Understanding the dimensionality and underlying nature of senior overseas travel motivations

Abstract

The global increase in the elderly population has a direct influence on the travel, tourism, and hospitality sector because senior travelers have become major consumers. Therefore, developing a deeper understanding senior motivations for overseas travel is required. However, the presence of theoretical and practical gaps limits the comprehension of this demographic market. Thus, this research sought to identify the underlying dimensionality and measurement of senior travel motivations and developed a scale to measure them. In addition, it validated the scale across future travel behaviors and preferences for tourism types and sites. An eight-factor structure of senior travel motivations was generated. The overall construct satisfied a series of convergent, discriminant, and nomological validity tests. Furthermore, the scale demonstrated a predictive explanatory power for profiling the future travel behavior and preference of seniors.

Keywords: seniors, elderly, aging, motivations, preferences, multidimensionality

Introduction

The significant increase in the senior population is a worldwide trend and has a direct influence on travel and tourism because seniors represent a major consumer force. For example, the Pew Research Center stated that there were 71 million Baby Boomers (aged 50 to 70) in the US in 2016 (Fry, 2018). Seniors are active travelers and have the attention of many organizations in travel, tourism, and hospitality. The American Association of Retired Persons (AARP) found that Baby Boomers planned to take four to five leisure trips in 2019, and 50% of them indicated these would be a combination of domestic and international trips (Gelfeld, 2018). Several travel and tour companies have established to serve senior travelers, including Road Scholar, Elder Treks, Senior Discovery Tours, as well as many major tour operators and cruise lines.

Research on senior travel has attempted to keep pace with aging populations. Previous studies investigate transport mode choices (Hsu & Lee, 2002; Hung & Petrick, 2010); travel behavior (Losada, Alén, Cotos-Yáñez, & Dominguez 2019); constraints (Fleischer & Pizam, 2002; Gao & Kerstetter, 2016); wellness and quality of life (Hwang & Lee, 2019; Kim, Woo, & Uysal, 2015); and market segmentation (Kuo & Lu, 2013; Ward, 2014).

However, theoretical and practical research gaps still remain in identifying senior travel motivations for several reasons. First and in general, motivations related to destination selection and the enjoyment of attractions are among the most popular topics in the existing tourism literature. Nonetheless, there are few studies that explore the psychological nature of senior travel motivations that may differ from those of other age cohorts. Second, motivation and benefit scales for specific forms of tourism and attractions are available, such as drug tourism (Wen, Meng, Ying, Qi, & Lockyer, 2018); food tourism (Choe & Kim, 2019; Kim & Eves, 2012); museums (Taheri, Jafari, & O'Gorman, 2014); festivals (Small, 2007); conventions (Yoo

& Chon, 2008); and shopping (Wong & Wan, 2013). To date, however, a reliable and valid scale measuring senior tourist motivations does not exist. Third, analyses of senior tourist motivations are needed to meet practical managerial requirements. Growing volumes of senior travelers beg a fuller knowledge of the nature of their motivations, which influence their decision-making processes and purchase behavior. Efforts to further elucidate the features of senior motivations will assist travel, tourism, and hospitality organizations in terms of product and menu development, information systems enhancement, marketing and promotion, pricing, packaging, and programming.

In response to the aforementioned research gaps, the goal of this research was to advance the understanding of senior overseas travel motivations. The first objective was to identify the primary factor structure of senior travel motivations and its dimensionality. The second objective was to develop a valid and reliable scale measuring senior travel motivations. The third objective was to validate the predictive power of the new scale in explaining differences across the future travel behavior of seniors and their preferences for tourism types and sites. The study contributes to theory development by identifying important motivational constructs among senior tourists. Few previous empirical studies have attempted to develop scales to investigate motivation among senior travelers. As the literature was gleaned over a three-decade period, the study provides evidence of why tourists are becoming more active in their later years. Additionally, psychological and behavioral scales are necessary to make theoretical deductions about tourism. A wholesale adaptation of pre-existing theories has proven problematic because no scale development paper exists; this study is a first. It is expected that the findings will contribute to the current understanding of the nature of the demand for senior tourism. It is also anticipated that this study will provide cues to understanding the relationship between senior tourist

motivations, travel patterns, and preferences, including satisfaction, destination image, and future intentions. The scale expands the understanding of elderly motivations for engaging in overseas travel and will assist in predicting future behaviors.

Literature review

Theoretical overview of travel motivations

Motivation is a critical first step in understanding travel phenomenon and comprises a network of forces that gives value and direction to travel choices, behaviors, and experiences (Pearce, Morrison & Rutledge 1998). Several alternative fundamental tourist motivation theories have been proposed including the travel career ladder [TCL] (Huang & Hsu, 2009; Pearce, 1988); wanderlust–sunlust spectrum (Gray, 1970); relational spectrum of motivations (Iso-Ahola, 1982); and push–pull theory (Dann, 1977). Ultimately, the push–pull theory has been the most applied theoretical argument to explain why senior tourists are attracted to destinations (pull) and feel the need to leave their home countries (push) (Alén, Losada, & de Carlos, 2017; Otoo & Kim, 2020; Patuelli & Nijkamp, 2016; Sie, Patterson, & Pegg, 2016). In their review of several senior tourist publications, Otoo and Kim (2020) concluded that senior tourists' motivations are not simply the products of pull and push factors. Others critique the pull-push theory, arguing that both micro- and macro-level factors are overlooked (e.g., Park et al., 2019). Subsequently, Pearce and Lee (2005) proposed the travel career ladder (TCL) founded on Maslow's needs-based motivation theory. The TCL comprises a five-stage hierarchical model of travel motivations according to relaxation, safety and security, relationship, self-esteem and development, and fulfilment. An individual's stage in the TCL is dependent on life stage, information availability, financial position, health, and travel engagement. As a model, the TCL

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has been criticized for the difficulty in measuring the causal relationship between motivation and behavior and for the assumption that needs are constant (Park et al., 2019). This theoretical debate indicates that a study of tourist motivation should consider the complexity and multi-faceted nature of travel. As a plethora of motivations exist for any segment of tourists, researchers require a comprehensive amount of empirical evidence to develop a motivation scale. Furthermore, tourist motivations are subject to cohort effects, contexts, and generational differences (Otoo & Kim, 2020). For senior tourists, travel is a positive activity that impacts the need for satisfaction in order to optimize well-being. Therefore, their motivation can transcend to improving emotions, thoughts, behaviors, and need satisfaction as posited in the positive-activity model (Lyubomirsky & Layous, 2013).

To avoid any misunderstanding with other tourism phenomena such as day trippers and excursionists, this study investigated overseas travel motivations. The approach was utilized by previous senior tourism studies (Fleischer & Pizam, 2002; Lu et al., 2016; Sie et al., 2016; Wang, Wu, Luo & Lu, 2017).

Domains of senior travel motivations

It is important for researchers to determine potential items to include or exclude by defining and conceptualizing dimensions of the constructs (Churchill, 1979; DeVellis 2017; Hinkin 1998). To do this, a content analysis of past senior motivation studies was conducted. Multifaceted dimensions were conceptually classified by reviewing previous studies conducted to identify the underlying structure of senior travel motivations (Churchill, 1979). Definitions of domains are supplied in Table 1. The first *a priori* motivation domain identified in the literature is socialization and belongingness, which reflects an interpersonal desire among seniors to be

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with others. This motivation includes "spending time with friends and family" (Horneman, Carter, Wei, & Ruys, 2002; Lewis & D'Alessandro, 2019) and "socialization" (Jang & Wu, 2006; Lu et al., 2016).

[Insert Table 1 here]

The escape motivation emerges from the desire to be away from everyday demands or to search elsewhere for harmony, personal growth, and renewal (Kim, Wei, & Ruys, 2003). It has been found to be a significant motivation among seniors (Boksberger & Laesser, 2009; Hsu & Kang, 2009; Hsu, Cai & Wong, 2007; Lu et al., 2016; Muller & O'Cass, 2001; Norman, Daniels, McGuire, & Norman, 2001). Other seniors express the motivation to get away (Boksberger & Laesser, 2009), to take a break (Horneman et al., 2002), or to be away from their children (Ward, 2014).

The motivation to visit natural, cultural, or heritage attractions is generally cited as seniors' desires to experience natural and cultural landscapes and sites. This dimension includes traveling to enjoy natural scenery and attractions (Baloglu & Shoemaker, 2001; Jang & Wu, 2006; Sangpikul, 2008b); cultural and historical sites (Carneiro, Eusébio, Kastenholz, & Alvelos 2013; Cleaver, Muller, Ruys, & Wei, 1999; Huang & Tsai, 2003); and weather and micro-climates (Horneman et al., 2002; Ward, 2014; Yang, Dong, & Li, 2019).

Knowledge seeking emphasizes travel for enlightenment and understanding. Specific examples are knowledge seeking or enhancement (Wang et al., 2017); learning (Ryu, Hyun, & Shim, 2015); intellectual enlightenment (Huang & Tsai, 2003); and education (Norman et al., 2001). Lu et al. (2016) reported that in China, knowledge enhancement (and curiosity) constitutes the most important push motivation for senior travelers.

The desire among seniors to improve their mental and physical wellbeing can be attributed to improved medical services and avenues of health recovery (Hallem & Barth, 2011; Kurtulmuşoğlu & Esiyok, 2017). Other studies have found that health is the most important travel motivation in the senior market (Alén et al., 2017; Lu et al. 2016). This motivation includes well-being or wellness (Hsu & Kang, 2009; Tiago, de Almeida Couto, Tiago, & Faria, 2016) and physical exercise (Muller & O'Cass, 2001; Musa & Sim, 2010).

Seniors are also inclined to seek rest and relaxation. For example, West Australian seniors are motivated to seek family travel which incorporates a sense of rest and relaxation (Kim et al., 2003). Studies that identify rest and relaxation are two-fold, namely those that report rest and relaxation together (Boksberger & Laesser, 2009; Huang & Tsai, 2003; Jang et al., 2009; Sangpikul, 2008a) and those that report only relaxation (Jang & Wu, 2006; Musa & Sim, 2010; Wang et al., 2017).

Novelty and exploration compel seniors to travel to have unique and authentic experiences. The desire for novelty and exploration increases when major cultural differences exist between the target destination and the traveler's country of origin (Wong & Cheng, 2014). For example, novelty seeking is the most important factor among Taiwanese (Jang et al., 2009), Australians (Lewis & D'Alessandro, 2019), as well as other Asian and European senior travelers visiting Thailand (Sangpikul, 2008a).

Another notable motivational factor is hedonism, which refers to the desire for seniors to travel for certain hedonic and sensation-seeking purposes. Such experiences include sensation seeking (Lu et al., 2016); recreation (Ryu et al., 2015); pleasure seeking (Lu et al., 2016); excitement and invigoration (Muller & O'Cass, 2001); and entertainment (Carneiro et al., 2013;

Lu et al., 2016). For instance, hedonism is a major travel push factor among the elderly in Japan (Ryu et al., 2015).

The ego/esteem motivation refers to travel that seniors undertake to seek self-centeredness, including beauty (Boksberger & Laesser, 2009); self-discovery (Muller & O'Cass, 2001; Sellick, 2004); self-esteem (Jang, Bai, Hu, & Wu, 2009; Jang & Wu, 2006); or ego enhancement (Jang & Wu, 2006; Sangpikul, 2008b). For example, Jang and Wu (2006) found ego enhancement and self-esteem to be significant motivational factors among Taiwanese seniors.

Other motivations that have been reported in the literature on senior tourism include to seek special events/shopping/food (Baloglu & Shoemaker, 2001; Jang & Wu, 2006; Norman et al., 2001) and travel opportunities while alive (Tiago et al., 2016; Ward, 2014); self-actualization (Baloglu & Shoemaker, 2001; Hsu et al., 2007; Huang & Tsai, 2003), nostalgia or reflection (Hsu et al., 2007; Muller & O'Cass, 2001; Sellick, 2004), and religion/spirituality (Chen & Gassner, 2012; Hsu & Kang, 2009; Huang & Tsai, 2003; Musa & Sim, 2010; Ward, 2014).

As illustrated by the aforementioned wide range of senior tourism research studies, a comprehensive model for exploring the motivations of senior tourists is unavailable. The lack of a comprehensive understanding of the senior tourist market stems from the absence of a framework to capture the diverse constructs that constitute and influence seniors decisions to travel and the associated preferences for those travel trips. On the one hand, existing theoretical frameworks are limited in explaining the motivations of senior tourists (Otoo & Kim, 2020). On the other hand, this research takes advantage of decades of evolving senior tourist motivation research and, thus, accounts for fluctuating senior tourist demand within contemporary times

(Park et al., 2019). These *a priori* resources are vital to the scale development process; albeit often neglected in scale development efforts (Choe & Kim, 2019; Hinkin, 1998).

Method

This study followed a rigorous and systematic approach to scale development, advanced in the literature and applied in previous studies (Chen, Zhao, & Huang, 2019; Choe & Kim, 2019; DeVellis 2017; Hinkin 1998; Otoo, Kim, & Choi, 2021). The selection of data to include cut across qualitative, quantitative, and descriptive studies, with careful content review to create, select, and summarize items for further analysis. The purpose was to extract potentially useful and relevant items and/or garner new ones (DeVellis, 2017). Most motivation studies of senior tourists adopt previously used items without verification processes in scale development, such as various validity or reliability checks. This research is significant in delivering an understanding of the underlying dimensional nature of senior travel motivations.

Specification of definitions and dimensions of the construct

As Figure 1 demonstrates a multi-step procedure was applied based on previous studies on scale development (Choe & Kim, 2019; Churchill, 1979; DeVellis, 2017; Hinkin, 1998; Hung & Petrick, 2010; Netemeyer, Bearden, & Sharma, 2003). A content review of previous studies was undertaken to extract items for this research. The number of items were voluminous and therefore merged on the basis of common meanings.

[Insert Figure 1 here]

Generation of pool of items and expert review

First, a comprehensive list of items comprising multifaceted senior travel motivations was generated on the basis of the content review of previous studies. Second, in-depth interviews as one qualitative research approach were undertaken to ensure that the items represented senior motivations to travel overseas. This was an appropriate way to secure both content validity and face validity because this process helps choose representative items which belong to *a priori* domain. The interviewees were selected as "persons who can offer some ideas and insights into the phenomenon" (Churchill 1979, p. 67). Ten seniors with overseas travel experiences within the past three years were invited to assess whether the 124 motivation items derived from the literature were appropriate for content validity. A reduced pool of 94 items, which received 6 or higher on a 10-point Likert-type scale, were selected. Then, three experts on senior travel were invited to verify the *a priori* dimensionality of the construct. This method was satisfactory to warrant construct validity and to ensure external validity.

Pre-test of items

A pretest was conducted using 50 international doctoral students majoring in tourism to ensure clarity of wording and the allocation of items into *a priori* domains. The purpose of this process was to check the content validity of the measurement items once more with a large sample (Perneger et al., 2015) and to improve the measurement items for conciseness and clarity. The doctoral students had some overseas travel experience as tourists. They were likewise familiar with the scale development process and gave insightful inputs in terms of content validity to ensure that sentences were properly structured.

The number of items was downsized from 94 to 85 after redundant items were deleted. The domain specifying "socialization" comprised 13 items, and "ego and self-esteem" consisted

of six. The remaining items included "escaping" (9 items), "nature and culture" (8 items), "knowledge seeking" (6 items), "mental and physical wellbeing" (6 items), "rest and relaxation" (4 items), "travel opportunity" (4 items), "quality and specification" (4 items), "novelty/exploration" (11 items), "hedonism" (5 items), "reflection and self-experience" (6 items), and "nostalgia" (5 items).

Pilot test

The 85 newly-generated items were tested on respondents for the pilot. The pilot study was conducted by using an online panel of 100 participants drawn by an online panel survey company based in the United States. The respondents were requested to answer two screening questions as to whether they were currently 55 years old or older, and had traveled overseas in the past two years. Those who passed the screening process were characterized as follows. A total of 60% of the respondents were 60 years old or older, and 57% were females. Approximately 66% of the respondents were married, and nearly half had obtained a college-level education. In terms of occupation, 27.8% were company employees or retired. Regarding annual household income, the highest percentage (29.4%) was between US $20,000 and $39,999.

An exploratory factor analysis (EFA) using the principal axis factoring factor extraction and Promax rotation methods was employed. Principal axis factoring is suitable in seeking latent constructs, rather than simply reducing the data (Hair, Black, Babin & Anderson, 2010). Since this study was interested in the dimensionality of the construct, this extraction method was applied. As one of the oblique methods Promax is the best fit in the case that factors are correlated unlike orthogonal rotation methods (Tabachnick & Fidell, 2001). As a consequence,

now that senior motivation items show a high correlations as psychological items as exhibited in Table 5, this study adopted Promax.

Communalities for each item ranged from 0.41 to 0.83, thereby explaining 41% to 83% of the variance accounted for by the extracted factors. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy of 0.859 and Bartlett's test of sphericity ($\chi^2 = 5282.48$) that was significant at the 0.001 level supporting the factorability of the motivational scale (Tabachnick & Fidell 2001). Only factors with eigenvalues of 1.0 or higher were retained (*ibid*). Eight factors with eigenvalues greater than 1.0 were retained. Their factor loadings that ranged from 0.38 to 0.96 were satisfactory with Stevens' (2002) recommendation of 0.32 or higher. Cronbach's alpha values for each dimension ranged from 0.81 to 0.91, which met Nunnally's (1978) criterion. Thus, these dimensions confirmed the internal consistency among the items in each domain. Six items were removed given their failure to meet the criteria for factor analysis, including "to interact with others," "to be with the opposite sex," "to be alone," "to enjoy a sport I like," "to enjoy a place where I have always hoped to go," "to enjoy a place I have never been," and "to enjoy a health spa."

Main survey

An online panel data collection company was employed to conduct the data collection, with specific instructions pertaining to the screening criteria. The data collection method was cost-advantageous, selected targeted samples within a short period, and ensured minimal data entry errors (Van Selm & Jankowski, 2006). A minimum sample size of 500 was selected for the main survey study because this size enhanced the suitability of the data for cross-validation (Carneiro et al., 2013; González, Rodríguez, Miranda, & Cervantes, 2009; Otoo & Kim, 2020).

The screening criteria used for the main survey were: (1) aged 55 years or older; (2) had undertaken overseas travel in the past three years; and (3) was a citizen of the United States or Canada. Although the number of respondents was originally 600, only 532 were usable for analysis after cases with insincere or missing values were deleted.

Findings

Demographic and travel-related profiles

The respondents were between the ages of 60 and 64 (45.6%) years, females (60.3%), married (60.7%), and college graduates (70.1%). In terms of occupation, they were retirees (39.1%), company workers (29.5%), or self-employed (14.1%). The highest household income-earning percentage was observed to be between US $20,000-39,999 (24.1%) and $40,000-59,999 (21.1%).

Regarding the respondents' travel-related features, 47.9% preferred a 7- to 10-hour flight to a destination. Approximately 52% favored to spend nine nights or more when traveling overseas. A large proportion of the respondents (71.6%) selected mid-priced accommodations during overseas travels. Nearly half (49.8%) showed a preference for traveling with their partners. Concerning travel arrangements, 45.5% opted to make their own. For future trips, 73.3% indicated positive future intentions for overseas travel, while 79.4% would favorably recommend senior travel, and 83.1% expressed interest in future overseas senior travel. On preferred tourism types, 25% preferred health tourism, and 42.4% cruise tourism. Approximately 88% indicated a preference for heritage tourism and nature-based sites.

EFA of measurement model (calibration sample)

Given that most scale development studies are "one-shot" that do not involve cross-validation, randomly splitting large data sets into two halves to mirror cross-validations for linear regressions is advised (Cudeck & Browne, 1983). The replication of factor solutions ensures the reliability of the results (DeVellis, 2017). The data were randomly split into two halves comprising a calibration sample (n = 266) and a validation sample (n = 266) by using the SPSS routine random case selection.

An EFA using principal axis factor extraction and Promax rotation methods was initially conducted on the calibration sample to identify the factor structure of the data. A total of 43 items failed to meet the inclusion criteria, including communalities of 0.4 or above, and factor loadings of 0.32 or higher (Stevens, 2002; Tabachnick & Fidell, 2001). The results of running EFA using 38 items produced the factor structure, as depicted in Table 2. Communalities consisted of 0.40 to 0.81, thereby indicating that 40% to 81% of the variance was accounted for by the extracted factors. The factor model accounted for 70% of the variance for senior travel motivations. The KMO value of 0.89 and Bartlett's test ($\chi^2 = 6804.45$, $df = 703$, $p = 0.000$) indicated that high factorability of the data was achieved. Cronbach's alphas ranging from 0.78 to 0.91 indicated internal consistency. The eight domains extracted were "experiencing culture/nature," "seeking knowledge/learning," "achieving a sense of socialization," "seeking self-esteem," "escaping," "seeking a once-in-a-lifetime experience," "seeking nostalgia," and "seeking time with family."

[Insert Table 2 here]

Confirmatory factor analysis (CFA) of measurement models (validation sample and entire sample)

The eight-factor structure with 38 items was tested by using the 266-case validation sample. As a result, the normed chi-square was within the acceptable threshold (χ^2/df =1.92). In addition, the confirmatory fit index (CFI) (0.91), the Tucker–Lewis index (TLI) (0.90), the root mean square error of approximation (RMSEA) (0.06), and the goodness of fit index (GFI) (0.80) all revealed a generally acceptable model fit for the measurement model (Browne & Cudeck, 1993). The CFA was conducted for the entire dataset (n = 532) to verify the factor structure of the extracted domains identified in the model. The result showed evidence for the fit indices used for this sample, except for the chi-square (χ^2 =1721.65, p = 0.000). The normed chi-square was within the acceptable threshold (χ^2/df = 2.77). In addition, the CFI (0.91), the TLI (0.90), the RMSEA (0.06), and the GFI (0.84) all revealed a generally acceptable model fit for the measurement model when the entire dataset was considered.

Convergent validity

For convergent validity, the standardized factor loadings of the eight dimensions ranged from 0.40 to 0.95 (Table 3). For construct validity, the average variance extracted (AVE) values ranged from 0.49 to 0.68, which were close to or exceeded the criterion AVE value of 0.5 (Hair et al., 2010). Given that the composite construct reliability (CCR) values ranged from 0.80 to 0.92 and exceeded the minimum standard of 0.70 (Bagozzi & Yi, 1988), each research construct was internally consistent (Hair et al., 2010).

[Insert Tables 3 here]

Discriminant validity

Two different approaches were used to ensure the discriminant validity of the measurement. First, four alternative models using 38 senior motivation items were examined to confirm the best method to ascertain the associations between the latent constructs and the domains and/or items in the scale. Figure 2 shows that Model 1 specified a model of first-order factors with one factor, whereas Model 2 specified a model of first-order factor with eight factors. Model 3 illustrated how one second-order factor accounted for the covariance among the eight first-order latent variables. Model 4 indicated two second-order factors on the basis of the hierarchical characteristics of the push–pull motivation theory (Dann, 1977). The results of the analysis of the fit indices in Table 4 show that Model 2 demonstrated the best overall fit. Consequently, the latent factor structure in Model 2, depicted by a model of the first-order factor with eight factors, was the best fit to conceptualize senior travel motivations.

Secondly, Henseler, Ringle, and Sarstedt (2015) demonstrated a method to test discriminant validity using a Monte Carlo simulation since neither the Fornell-Larcker criterion nor the assessment of cross-loadings allow users of variance-based models to determine the discriminant validity of measures. Therefore, this study identified the heterotrait-monotrait ratio of correlations (HTMT) to perform a discriminant validity assessment. As indicated in Table 5, all HTMT values were lower than the 0.85 threshold and thus discriminant validity was established (Henseler et al., 2015).

[Insert Figure 2 and Tables 4 and 5 here]

Nomological validity

Nomological validity examines the ability of empirical data to support the theoretical relationship between the measures of embedded constructs and their antecedents (Hair et al.,

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2010; Netemeyer et al., 2003). The domains of the senior travel motivation scale were

intercorrelated (Table 6). The presence of strong correlations that were significant at the 0.01

level supported the theoretical relationship among the constructs and indicated nomological

validity.

[Insert Table 6 here]

Factor invariance test

A metric invariance analysis was conducted by comparing identical factor loadings

across the sub-samples to further cross-validate the scale (Kim, Ritchie, & McCormick, 2012).

Three metric invariance tests using CFA were conducted, as shown in Table 7. The samples

consisted of retirement status (retired and non-retired seniors), age cohort (between the ages of

55 to 60 years and above 60 years), and an equal random split of the data. To ensure metric

invariance, several important indices of model fit, including CFI, RMSEA, and TLI, were

compared. The overall indices indicated that the groups were different at the model level. To

provide additional evidence for the invariance test, the three groups were compared using a chi-

square difference test. The chi-square difference between the unconstrained and full metric

invariance model was found to be non-significant for retirement status ($\Delta\chi^2(38) = 45.05$, $p =$

0.20), age cohort (($\Delta\chi^2 (38) = 47.15$, $p = 0.15$), and random split samples (($\Delta\chi^2 (30) = 36.53$, $p =$

0.19). Thus, the results demonstrated that the measurement model was invariant for the three

groups, thereby confirming the validity of the eight-dimensional structure of the senior

motivation scale.

[Insert Table 7 here]

Predictive validity

The next step was to assess the predictive validity of the proposed senior travel motivation scale. The results of the correlation analyses between the eight senior travel motivation scales and the eight dependent variables demonstrated a medium to high correlation and confirmed predictive validity. A series of multiple regression analyses was conducted to identify incremental predictive validity. A concern of multicollinearity arises when VIF values exceed 4.0 or when tolerance levels are lower than 0.2 (Hair et al., 2010). The diagnosis showed an alleviation of the concern of multicollinearity as VIF scores were lower than 3 and tolerance levels were higher than 0.35. The models presented in Table 8 depict adjusted R^2 values of 0.16 to 0.37, thus indicating an explanatory power between 16% and 37% for each dependent variable via the eight independent variables. As Table 8 shows, the results indicated an acceptable level of predictive validity.

[Insert Table 8 here]

Discussion and implications

The most significant findings of this research were as follows. The eight-factor structure to specify the underlying dimensionality of senior overseas travel motivations was ascertained through conducting validity analyses, including convergent, discriminant, nomological, and predictive validities. The domain labeled "escaping" showed the highest mean score (grand mean = 4.6). This finding was consistent with those of previous studies (Boksberger & Laesser, 2009; Hsu & Kang, 2009; Kim et al., 2003) that seniors are highly motivated to escape daily routines or familiar environments. A point of interest was that "escaping" among seniors was predicted to influence their preference for health and cruise tourism and visits to heritage sites.

Hence, the development of advertisements and promotional materials for seniors with escape motivations is suggested for businesses including cruise lines, health resorts and spas, and heritage sites.

The motivation for "experiencing culture/nature" received the second highest mean score (grand mean = 4.44). The great desire for "experiencing culture/nature" as a senior motivation was consistent with the results of previous studies (Otoo & Kim, 2020; Patuelli & Nijkamp, 2016; Sangpikul, 2008a). In terms of destination attractiveness, numerous destinations, including developing ones, are rich in natural and cultural heritage that can be marketed to seniors.

A high score for the "seeking knowledge/learning" motivation supported the assertion that seniors look for enlightenment through overseas travel (grand mean = 4.10). The importance of this motivation was consistent with previous studies on senior tourism (Lu et al., 2016; Ryu et al., 2015; Sie et al., 2016). According to the results from the regression analyses, the "knowledge/learning" motivation was a significant explanatory variable in predicting interest in engaging in overseas travel, recommendations for undertaking overseas travel, and preference for historical and cultural sites. Travel agencies and tourism destination marketers can satisfy the learning desires of senior travelers by offering educational tourism packages for the senior market.

"Seeking a once-in-a-lifetime experience" was highly rated as a motivation for leisure travel among the respondents (grand mean = 3.87). For early seniors, the commencement of retirement represented freedom from years of service and a once-in-a-lifetime opportunity to catch up with past youthful years (Muller & O'Cass, 2001; Sangpikul, 2008a). Late seniors want to witness unforgettable experiences through overseas travel; thus, they seek lost connections

with ancestral homelands (Hsu et al., 2007; Shuval, 2000). This motivation was linked with other motivations such as seeking time with family (grand mean = 3.60).

The family-oriented motivation dimension represented a new dimension because previous studies did not adequately highlight its importance among seniors. The elderly experience mental and psychological challenges. Therefore, seeking time with family, including spouses, children, and grandchildren, can be an avenue to promote quality of life through travel (Hsu & Kang 2009; Muller & O'Cass, 2001). A practical suggestion for tourism planners is to promote overseas travel to seniors and their families. As noted by Kim et al. (2015), overall wellbeing in later life is influenced by the benefits of family travel.

"Achieving a sense of socialization" (grand mean = 3.56) was among the important motivation dimensions reported in some previous studies (Carneiro et al., 2013; Huang & Tsai, 2003). This was similar to that of most previous studies on motivation, regardless of travel cohorts or sociodemographic segments. Retired or unemployed seniors feel especially lonely; thus, overseas travel can offer opportunities to socialize with acquaintances or with new people. The lowest response rating for senior travel motivation was "seeking self-esteem" (grand mean = 2.97). The low rating for self-esteem was inconsistent with the results of previous studies in terms of the importance of other dimensions (Jang et al., 2009; Jang & Wu, 2006). Special types of tourism, including shopping (Wong & Wan, 2013), food tasting (Choe & Kim, 2019), or wildlife watching (Curtin, 2010) were motivated by self-esteem. This dimension indicated the need to develop special-interest travel programs for seniors, such as cruise tourism or travel to adventurous natural areas, including Africa or the Antarctic, to stimulate the concept of being "young at heart" (Muller & O'Cass, 2001).

Seniors are motivated by nostalgic desires attributed to immigration, racial or ethnic features, memories of temporarily living in a foreign country, and previous overseas travel experiences (Kim, Kim, & Petrick, 2019). However, in the current research, "seeking nostalgia" (grand mean = 2.66) had the lowest mean score in the context of overseas travel motivations, despite the reminiscence motivation of seniors saliently discovered in the context of domestic travel (Hsu et al., 2007; Kim & Kim, 2018). Nonetheless, this motivation was important in the diaspora of senior travelers (Sellick, 2004; Shuval, 2000; Sim & Leith, 2013). Thus, tourism stakeholders should acknowledge that senior motivations are embedded in their desire to visit places with childhood memories or where historical milestones occurred, as allowed by their mobility (Hsu et al., 2007; Muller & O'Cass, 2001). Figure 3 presents a summary of this study.

[Insert Figure 3 here]

Juxtaposing the motivational constructs identified and explicated for senior tourists in this research, some commonalities were observed as well as differences in motivational schemes. First, travel motivation sets such as the motivation for socialization and esteem are as notable among seniors as they are for other travel segments such as food (Su, Johnson, & O'Mahony, 2020) and event tourists (Yan & Halpenny, 2019). However, certain motivation sets, including the desire to relive the past (nostalgia), seem to be more germane to seniors as opposed to younger generations. Expectedly, seniors associate personal meaning to travel as a result of some past events or places or lived experiences (Carneiro et al., 2013; Chen & Gassner, 2012; Huang & Tsai, 2003; Norman et al., 2001). Lieux, Weaver and McCleary (1994), for example, found that German seniors were about six times more likely to repeat their visits than younger cohorts. The motivation for seeking time with family included spending time with grandchildren and adult children (Cleaver et al., 1999; Hsu & Kang 2009; Muller & O'Cass, 2001). Seeking a once-

in-a-lifetime experience was also relevant to seniors as travel in their later years presents the opportunity to take advantage of good health (Chen & Gassner, 2012; Boksberger & Laesser, 2009) or to relive youthful dreams.

Theoretical and practical contributions

The current study was designed to identify the primary factor structure of senior travel motivations and its dimensionality. In this regard, it contributes to the literature by identifying an eight-dimension factor structure for overseas senior travel motivation. The study indicates that certain motivation themes contribute more to senior travel decisions. These themes include escaping, experiencing culture/nature, and seeking knowledge/learning. For the dimensional theme of escaping, for example, highlighting off-season features such as uncrowded beaches and serene environments provides a solution to seasonality-related problems as noted by Prayag (2012).

The study also aimed to develop a reliable and valid senior tourist motivation scale. The factor structure was confirmed at both the exploratory and confirmatory stages. While many studies on senior travel motivation adopt a traditional push-pull factor model (Otoo & Kim, 2020), this study was an initial attempt to develop a validated multidimensional scale.

The study also aimed to determine the predictive power of the new scale in explaining differences in future travel behavior and preferences. The results provide practical implications for tourism businesses that value seniors as customers, such as hotels, resorts, travel agencies, senior towns, restaurants, cruise lines, theme parks, transportation, and shopping. Understanding senior motivations is critical to developing products and programs in the increasingly global market. For example, educational tour packages, including tours to museums and historical monuments, can be promoted to seniors who have an interest in knowledge-seeking. Given that

the present research found a high level of socialization motivation, a travel program with childhood or college friends could help seniors recollect memories and be rejuvenated by gathering with old friends.

Based on the findings, marketers should develop promotional messages stressing once-in-a-lifetime experiences. For example, a promotional message such as "reward yourself for a lifetime of devotion and sacrifice with a tour of natural, cultural, and historic sites" can stimulate overseas travel motivations. The findings addressed seniors who were motivated by self-esteem in terms of their preference for health and cruise tourism. Therefore, tourism programs such as cruises, special food tourism, and spa tourism, which can arouse the interest of seniors keen to pursue a healthy lifestyle their golden years, can be marketed. The results also confirm that knowledge and learning are important to modern seniors. This is contrary to notions that seniors may not like challenges because of physical limitations (Fleischer & Pizam 2002; Gao & Kerstetter, 2016; Hsu & Kang, 2009) and thus it might be assumed that they may not want to learn new things. However, this research found that the elderly sought expansion of knowledge and intellectual curiosity by engaging in overseas travel. Therefore, the development of learning or educational programs, including foreign operas/performances in exotic tourist places, tourism to visit film destinations, or anthropological/historic study tours, may help seniors to enjoy their later years.

A deeper consideration demonstrated across the various tourism preferences is that there was a generally low preference for tourism types across the motivation for culture/nature. The implication is that more careful examination of the motivations of senior tourists is needed in that they are more likely to travel for cultural or nature-based tourism types as a once-in-a-lifetime experience rather than for the type of tourism itself. For example, a senior tourist may

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prefer to travel to the Grand Canyon as a once-in-a-lifetime experience as opposed to a repeat visit. To appeal to such senior tourists, a once-in-a-lifetime experience campaign may be more effective than the natural or cultural attributes of the destination itself.

Limitations and Concluding Summary

The first limitation was the sample of individuals who are 55 years old or older. However, the definitions of seniors vary depending on scholar discretion and country. Thus, the results of such studies should be compared with different senior segments owing to the perceived overseas travel constraints of seniors, namely, early and late seniors and for different destinations. Second, senior travel motivations can vary across sociodemographic, economic, and personality profiles. Thus, future research should identify how motivations vary depending on personal characteristics. Third, motivations can be offset by the valence of perceived constraints because constraints directly influence seniors' travel decisions. That is, although seniors are highly motivated to engage in overseas travel, they cannot proceed with such endeavors owing to inhibitors such as health, travel costs, travel companions, and scheduling conflicts. An AARP survey conducted in 2018 found that work, health, and money were the most significant barriers to Baby Boomers' travel (Gelfeld, 2018). Future research should identify senior travel constraints as well as motivations.

As a concluding summary, this study identified the eight-factor structure via a series of validity analyses. The internal consistency of the data was assured by examining reliability alphas for each of the eight domains. A comparison of the four alternative models demonstrated that a model of first-order factor with eight factors was the best fit for the senior travel motivation scale. Invariance tests of the three sub-samples supported the full metric invariance of

the model, thereby demonstrating that the underlying construct was measured across the groups.

The predictive explanatory power of the senior motivation domains was further demonstrated across the eight dependent variables. There is, however, the caveat that although the scale demonstrated some predictive power, it requires further exploration as certain variables did not demonstrate adequate predictive power.

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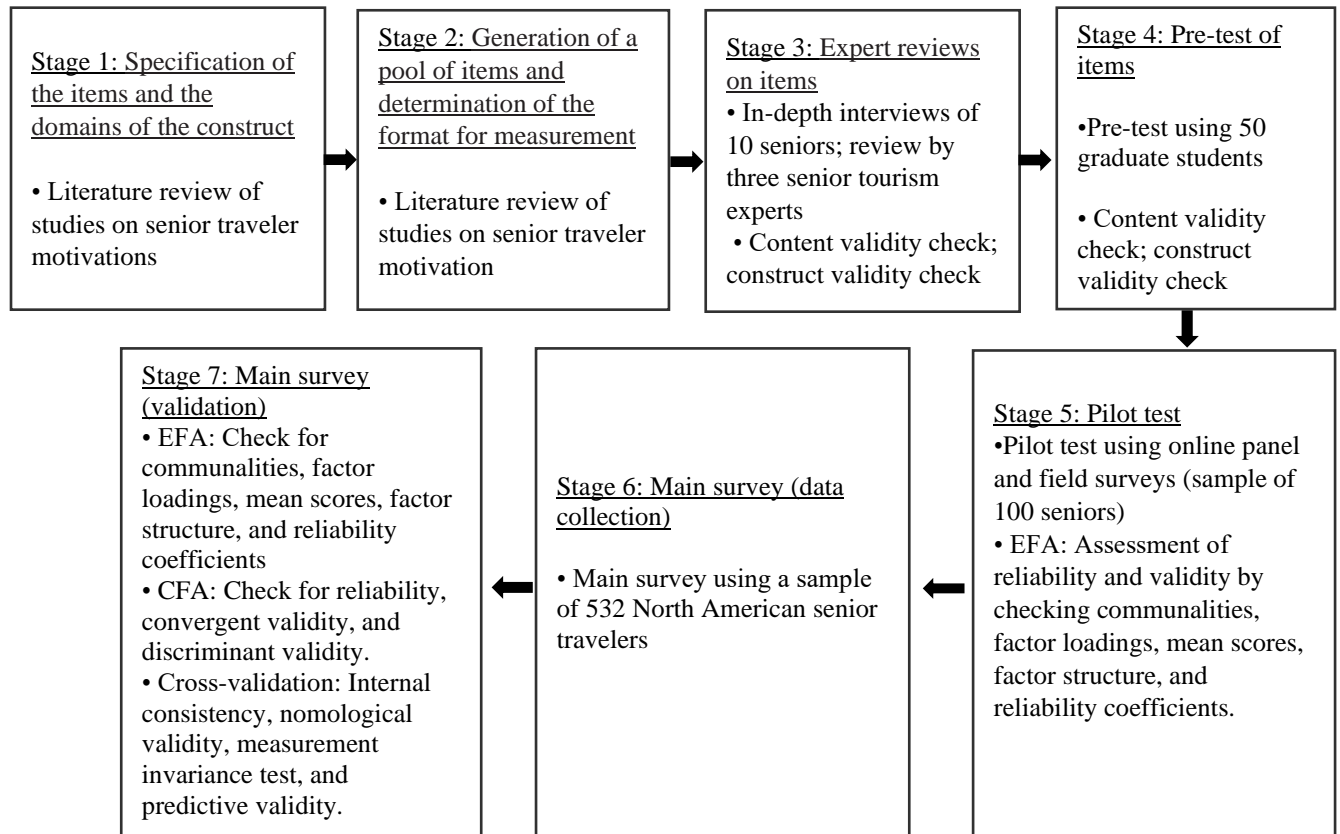
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Figure 1. Procedures to develop senior overseas travel motivation scale

Stage 1: Specification of the items and the domains of the construct

• Literature review of studies on senior traveler motivations

Stage 2: Generation of a pool of items and determination of the format for measurement

• Literature review of studies on senior traveler motivation

Stage 3: Expert reviews on items
• In-depth interviews of 10 seniors; review by three senior tourism experts
 • Content validity check; construct validity check

Stage 4: Pre-test of items

•Pre-test using 50 graduate students

• Content validity check; construct validity check

Stage 7: Main survey (validation)
• EFA: Check for communalities, factor loadings, mean scores, factor structure, and reliability coefficients
• CFA: Check for reliability, convergent validity, and discriminant validity.
• Cross-validation: Internal consistency, nomological validity, measurement invariance test, and predictive validity.

Stage 6: Main survey (data collection)

• Main survey using a sample of 532 North American senior travelers

Stage 5: Pilot test
•Pilot test using online panel and field surveys (sample of 100 seniors)
• EFA: Assessment of reliability and validity by checking communalities, factor loadings, mean scores, factor structure, and reliability coefficients.

Model 1: First-order factor with one factor

Model 2: First-order factor with eight factors

Model 3: One second-order factor

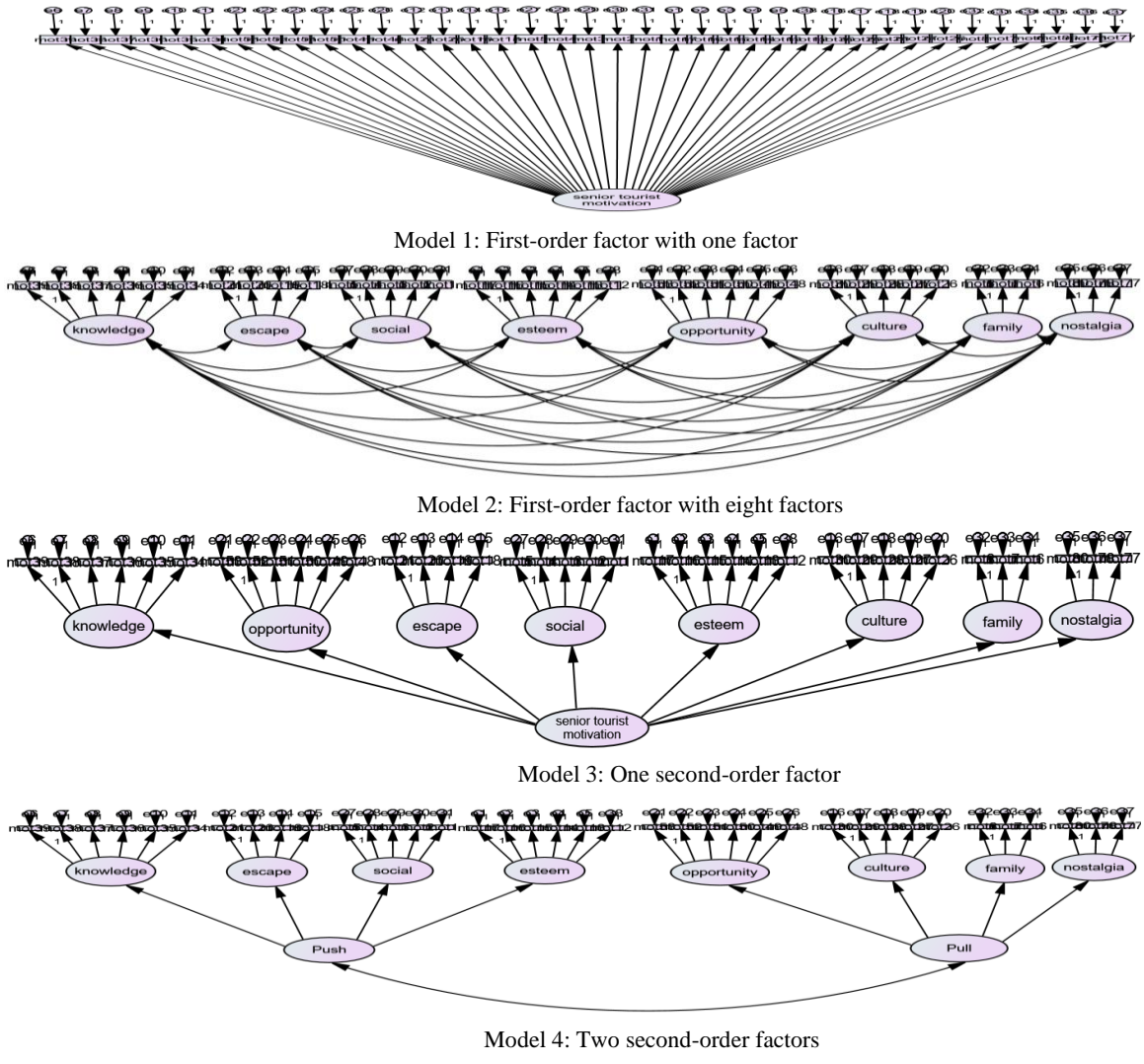Model 4: Two second-order factors

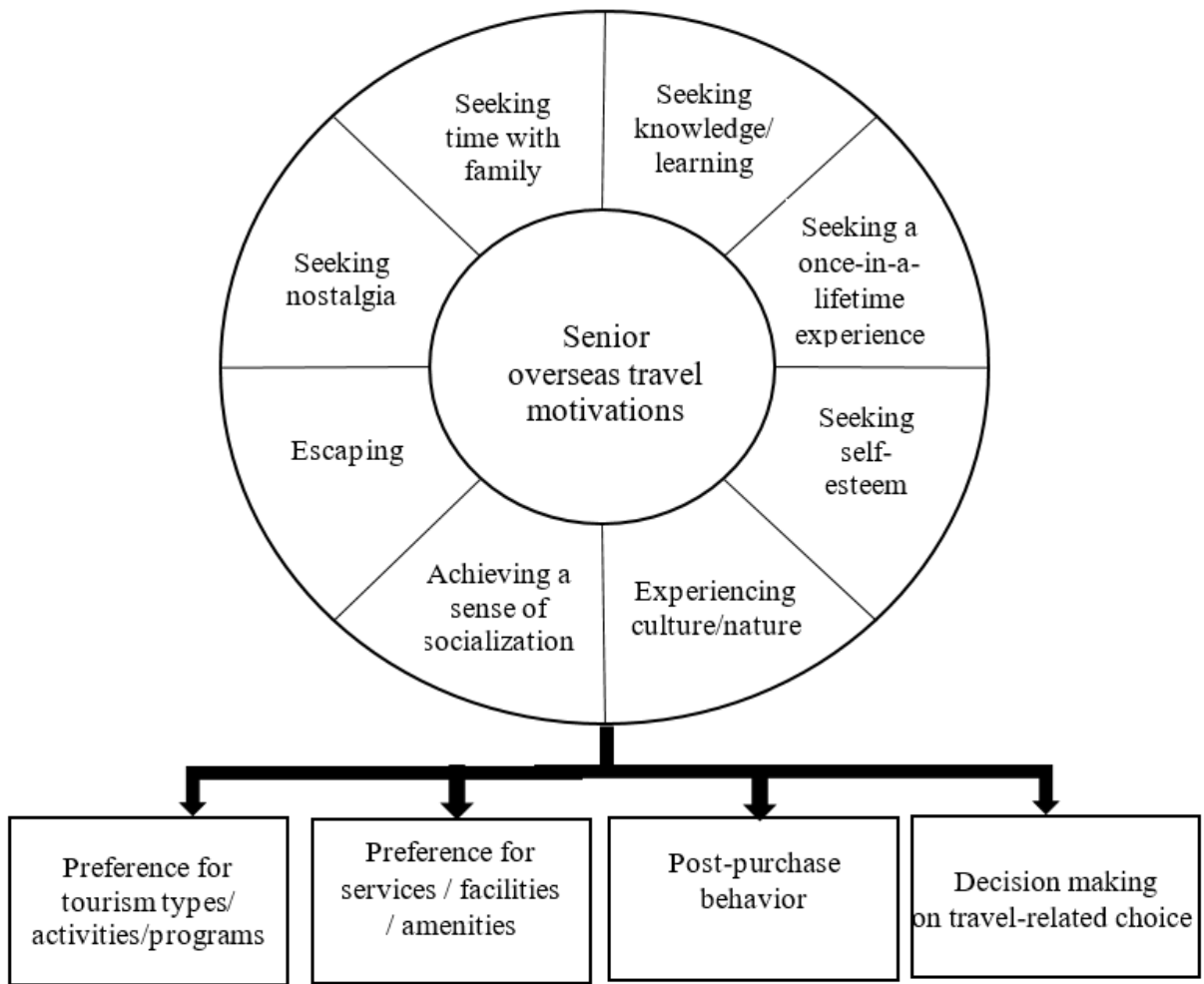Figure 2. Model comparison of senior overseas travel motivation scale

Figure 3. Roles of senior overseas travel motivations

Table 1. Definition of senior travel motivation domains

Domains	Definitions	Central themes	References
Socialization	Seeking to meet and connect with people beyond the normal circle of acquaintance	Family and friends, create contact, interaction/ socialization, share interest and values, companionship, sense of community	3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34
Ego/esteem	A desire to travel to achieve high standing in the eyes of self or others	Pride of visit, tell others, esteem, travel skills development, social recognition, sense of privilege, ego enhancement, pride and patriotism	2, 3, 5, 8, 9, 10, 12, 13, 15, 17, 19, 26, 27, 34
Escape	Seeking to depart from beyond the everyday routine and environment	Escape a routine or obligation, escape stress of boredom, travel for a diversion, feel safe, escape physical environment	2, 3, 5, 6, 7, 18, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31
Nature & culture	Seeking to be in a natural, cultural or scenic environment of other places	Culture, nature, event/festival, heritage, weather, manmade attractions	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
Knowledge/ Learning	Seeking to gain a new learning experience, skills or information	Intellectual enrichment, learning skill, information, learning experience	3, 4, 6, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 31
Mental & physical wellbeing	Seeking to preserve or augment a mental or physical health through travel	Sports/exercise, challenge & stimulation, recovery, mental & physical wellbeing	1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 15, 16, 18, 19, 20, 21, 27, 30, 31, 32
Rest & relaxation	Seeking travel to reduce physical or mental tension, peace	Rest and relaxation, doing nothing/slow down, comfort	2, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 24, 25, 26, 27, 28, 30, 31
Suitable travel opportunity	Seeking travel on the condition of conducive factors including money and prevailing health	Value for money, recreation opportunity, price/discount, health opportunity, opportunity of time	1 ,2, 5, 6, 9, 10, 11, 13, 15, 17, 18, 24, 26, 28, 29, 30, 31, 33
Novelty/ exploration	Seeking travel for the sake of newness or satisfaction of the unknown	Exploration of curiosity, newness, adventure, exoticness, and nativeness	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 34
Hedonism/ entertainment	Seeking pleasure	Entertainment, fun, pleasure, excitement	2, 3, 4, 5, 6, 8, 12, 13, 19, 20, 23, 24, 30
Quality/value	Seeking travel with high standards	Shopping facilities, accommodation facilities, culinary services, luxury	1, 2, 3, 5, 6, 9, 10, 12, 13, 15, 16, 19, 20, 23, 24, 26, 28, 32, 33
Self-actualization	Seeking travel for assurance or achievement	Self-fulfillment, self-enrichment, reward self, self-treatment, spiritual enrichment, self-discovery	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 23, 26, 29
Nostalgia	Tracing the past and memory	Family roots, visit old friends, re-live old memories	3, 4, 6, 7, 9, 10, 13, 19, 21, 23
Spirituality	Seeking a sense of spiritual or psyche awareness	Spirituality, pilgrimage	6, 8, 14, 20, 21

References 1. Baloglu & Shoemaker (2001); 2. Boksberger & Laesser (2009); 3. Carneiro et al. (2013); 4. Cleaver et al. (1999); 5. Horneman et al. (2002); 6. Hsu & Kang (2009); 7. Hsu et al. (2007); 8. Huang & Tsai (2003); 9. Jang & Wu (2006); 10. Jang et al. (2009); 11. Kim et al. (2003); 12. Lu et al. (2016); 13. Muller & O'Cass (2001); 14. Musa & Sim (2010); 15. Norman et al. (2001); 16. Ryu et al. (2015); 17. Sangpikul (2008a); 18. Tiago et al. (2016); 19. Wang et al. (2017); 20. Ward (2014); 21. Chen & Gassner (2012); 22. Kim et al. (1996); 23. Sellick (2004); 24. You & O'leary (1999); 25. Lieux et al. (1994); 26. Prayag (2012); 27. Shoemaker (2000); 28. Alén et al. (2017); 29. Viallon (2012); 30. Eusébio et al. (2017); 31. González et al. (2009); 32. Alén et al. (2014); 33. González et al. (2017); 34. Sangpikul (2008b).

Table 2. EFA results on senior overseas travel motivations (calibration sample)

Domains and items	Communalities	Factor loadings	Mean
Domain 1: *Experiencing culture/nature* (eigenvalue = 4.70; variance explained = 12.37; Cronbach's α= .91; grand mean = 4.44)			
To see historical sites	0.80	0.96	4.46
To experience cultural sites	0.78	0.83	4.47
To experience beautiful scenery	0.74	0.79	4.53
To experience natural sites	0.74	0.80	4.38
To experience cultures different from mine	0.68	0.47	4.39
Domain 2: *Seeking knowledge/learning* (eigenvalue = 11.21; variance explained = 29.50; Cronbach's α = .91; grand mean = 4.10)			
To expand my existing knowledge	0.81	0.86	4.18
To learn new things and enrich my life	0.81	0.72	3.75
To gain a learning experience	0.79	0.78	4.25
To seek intellectual enrichment	0.67	0.88	4.03
To broaden my views	0.64	0.66	4.08
To keep myself well informed	0.62	0.76	4.29
Domain 3: *Achieving a sense of socialization* (eigenvalue = 2.72; variance explained = 7.15; Cronbach's α = .86; grand mean = 3.56)			
To make contact with new people	0.81	0.86	4.18
To feel connected with other people	0.81	0.72	3.75
To share my thoughts and feelings with others	0.79	0.78	4.25
To be with people who share my interests	0.67	0.88	4.03
To see and meet different people	0.62	0.76	4.29
Domain 4: *Seeking self-esteem* (eigenvalue = 2.13; variance explained = 5.62; Cronbach's α= .84; grand mean = 2.97)			
To gain the respect from others	0.72	0.68	2.39
To gain self-esteem	0.67	0.61	2.53
To feel privileged or important	0.55	0.54	2.40
To tell others about my travel experiences	0.54	0.74	3.04
To gain a sense of achievement or accomplishment	0.49	0.67	3.71
To enjoy a place that others value and appreciate	0.42	0.61	3.75
Domain 5: *Escaping* (eigenvalue = 1.75; variance explained = 4.60; Cronbach's α = .83; grand mean = 3.29)			
To escape the stress of daily life	0.70	0.65	3.63
To escape my routine	0.70	0.56	3.83
To get away from doing a lot of thinking	0.63	0.81	2.79
To get away from crowds (people or traffic).	0.60	0.82	2.93
Domain 6: *Seeking a once-in-a-lifetime experience* (eigenvalue = 1.67, variance explained = 4.12; Cronbach's α = .85; grand mean = 3.87)			
To enjoy my time while I can	0.72	0.90	4.04
To make the most of my free time while I can	0.67	0.74	4.01
To feel refreshed	0.61	0.47	3.97
To give myself a treat	0.61	0.51	4.11
It is a good way to spend my money while I can	0.54	0.63	3.59
To seek outdoor recreation opportunities while I can	0.49	0.36	3.50
Domain 7: *Seeking nostalgia* (eigenvalue = 1.31; variance explained = 3.43; Cronbach's α = .86; grand mean = 2.66)			
To remember times from my past	0.73	0.95	2.49
To meet old friends	0.71	0.82	2.44

To visit a place where I have memories	0.52	0.71	3.04
Domain 8: *Seeking time with family* (eigenvalue = 1.22; variance explained = 3.20; Cronbach's α = .78; grand mean = 3.60)			
To enjoy time with my family	0.66	0.90	3.74
To enjoy a family event	0.65	0.76	3.27
To be with my partner	0.41	0.54	3.78

Table 3. CFA results for senior overseas travel motivation scale (validation sample)

Domains and items	Standardized factor loading	Critical ratio	AVE	CCR
Domain 1: *Seeking knowledge/learning*				
To broaden my views	0.72			
To seek intellectual enrichment	0.77	20.79		
To gain a learning experience	0.85	18.56	0.65	0.92
To learn new things and enrich my life	0.89	19.51		
To expand my existing knowledge	0.85	19.38		
To keep myself well informed	0.73	15.96		
Domain 2: *Seeking a once-in-a-lifetime experience*				
To give myself a treat	0.69			
To enjoy my time while I can	0.79	18.06		
It is a good way to spend my money while I can	0.60	12.37	0.50	0.86
To seek outdoor recreation opportunities while I can	0.63	12.00		
To make the most of my free time while I can	0.79	15.70		
To feel refreshed	0.75	14.93		
Domain 3: *Seeking self-esteem*				
To feel privileged or important	0.76			
To gain a sense of achievement or accomplishment	0.54	12.09		
To enjoy a place that others value and appreciate	0.40	8.41	0.49	0.84
To tell others about my travel experience	0.68	15.51		
To gain respect from others	0.86	19.98		
To gain a sense of achievement	0.84	19.49		
Domain 4: *Experiencing culture/nature*				
To experience cultures different from mine	0.76			
To experience cultural sites	0.90	20.89		
To see historical sites	0.88	19.17	0.64	0.90
To experience natural sites	0.75	17.37		
To experience beautiful scenery	0.70	16.12		
Domain 5: *Achieving a sense of socialization*				
To be with people who share my interests	0.84			
To make contact with new people	0.61	12.11		
To share my thoughts and feelings with others	0.85	17.88	0.50	0.83
To feel connected with other people	0.69	13.42		
To see and meet different people	0.49	9.95		
Domain 6: *Escaping*				
To get away from doing a lot of thinking	0.56			
To get away from crowds	0.51	13.35	0.51	0.80
To escape my routine	0.83	12.99		
To escape the stress of daily life	0.89	13.18		
Domain 7: *Seeking nostalgia*				
To remember times from my past	0.89			
To meet old friends	0.85	22.86	0.68	0.87
To visit a place where I have memories	0.73	18.97		
Domain 8: *Seeking time with family*				
To enjoy a family event	0.79			
To enjoy time with my family	0.95	17.07	0.61	0.82
To be with my partner	0.57	13.27		

Table 4. Fit indices of models to measure dimensionality

Fit index	Model 1: First-order factor with one factor	Model 2: First-order factor with eight factors	Model 3: One second-factor	Model 4: Two second-order factors
χ^2	5964.55	1777.42	2219.53	2217.21
df	651	623	643	642
χ^2/df	9.16	2.85	3.45	3.45
GFI	0.52	0.83	0.78	0.78
AGFI	0.46	0.80	0.74	0.74
RMSEA	0.12	0.06	0.07	0.07
RMR	0.14	0.09	0.12	0.12
TLI	0.54	0.90	0.86	0.86
CFI	0.58	0.91	0.87	0.87
IFI	0.58	0.91	0.87	0.87
NFI	0.55	0.87	0.83	0.83

Table 5. Heterotrait-monotrait ratio of correlations

	F1	F2	F3	F4	F5	F6	F7	F8
F1	1							
F2	0.63	1						
F3	0.40	0.50	1					
F4	0.69	0.62	0.15	1				
F5	0.50	0.47	0.56	0.35	1			
F6	0.30	0.66	0.58	0.32	0.35	1		
F7	0.21	0.36	0.56	0.07	0.43	0.43	1	
F8	0.20	0.27	0.31	0.19	0.29	0.31	0.36	1

Note: F1 = seeking knowledge/learning, F2 = seeking a once-in-a-lifetime experience, F3 = seeking self-esteem, F4 = experiencing culture/nature, F5 = achieving a sense of socialization, F6 = escaping, F7 = seeking nostalgia, F8 = seeking time with family.

Table 6. Nomological validity of senior overseas travel motivation scale

	F1	F2	F3	F4	F5	F6	F7	F8
F1	1.0							
F2	0.55**	1.0						
F3	0.35**	0.43**	1.0					
F4	0.62**	0.54**	0.12**	1.0				
F5	0.45**	0.41**	0.49**	0.30**	1.0			
F6	0.26**	0.54**	0.48**	0.26**	0.30**	1.0		
F7	0.19**	0.32**	0.48**	0.06	0.38**	0.37**	1.0	
F8	0.17**	0.22**	0.26**	0.16**	0.25**	0.25**	0.29**	1.0

Note: F1 = seeking knowledge/learning, F2 = seeking a once-in-a-lifetime experience, F3 = seeking self-esteem, F4 = experiencing culture/nature, F5 = achieving a sense of socialization, F6 = escaping, F7 = seeking nostalgia, F8 = seeking time with family.

** $p < 0.01$.

Table 7. Fit indices of models for the measurement invariance test

	Measurement models					
	Retirement status (retired, n = 208; non-retired, n = 324)		Age cohort (between the ages of 55–60 years, n = 227; above 60 years old, n = 305)		Random split (first dataset, n = 266; second dataset, n = 266)	
Fit index	Unconstrained	Full metric invariance	Unconstrained	Full metric invariance	Unconstrained	Full metric invariance
χ^2	2686.29	2731.34	2644.94	2692.09	2675.97	2712.50
χ^2/df	2.16	2.13	2.12	2.10	2.15	2.13
df	1246	1284	1246	1284	1246	1276
RMSEA	0.05	0.05	0.05	0.05	0.05	0.05
RMR	0.09	0.10	0.09	0.10	0.09	0.10
TLI	0.87	0.88	0.88	0.88	0.87	0.88
CFI	0.89	0.89	0.89	0.89	0.89	0.89
IFI	0.89	0.89	0.89	0.89	0.89	0.89
NFI	0.81	0.81	0.81	0.81	0.81	0.81
Invariance	($\Delta\chi2(38) = 45.05$, p= .20)		(($\Delta\chi2 (38) = 47.15$, p= .15)		(($\Delta\chi2 (30) = 36.53$, p= .19)	

Table 8. Effect of senior overseas travel motivation on dependent variables

Senior motivation domains	Dependent variables			
	Interest to undertake overseas travel in next five years		Recommendation to undertake overseas travel	
	β	t-value	β	t-value
Seeking knowledge/learning	0.25***	3.97	.18**	2.80
Seeking a once-in-a-lifetime experience	−0.04	−.57	.15*	2.47
Seeking self-esteem	−0.05	−.75	.12*	1.99
Experiencing culture/nature	0.23***	3.51	.12	1.80
Achieving a sense of socialization	0.15**	2.95	.12*	2.37
Escaping	−0.01	−0.09	−.13*	−2.41
Seeking nostalgia	0.02	0.44	.06	1.04
Seeking time with family	−0.08	−1.73	−.01	−.26
	$F = 19.79$ ($p < 0.001$); Adjusted $R^2 = .22$		$F = 19.60$ ($p < .001$); Adjusted $R^2 = .22$	

Senior motivation domains	Intention to undertake overseas travel in the near future		Preference for health tourism	
	β	t-value	β	t-value
Seeking knowledge/learning	0.12	1.83	−.10	−1.48
Seeking a once-in-a-lifetime experience	0.04	0.63	−.03	−.54
Seeking self-esteem	−0.03	−0.48	.25***	3.94
Experiencing culture/nature	0.23**	3.34	.05	.78
Achieving a sense of socialization	0.14*	2.55	−.04	−.81
Escaping	−0.04	−0.61	.19**	3.36
Seeking nostalgia	0.06	1.02	−.07	−1.29
Seeking time with family	−0.06	−1.23	.17***	3.89
	$F = 13.17$ ($p < 0.001$), Adjusted $R^2 = .16$		$F = 14.28$ ($p < .001$), Adjusted $R^2 = .17$	

Senior motivation domains	Preference for heritage tourism		Preference for cultural tourism	
	β	t-value	β	t-value
Seeking knowledge/learning	0.19**	3.13	.28***	4.89
Seeking a once-in-a-lifetime experience	0.43***	7.16	.36***	6.42
Seeking self-esteem	0.15*	2.51	.08	1.51
Experiencing culture/nature	−0.05	−0.74	.04	.65
Achieving a sense of socialization	−0.03	−0.64	.02	.40
Escaping	−0.16**	−2.95	−.10*	−2.08
Seeking nostalgia	0.04	0.80	.06	1.18
Seeking time with family	0.04	1.06	.03	.80
	$F = 25.49$ ($p < 0.001$), Adjusted $R^2 = .27$		$F = 39.99$ ($p < .001$), Adjusted $R^2 = .37$	

Senior motivation domains	Preference for nature-based tourism		Preference for cruise tourism	
	β	t-value	β	t-value
Seeking knowledge/learning	−0.01	−0.24	−.10	−1.51
Seeking a once-in-a-lifetime experience	0.47***	8.27	−.03	−.54
Seeking self-esteem	−0.03	−0.50	.25***	3.96
Experiencing culture/nature	0.07	1.23	.06	.84
Achieving a sense of socialization	0.09	1.85	−.04	−.78
Escaping	0.04	0.719	.19**	3.20
Seeking nostalgia	−0.08	−1.62	−.07	−1.26
Seeking time with family	0.10**	2.61	.18***	3.93
	$F = 34.07$ ($p < 0.001$), Adjusted $R^2 = .33$		$F = 14.25$ ($p < .001$), Adjusted $R^2 = .17$	

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.