sousa, 2018; Soldatenko & Backer, 2019; Wen, Meng, Ying, & Belhassen, 2020). Wen et al. (2020) adopted a six-dimension motivation scale to develop cannabis tourist clusters for Chinese tourists. Similarly, Caber et al. (2019) employed the factor-cluster approach in market segmentation to examine the conflict management strategies of tour guides. Meanwhile, Errichiello et al. (2019) investigated the consequences of wearable virtual reality technology on museum experience. Soldatenko and Backer (2019) validated the use of factor-cluster approach in identifying motivation factor groupings. Furthermore, a motivation-based cluster analysis of visitors to Portugal was successfully conducted by Ramires et al. (2018).

Data analysis

A frequency analysis was conducted to identify the characteristics of the respondents. Then, an exploratory factor analysis was conducted to identify the underlying dimensions of senior travel motivations. Next, K-means cluster analysis was conducted to classify the sample (Hair, Black, Babin & Anderson, 2010). Series of one-way ANOVA tests, and chi square tests were then conducted to examine the overall influence of senior travel preferences, sociodemographic characteristics, and travel-related attributes on motivation clusters. Tukey's honestly significance post-hoc test (HSD) was used to detect where significant differences or associations occurred.

Result

Profiles of respondents

The descriptive analysis revealed that Mainland Chinese seniors, aged between 55 to 59 years, accounted for 45.6% of the respondents, and 28.6% were aged between 60 to 64 years. In terms of sex, 54.4% were females. As for marital status, a large percentage of the respondents were married (81.6%). In terms of education, 47.6% were high school degree holders. In addition, 35.3% were retired. Approximately 26.0% had household incomes from US$ 20,000 (circa CNY¥ 140,758) to US$ 39,999 (circa CNY¥ 281,509).

In terms of their travel-related features, 54.6% of the respondents preferred to travel between 3 and 6 hours. Approximately 25% preferred a length of stay above 8 nights for overseas travel. Nearly 60% preferred the companionship of their families in overseas travel. Package tours were the preferable travel arrangement type among 39.3% of the Mainland Chinese seniors. A mid-priced accommodation was preferred by 54.6%. The respondents were neutral regarding the acceptance of travel information technology (mean=3.10). Overall, the demographic and travel profiles of the respondents were similar to those of previous studies, which had slightly more female participants than male participants and generally low participant education and income levels (Chen & Gassner, 2012; Hsu & Kang, 2009; Wang et al., 2017).

Factor analysis and reliability tests

Principal axis factoring and promax rotation methods were used in conducting exploratory factor analysis using the 38 motivation items to identify the underlying dimensionality of the instrument. For this analysis, the .40 threshold for factor loading was adopted (Stevens, 2002). The threshold for acceptable communalities was set at .40 criteria, indicating at least a moderate level of relation to the set of factors (Pituch & Stevens, 2016). The factor model accounted for 62.32% of the variance on diaspora tourists' travel motivation. The Kaiser–Meyer–Olkin measure of sampling adequacy (.91) and Bartlett's test of sphericity (χ^2=12622.88, *df*=703, *p*=.000) confirmed

the factorability of the overseas travel motivation construct (Tabachnick & Fidell, 2001). The result of the factor analysis showed eight underlying domains with eigenvalues of >1.0. The communalities for the motivation items exceeded .40 (Blunch, 2008; Stevens, 2002), and the factor loadings exceeded .47, satisfying the .45 criterion (Comrey & Lee, 1992). The eight dimensions were as follows: "seeking knowledge/learning," "seeking once-in-a-lifetime experience," "escaping," "experiencing culture/nature," "seeking self-esteem," "achieving a sense of socialization," "seeking time with family," and "seeking nostalgia."

For reliability, the results of the Cronbach's alpha reliability test satisfied the internal consistency of items in each domain, given that all domains were greater than the .7 benchmark (Tabachnick & Fidell, 2001). The grand mean values for the above factors were 3.92, 3.93, 3.28, 4.09, 4.39, 3.70, 4.23, and 3.12. Table 2 summarizes the results.

[TABLE 1 HERE]

Preference for tourism, attraction, and activity types

In terms of preference for tourism type, respondents showed a relatively high level of agreement with the statements, "I prefer to engage in health tourism" (mean=3.97) and "I prefer to engage in ecotourism" (mean=3.80), and an average level of agreement with the statement, "I prefer to engage in urban tourism" (mean=3.57). However, they indicated relatively low agreement with the statement, "I prefer to engage in cruise tourism" (mean=3.48). In terms of preference for attraction type, they showed a high level of agreement with the statements, "I prefer to visit attractions of natural scenery" (mean=4.01), "I prefer to visit cultural attractions" (mean=3.89), and "I prefer to visit historical attractions" (mean=3.84). In terms of preferences for tourism activities, they reported a relatively high level of agreement with the statements, "I prefer dining

at a destination" (mean=3.66) and "I prefer outdoor activities at a destination" (mean=3.66) and a

low preference for the statement, "I prefer shopping at a destination" (mean=3.21).

Cluster analysis

According to the results of the cluster analysis, five distinct clusters were identified. Cluster

1 showed seniors who reported high motivation across all motivation subsets. Cluster 2 showed a

group with lowest escape motivation and relatively low nostalgia, but relatively high family and

culture/nature motivation. Cluster 3 represented a group with middle-level motivations for family

and culture/nature and low motivations across the other motivation domains. Cluster 4 represented

a group with relatively middle motivation for escape but relatively high motivation for nostalgia,

pride/learning, and culture/nature. Cluster 5 comprised a group with low nostalgia, relatively

middle-level motivation for self-esteem and escape, but a high motivation for family.

The distinct motivation clusters contained 22.8%, 13.1%, 20.6%, 20.5, and 23% of the

sample. A series of one-way ANOVA tests were conducted to further verify these clusters. The

results (Figure 3 and Table 2) show significant difference across all eight motivation domains and

across the motivation clusters.

[FIGURE 3 HERE]

[TABLE 2 HERE]

Difference in sociodemographic characteristics across overseas travel motivation clusters

A series of chi-square tests were conducted to investigate whether motivation clusters have

similar influences on Mainland Chinese seniors' sociodemographic variables. For age and annual

household income, significant associations were observed at the .001 level. For marital status and educational level, significant associations were observed at the .05 level.

In detail, Clusters 2 and 3 comprised 55–59 years old and 65–69 years old, respectively. Cluster 1 was constituted by Mainland Chinese seniors aged 55–59 years old (56.6%). The oldest category of respondents (70 years and above) were found in Cluster 4 (7.8%). At the 0.05 level, significant differences were observed among married respondents across all the motivation clusters. The most notable difference was reported for Cluster 2 (92.3%). Single Mainland Chinese seniors were more likely to be in Cluster 1 (12.4%). In terms of education, primary-level education was also noted in Cluster 3 (32.4%), whereas Cluster 2 recorded those with college degree or above (36.9%).

Regarding annual household income, 25% of those in Cluster 1 had income from US$ 40,000 to US$ 59,999 equivalent. In addition, 33.8% of respondents in Cluster 2 and 39.6% of those in Cluster 3 had income ranging from US $20,000 to US$ 39,999 equivalent. As for Mainland Chinese senior tourists, 26.7% in Cluster 4 and 24.6% in Cluster 5 earned approximately US$ 60,000 to US$ 79,999 equivalent. Table 3 reports the detailed outcomes.

[TABLE 3 HERE]

Difference in travel-related features across overseas travel motivation clusters

Regarding travel-related features, significant differences were found at the .001 level on preferred travel partner, preferred accommodation type, and level of information technology acceptance. Preference for family as travel partner was significantly different across all the clusters (*p*<.001). Regarding preferred accommodation type, Cluster 3 (51%) consisted of respondents who preferred budget/economy accommodation. Cluster 1 (40.7%) and Cluster 3 (48%) were

different from other clusters in terms of preferred package tour. Regarding information technology acceptance, Cluster 3 was characterized by a fast information technology acceptance (44.6%). Table 4 shows the results.

[TABLE 4 HERE]

Differences in preferences across motivation clusters

A series of ANOVA tests were conducted to determine variations in Mainland Chinese seniors' preferences. The tests demonstrated significant differences at the .001 level for all measurements under preferred tourism, attraction, and activity types across each motivation cluster. Tukey's HSD post-hoc analysis test was used to determine exact points of significant differences. In terms of preference for urban tourism, significant difference was reported between Cluster 1 and Clusters 2, 4, and 5. Seniors in Cluster 3 were the least to prefer eco-tourism. As for the preference for health tourism, Clusters 1 and 2 were significantly different from the other clusters. Moreover, Cluster 3 was less likely to prefer cruise tourism.

Similarly, Mainland Chinese seniors in Clusters 1, 2, and 4 were more likely to visit historical attractions. Seniors in Clusters 1 and 2 had the highest value for natural scenery as a preferred activity. By comparison, Clusters 3 and 5 had the lowest mean score for cultural attractions. Clusters 1 and 2 were also more likely to prefer cultural attractions during overseas travel.

The outcome of the ANOVA analysis provided information on the preference for activity type. Cluster 3 demonstrated the least preference for outdoor activities at a destination. Concerning the preference for shopping, Clusters 1 and 4 were more likely to engage in shopping at an overseas destination. Clusters 1 and 5 showed higher mean scores in their preference for dining at a

destination, whereas Mainland Chinese seniors in Cluster 3 were the least to prefer the same activity. Table 5 presents the outcomes.

[TABLE 5 HERE]

Discussion and implications

This study's findings contribute to the current senior tourism literature theoretically and practically. First, the study extracted eight dimensions of overseas senior travel motivation and identified a five-cluster solution of those motivation subsets. By examining the mean scores, the motivation to seek self-esteem (mean=4.39) was the highest among Mainland Chinese seniors, followed by seeking time with family (mean=4.23), experiencing culture/nature (mean=4.09), seeking once-in-a-lifetime experience (mean=3.93), and seeking knowledge/learning (mean=3.92). Besides the extraction of different set of dimensionalities, the finding contrasted the results of Ya-fang (2009), who reported that knowledge enhancement and curiosity are the most important push factors among Chinese senior travelers.

This study highlighted the importance of self-esteem seeking among Mainland Chinese seniors. Self-esteem among seniors has been previously linked to self-perceived age, self-confidence, and self-consciousness (Sudbury & Simcock, 2009). Therefore, understanding seniors' travel behavior should start with identifying and promoting self-esteem essentials, including favorable word of mouth. However, this finding contradicts those of previous studies that identify the seeking nature/culture (destination appeal) as seniors' primary travel driver (Alén et al., 2017; Otoo & Kim, 2020). In their review, Otoo and Kim (2020) ranked this domain as having the highest frequency based on previous senior tourism studies and in numerous senior tourism-generating regions, including the United States, Australia, and China.

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Second, the five clusters determined in this study showed distinct traits and theoretically supported that different sets of motivations affected seniors differently (Losada et al., 2019; Otoo & Kim, 2020). Cluster 1 was identified as the most attractive Mainland Chinese senior segment. Seniors in this cluster reported high motivation across all motivation subsets. They were found to prefer the use of upscale/luxury accommodation in overseas travel. Their high motivation, preference, highest level of income, and preference for upscale/luxury accommodation corroborate with the fact that this cluster of seniors tended to be younger. This theoretical insight is important because previous studies have not connected the motivation, preferences, and demography of Mainland Chinese seniors. As for tourism marketers, advertising campaigns through modern information technology is suggested particularly for younger cohort of Mainland Chinese seniors as they represented the highest acceptance of travel information technology.

Third, although the participants in Cluster 2 reported high motivations for "seeking time with family" and "experiencing culture/nature," they demonstrated the lowest motivation for escaping and a relatively low motivation for seeking nostalgia. This cluster included the highest number of college graduates. Previous studies suggest high travel propensity among highly educated individuals (Kim & Qu, 2002; Sie, Patterson & Pegg, 2016). Thus, developing and promoting educational tours, such as visit to museums and other historical sites, could attract this segment. As the popularity of educational tourism experiences among seniors increases, an untapped opportunity to provide meaningful engagement and renew interest in education tourism has emerged (Sie et al., 2016). Chen and Gassner (2012) found a correlation between higher education and interest in overseas travel; however Otoo, Kim, and Choi (2020b) did not notice such an association.

Fourth, among the five motivation clusters, the group with the lowest motivation across all motivation domains (Cluster 3) also reported the lowest preferences for tourism, attraction, and activity types. This group of Mainland Chinese seniors were the oldest subset and the least income earning category. Notably, as posited by the leisure paradox concept (Cooper, Fletcher, Gilbert, Shepherd, & Wanhill, 1998), this group was possibly the least motivated because of their low income, as well as their health status associated with increasing age. Another theoretical implication is that this cluster had lower education, suggesting that seniors with lower education are least likely to travel overseas for tourism. Nevertheless, a practical implication for the older Mainland Chinese seniors lies in their preference for family companionship in overseas travels, as well as a preference for budget-related accommodation. Family-oriented package tours can be an effective tool as much as offering discounted tours. A word-of-mouth campaign may better reach this cluster who are less likely to use travel information technology.

Fifth, Cluster 4 demonstrated relatively moderate set of motivation and demographic characteristics. A tourist segment with a midpoint set of characteristics and preferences are difficult to target in marketing (Carneiro et al., 2013; Kim & Kim, 2018). Nonetheless, some indicators found in this study offer useful practical guide to tourism destination marketers and businesses. Mainland Chinese senior tourists in Cluster 4 were more likely to prefer being alone. Practically, solo travel packages and programs are effective in attracting tourists who travel alone (Hwang & Lee, 2019; Shoemaker, 2000). Solo travel among the elderly can facilitate freedom of choice and provide an opportunity to meet other people. In addition, travel can be an opportunity to seek a once-in-a-lifetime experience for this group. A promotional slogan "Crown your life with a once-in-a-lifetime travel with our cruise" can be enticing to a senior market with a once-in-a-lifetime motivation.

Sixth, Mainland Chinese seniors in Cluster 5 exhibited generally low motivation for overseas travel. However, this group was noted to be motivated to seek time with family and experience culture/nature overseas. Theoretically, travel can be a way of avoiding boredom at home, associated with empty nest stage, because it offers opportunity for family togetherness (Huber, 2019; Sudbury & Simcock, 2009). Thus, a family-type package that enables such seniors to spend time with their children, spouses, and grandchildren is suggested. An offer to see exotic cultural and natural beauty in pristine natural environments, such as Jeju Island in South Korea for short haulers or the Niagara Falls in Canada for long haulers, should be promoted for Chinese seniors. Again, offering price discounts is suggested to service providers. Intuitively, destinations may not need to upscale accommodation facilities and services for this type of seniors because they prefer mid-priced accommodation.

Although several segmentation studies on senior tourism exist, the current study identified five distinct segments of Mainland Chinese senior tourists. Previous segmentation studies identified enthusiastic travelers, cultural explorers and escapists, and spiritual travelers (Ward, 2014), whereas cultural and historical seekers and holiday and leisure seekers were also recognized in other research (Sangpikul, 2008). Segmentation results revealed culture hounds, enthusiastic go getters, and passive visitors (You & O'Leary, 1999) and showcased active story tellers, escape and learn travelers, and retirees (Shoemaker, 2000). Senior tourists were classified as explorers, livewires, vacationers, and homebodies (Tiago et al., 2016). This current study is similar to previous studies in identifying a spectra of senior tourists; however, it distinctly considers multiple variables that can help identify specific segments. Thus, the five clusters identified in this study are comprised of elements such as accommodation preference, technology acceptance, tourism

type preference, attraction type preference, activity type preference, preferred travel partner, and diverse motivation domains.

Finally, the study offered valuable theoretical insights into the senior tourism market. First, despite the application of conflicting or complementary theories in support of continuity theory (Ward, 2014) or constraints theory to explain travel limitations (Fleischer & Pizam, 2002), travel motivations should be considered further. Second, the results of the present study indicated that variables related to motivations, preferences, sociodemographics, and travel-related features were useful indicators in determining senior travel behavior. Third, this study contributed to the literature on the predictive influence of multiple variables.

Given that seniors' living conditions and environments differ, their overseas travel motivations can likewise differ across regions or communities. Further studies should explore whether seniors' motivations and association with other factors differ according to regional differences, which can contribute to the analysis of the dimensionality of senior travel motivations. For instance, nostalgia, which is defined as a longing for the past, is an emerging and relevant theme that is particularly attractive to seniors, as they are likely to desire a place, event, and/or cinematic and musical experiences from the past or relive past memories (Kim, Kim, & Petrick, 2019). Ultimately, this study provided insights for scholars, tourism businesses, and policymakers into the most effective ways to cater to the needs of specific senior segments.

[TABLE 6 HERE]

Conclusion and suggestions for future research

This study posited that the segmentation of the senior market could offer valuable cues in exploring this market. This study first sought to identify the underlying dimensionality of the

overseas travel motivations of Mainland Chinese seniors. Thus, eight motivation domains were identified. This study further conducted a cluster analysis based on overseas travel motivations, in which five motivation clusters were extracted. In investigating the influence of sociodemographic and travel-related variables on senior overseas travel motivations, age, marital status, educational level, annual household income, preferred travel partner, preferred accommodation type, and information technology acceptance were the most relevant factors across their motivation clusters. As for travel type preference, attraction and activities differed across the seniors' motivation clusters.

To further explore the complexity of senior travel, several limitations and future directions are identified. First, as an alternative to the factor-cluster approach, choice modeling can be employed. Second, given that the sociodemographic and travel-related variables explored in this study were used in only a few existing studies, future studies can include other psychological features, such as wellbeing. In addition, the role of overseas senior motivations in explaining concepts such as personality traits, destination image, and destination choice decisions can be explored in future research. Third, this study adopted convenience sampling; thus, future studies should consider securing representative samples to select the targeted population. Finally, given that the overseas travel motivations of seniors differ across different elderly generations, future studies should analyze the senior market according to different age cohorts.

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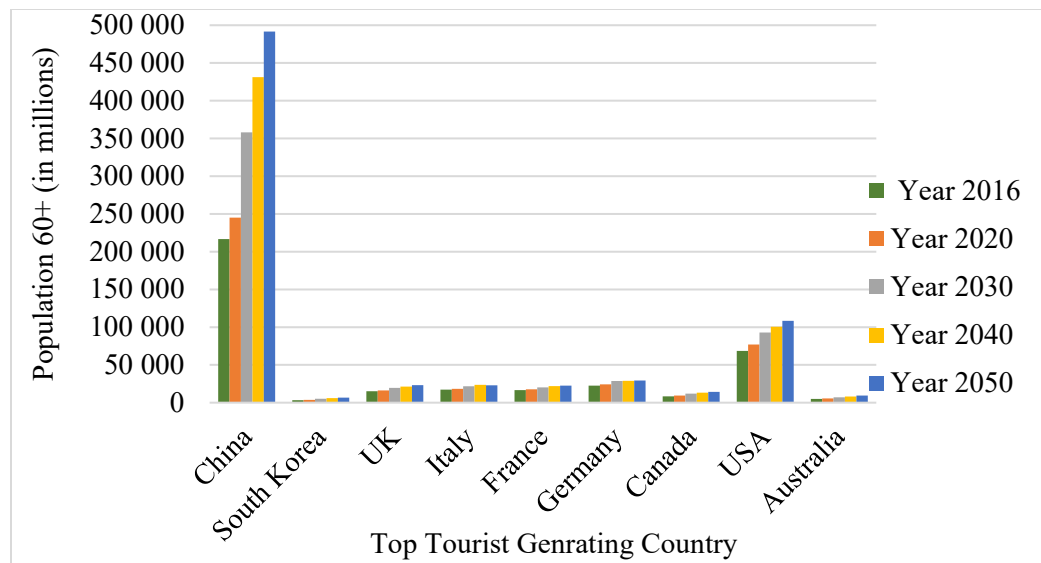
Figure 1. Global projection of the elderly among key tourist generating countries
Source: Data from UNDESA, 2017

Factor analysis	Cluster analysis	• Preferred attraction types • Preferred activity types • Sociodemographic attributes • Preferred travel features

Dimensional structure of the overseas travel motivations	Clusters of the overseas travel motivations	Comparison of characteristics among motivation clusters

• One-way ANOVA
• Chi-squared test
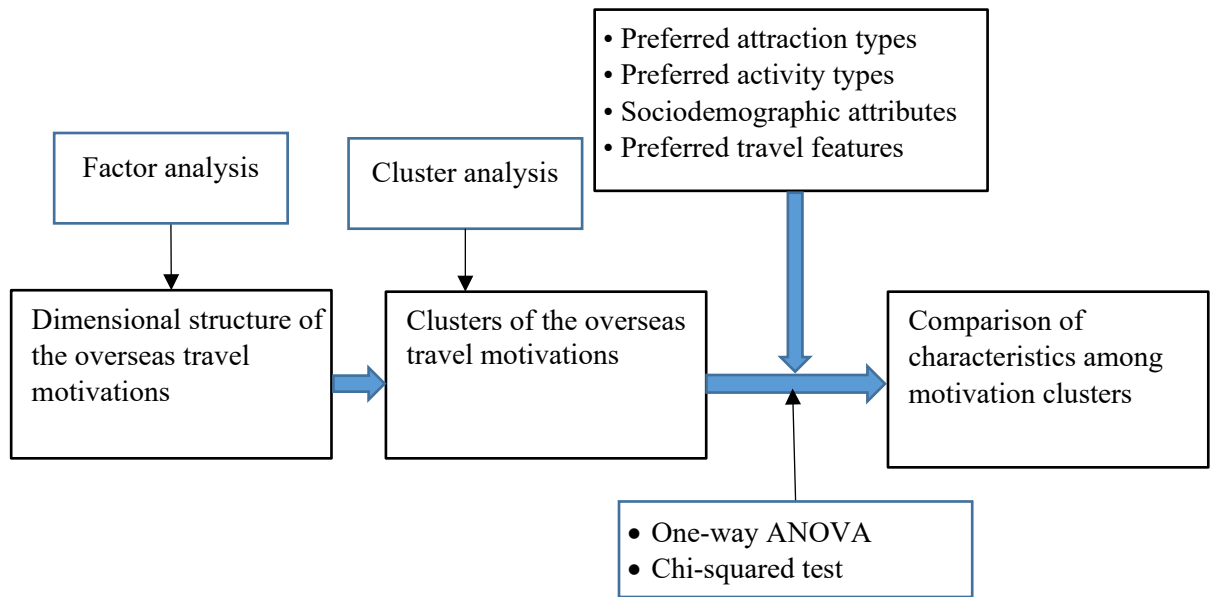
Figure 2. Conceptual framework of this study

	Achieving a sense of socialization	Seeking time with family	Seeking self-esteem	Escaping	Experiencing culture/ nature	Seeking knowledge/ learning	Seeking once-in-a-lifetime experience	Seeking nostalgia
Cluster 1	4.5	4.71	4.39	4.38	4.43	4.54	4.55	3.71
Cluster 2	3.75	4.45	3.47	2.14	4.4	4.27	3.96	2.88
Cluster 3	2.91	3.82	2.6	2.43	3.7	3.23	3.03	2.56
Cluster 4	3.71	3.78	3.7	3.35	3.98	3.86	4.11	3.77
Cluster 5	3.59	4.41	3.45	3.53	4.03	3.76	3.92	2.58

Figure 3. Results of cluster analysis using overseas travel motivation factors
Source: Field survey

Table 1. Factor analysis on overseas travel motivations of Mainland Chinese seniors

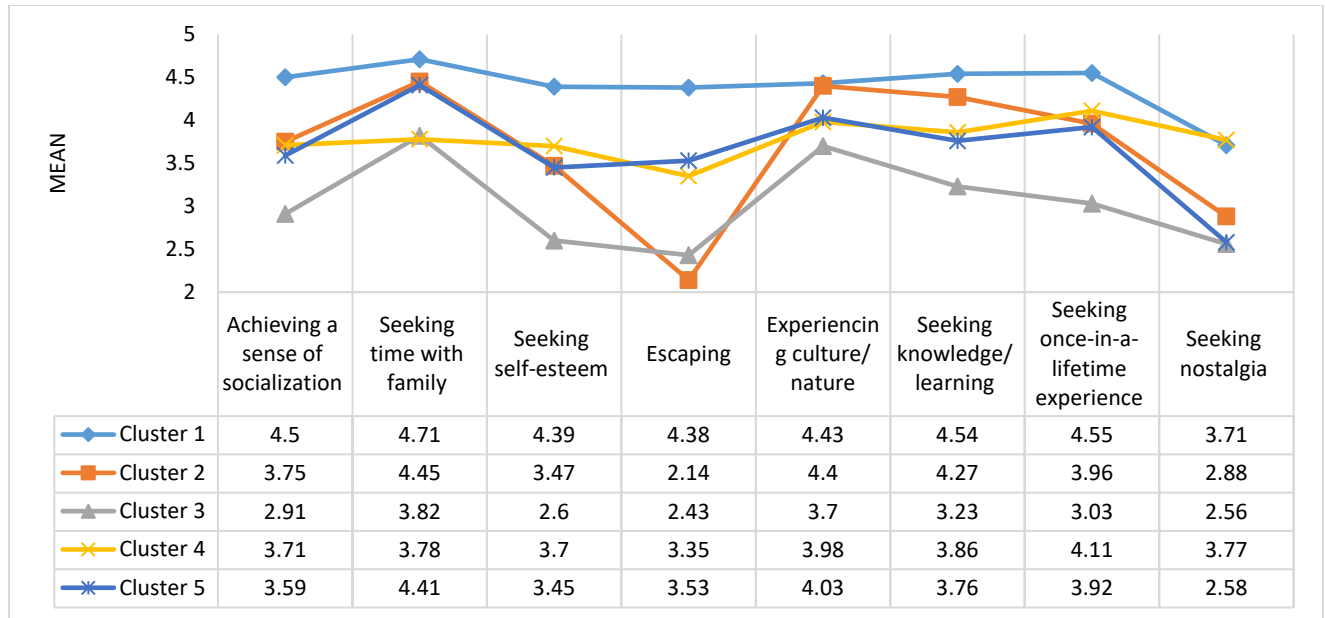| Domains and items	Communalities	Factor loadings	Mean
Domain 1: *Seeking knowledge/learning* (Eigenvalue=12.61, Variance explained= 33.19, Cronbach's α=.91, Grand mean=3.92)			
To expand my existing knowledge	.77	.90	3.91
To keep myself well-informed	.67	.84	3.84
To seek intellectual enrichment	.67	.78	3.81
To learn new things and enrich my life	.63	.76	3.99
To gain a learning experience	.62	.74	3.74
To broaden my views	.48	.63	4.21
Domain 2: *Seeking once-in-a-lifetime experience* (Eigenvalue=3.63, Variance explained=9.55 Cronbach's α=.88, Grand mean=3.93)			
To enjoy my time while I can	.62	.82	4.07
To make the most of my free time while I can	.60	.82	3.92
To seek outdoor recreation opportunities while I can	.58	.78	3.85
It is a good way to spend my money while I can.	.60	.76	3.77
To feel refreshed	.54	.53	4.08
To give myself a treat	.49	.48	3.86
Domain 3: *Escaping* (Eigenvalue=2.28, Variance explained=6.00, Cronbach's α=.91, Grand mean=3.28)			
To escape from the stress of daily life	.82	.95	3.25
To escape from my routine	.77	.92	3.35
To get away from the crowds (people or traffic)	.64	.78	3.20
To get away from excessive thinking	.64	.76	3.30
Domain 4: *Experiencing culture/nature* (Eigenvalue=2.08, Variance explained=5.47, Cronbach's α=.87, Grand mean=4.09)			
To see historical sites	.70	.85	3.99
To see cultural sites	.61	.80	4.00
To see natural sites	.65	.77	4.18
To see a beautiful scenery	.66	.74	4.17
To experience cultures different from mine	.47	.58	4.12
Domain 5: *Seeking self-esteem* (Eigenvalue=1.67, Variance explained=4.39, Cronbach's α=.88, Grand mean=4.39)			
To tell others about my travel experiences	.63	.84	3.76
To gain respect from others	.67	.71	3.38
To gain a sense of achievement or accomplishment	.67	.71	3.60
To enjoy a place where others value and appreciate	.49	.65	3.89
To gain self-esteem	.63	.61	3.47
To feel privileged or important	.51	.56	3.17
Domain 6: *Achieving a sense of socialization* (Eigenvalue=1.59, Variance explained=4.18, Cronbach's α=.87, Grand mean=3.70)			
To see and meet different people	.63	.83	3.70
To make contact with new people	.62	.76	3.67
To feel connected with other people	.66	.75	3.56
To share my thoughts and feelings with others	.57	.67	3.75
To be with people who share my interests	.48	.52	3.84
Domain 7: *Seeking time with family* (Eigenvalue=1.48, Variance explained=3.89, Cronbach's α=.88, Grand mean=4.23)			
To enjoy time with my family	.92	.98	4.32
To enjoy a family event	.73	.86	4.25

To be with my partner	.55	.71	4.12
Domain 8: *Seeking nostalgia* (Eigenvalue=1.22, Variance explained=3.22, Cronbach's α=.81, Grand mean=3.12)			
To meet old friends	.60	.78	3.07
To remember times from my past	.60	.73	3.08
To visit a place where I have memories	.54	.70	3.20

Table 2. Comparison of travel motivation domains across motivation clusters

Domains	Cluster 1 (n=113)	Cluster 2 (n=65)	Cluster 3 (n=102)	Cluster 4 (n=102)	Cluster 5 (n=114)	F-value	p-value
Achieving a sense of socialization	4.50a	3.75b	2.91d	3.71bc	3.59c	121.86	.000
Seeking time with family	4.71a	4.45b	3.82c	3.78c	4.41b	42.64	.000
Seeking self-esteem	4.39a	3.47c	2.60d	3.70b	3.45c	150.74	.000
Escaping	4.38a	2.14e	2.43d	3.35c	3.53b	237.83	.000
Experiencing culture/ nature	4.43a	4.40a	3.70c	3.98b	4.03b	32.14	.000
Seeking knowledge/ learning	4.54a	4.27d	3.23b	3.86c	3.76c	98.75	.000
Seeking once-in-a-lifetime experience	4.55a	3.96c	3.03d	4.11b	3.92c	135.25	.000
Seeking nostalgia	3.71a	2.88b	2.56c	3.77a	2.58c	92.04	.000

Note: a, b, c, d, and e indicate the source of significant differences (e<d<c<b<a, p<0.001).

Table 3. Chi-square comparison of sociodemographic features across motivation clusters

Sociodemographic variables	Clusters					*Chi-square*	*p-value*
	1	2	3	4	5		
Gender							
Female	49.6	52.3	52.0	55.9	61.4	3.77	.438
Male	50.4	47.7	48.0	44.1	38.6		
Age							
55–59 years old	56.6	44.6	35.3	41.2	48.2		
60–64 years old	31.0	18.5	23.5	34.3	31.6	38.70	.000
65–69 years old	11.5	35.4	33.3	19.6	18.4		
70 years or above	0.9	1.5	7.8	4.9	1.8		
Marital status							
Single	12.4	0.0	5.9	9.8	4.4		
Married	77.0	92.3	85.3	73.5	84.2	17.82	.023
Others	10.6	7.7	8.8	16.7	11.4		
Educational level							
Primary school graduate	16.8	15.4	32.4	15.7	18.4		
Secondary/High school degree	46.9	47.7	34.3	57.8	50.9	21.87	.039
College degree or above	32.7	36.9	29.4	23.5	28.1		
Others	3.5	0.0	3.9	2.9	2.6		
Annual household income (without tax)							
Less than US $20,000	5.6	9.2	9.9	9.9	1.8		
US$ 20,000–39,999	19.4	33.8	39.6	18.8	23.7		
US$ 40,000–59,999	25.0	29.2	27.7	16.8	17.5	66.05	.000
US$ 60,000–79,999	16.7	9.2	13.9	26.7	24.6		
US$ 80,000–99,999	15.7	9.2	5.0	22.8	23.7		
US$ 100,000 or above	17.6	9.2	4.0	5.0	8.8		

Table 4. Chi-square comparison of travel-related features across motivation clusters

Travel variables	Clusters					Chi-square	p-value
	1	2	3	4	5		
Preferred travel duration (by flight)							
Less than 3 hours	6.7	14.3	12.5	6.6	7.9		
3–6 hours	8.0	7.1	7.8	4.9	7.9		
7–10 hours	25.3	10.7	12.5	11.5	7.9	17.92	.329
11–14 hours	24.0	10.7	18.8	21.3	22.2		
15 hours or above	36.0	57.1	48.4	55.7	54.0		
Preferred travel partner							
Alone	2.7	3.1	1.0	6.9	0.9		
Spouse	15.0	30.8	14.7	18.6	11.4		
Friend	24.8	10.8	10.8	20.6	13.2	38.75	.001
Family	50.4	50.8	66.7	51.0	71.1		
Others	7.1	4.6	6.9	2.9	3.5		
Preferred accommodation type							
Budget/economy accommodation	11.5	35.4	51.0	24.5	41.2		
Mid-priced accommodation	67.3	49.2	44.1	60.8	49.1	50.60	.000
Upscale/Luxury accommodation	21.2	15.4	4.9	14.7	9.6		
Preferred accommodation type							
Own travel arrangement	33.6	18.5	5.9	30.4	25.4		
Package tour	40.7	38.5	48.0	32.4	36.8	31.73	.000
Own + Package tour	25.7	43.1	46.1	37.3	37.7		
Information technology acceptance							
Very slow acceptance	1.9	9.2	16.2	5.0	4.4		
Slow acceptance	13.0	15.4	26.3	15.8	24.8		
Neutral	38.0	27.7	33.3	45.5	37.2	54.03	.000
Fast acceptance	32.4	44.6	19.2	29.7	30.1		
Very fast acceptance	14.8	3.1	5.1	4.0	3.5		

Table 5. Comparison of travel-related preferences across motivation clusters

Travel preferences	Clusters					F-value	p-value
	1	2	3	4	5		
Preference for tourism type							
I prefer to engage in urban tourism.	3.95a	3.72b	3.17c	3.55b	3.49b	14.43	.000
I prefer to engage in eco-tourism.	4.19a	4.09a	3.46b	3.66b	3.66b	21.15	.000
I prefer to engage in health tourism.	4.23a	4.21a	3.72b	3.92b	3.84b	10.17	.000
I prefer to engage in cruise tourism.	4.05a	3.50b	2.93c	3.51b	3.36b	19.08	.000
Preference for attraction type							
I prefer to visit historical attractions.	4.15a	4.05a	3.44b	4.03a	3.61b	19.13	.000
I prefer to visit attractions of natural scenery.	4.31a	4.27a	3.70b	4.01b	3.85bc	15.36	.000
I prefer to visit cultural attractions.	4.27a	4.25a	3.47c	3.94b	3.65c	24.35	.000
Preference for activity type							
I prefer outdoor activities at a destination.	4.03a	3.72bc	3.28d	3.75b	3.52c	15.09	.000
I prefer shopping at a destination.	3.74a	3.14b	2.43c	3.47a	3.19b	28.33	.000
I prefer dining at a destination.	4.02a	3.66b	3.07c	3.68b	3.83ab	19.60	.000

Note: a, b, c, and d indicate the source of significant differences (d<c<b<a, p<0.001).

Table 6. Summary of results of cluster analysis for Chinese senior tourists

Criteria	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Motivation scale	Highest level on motivation domains (mean=4.40)	High level on motivation domains (mean=3.67)	Lowest level on motivation domains (mean=3.04)	High to highest level on motivation domains (mean=3.78)	Low to lowest level on the motivation domains (mean=3.66)
Motivation trait of cluster	High motivation	Lowest escape, relatively low nostalgia, and relatively high family and culture/nature	Relatively high family and culture/nature, but low on others	Relatively medium escape and relatively high on others	Low nostalgia, medium self-esteem, high family
Preference for tourism type	Highest level on preference for tourism type items (mean=4.11)	High to highest level on preference for tourism type items (mean=3.88)	Lowest level on preference for tourism type items (mean=3.32)	High level on preference for tourism type items (mean=3.66)	Low to lowest level on preference for tourism type items (mean=3.70)
Preference for attraction type	Highest level on preference for attraction type items (mean=4.24)	High level on preference attraction type items (mean=4.19)	Lowest level on preference attraction type items (mean=3.54)	Low to lowest level on preference attraction type items (mean=3.99)	High to highest level on preference for attraction type items (mean=4.41)
Preference for activity type	Highest level on preference for activity type items (mean=3.93)	Low to lowest level on preference for activity type items (mean=3.51)	Lowest level on preference for activity type items (mean=2.93)	High level on preference for activity type items (mean=3.63)	Low to lowest on preference for activity type items (mean=3.51)
Age	More likely aged 55 and 59 years old	More likely aged 65 and 69 years old	More likely aged 70 years or above	More likely aged 60 and 64 years old	More likely aged 55 and 59 years old
Marital status	More likely to be single	More likely to be married	More likely to be married	More likely to be in the "other" category	More likely to be married
Educational level	More likely secondary school graduates	More likely college graduates	More likely primary school graduates	More likely secondary school graduates	More likely secondary school graduates
Annual household income	US$ 100,000 or above	US$ 40,000–59,000	US$ 20,000–39,000	US$ 60,000–79,000	US$ 80,000–99,000
Preferred travel partner	More likely prefer friends	More likely prefer spouse	More likely prefer family	More likely prefer being alone	More likely prefer family
Preferred accommodation type	More likely prefer upscale/luxury accommodation	More likely prefer mid-priced accommodation	More likely prefer budget/economy accommodation	More likely prefer mid-priced accommodation	Most likely prefer mid-priced accommodation
Information technology acceptance	Very fast acceptance	Fast acceptance	Slow to fast acceptance	Neutral acceptance	Neutral acceptance