Development of a Cruise Motivation Scale for Emerging Markets in Asia

Abstract

Cruise travel has attracted the attention of researchers because of its rapid development. However, the literature lacks a reliable and valid measurement tool for constructing cruise motivation. The only available scale developed in the North American context, where the cruise industry is considerably mature, may be inapplicable to emerging markets due to cultural and experiential differences. To address this research gap, a measurement scale for cruise motivation in emerging markets, with Mainland China and Hong Kong as samples, was developed by following rigorous procedures that used both qualitative and quantitative methods. This study offers both academic and operational implications.

Key words: Asia, China, Cruise Motivation, Emerging Market, Scale Development

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Introduction

The cruise industry has experienced steady development since the 1980s. The Cruise Lines International Association (CLIA, 2016) reported that the number of cruise passengers reached 23 million in 2015 as the result of an annual average growth rate of approximately 7.2% since 1980. Thus, the cruise line industry is regarded as the fastest growing sector among all tourism categories (CLIA, 2016), particularly from 2009 to 2014, when worldwide cruise ship capacity achieved an annual increase of 22.5% (Florida-Caribbean Cruise Association [FCCA], 2016). The growing trend of the industry appears to be continuing because 27 new ocean, river, and specialty ships have been scheduled to debut in 2016 to cater to the increasing number of cruise travelers, particularly those from the Asia-Pacific region (CLIA, 2016). Asia is considered the most important emerging cruise market (CLIA, 2015a), with an annual passenger volume growth rate of 34% from 2012 to 2014. In 2014, 697,316 passengers from Mainland China participated in cruise travel and the number of passengers exhibited an annual increase of 79% from 2012. For the second fastest growing area, namely, Hong Kong, passenger volume also experienced a considerable annual growth of 74% in the period of 2012–2014 (CLIA, 2015a). Despite this rapid growth, Asia accounts for only a small portion of the market, comprising approximately 6.35% of cruise passengers worldwide in 2014 (CLIA, 2015a). Leading cruise operators, mostly from European or North American regions (e.g., Carnival), have cautiously extended their business toward Asia where the lifestyle of people varies and the demand of increasing potential cruisers requires careful assessment (Ozturk & Gogtas, 2016). However, current research on cruise tourism in China remains in its exploratory stage (Sun, Feng, & Gauri, 2014). The future development of cruise in Asia will be considerable if the motivation of potential cruisers is properly investigated and then effectively addressed because motivation can facilitate cruise travel intention (Hung & Petrick, 2010). Jones (2011) validated that understanding motivation based on data would be vital to managers and marketers in planning for the future.

Tourist motivation, which refers to a psychological state of mind "which adequately disposes an actor or group of actors to travel, and which is subsequently interpretable by others as a valid explanation for such a decision" (Dann, 1981, p. 205), is driven by the internal needs of tourists and intrinsically linked to their actions (Iso-Ahola, 1982; Hsu & Huang, 2008). Tourist motivation mediates the relationship between expectation and attitude toward travel (Hsu, Cai, & Li, 2010), and the attitude of tourists has been found to be related to behavioral intention (Gnoth, 1997). Therefore, strong travel motivation will likely result in a high level of travel intention (Li & Cai, 2012), although different types of motivation may have varying effects on visit intention (Baloglu, 2000). In addition, strong tourist motivation typically leads to a long time spent in a destination, and thus, considerable experience or knowledge is gained;

consequently, motivation is an important factor that affects the perceived value of tourists (Duman & Mattila, 2005; McKercher, 2002).

Several studies on the consequences of motivation have found that tourist motivation directly affects the satisfaction of travelers and indirectly affects their future behavior (Lee, 2009; Yoon & Uysal, 2005). For example, Alegre and Cladera (2009) determined that as a motivation, price led to a low level of satisfaction, whereas climate, accommodation quality, and environment quality positively influenced tourist satisfaction. Revisit intention, as one of the most important factors for marketers, has also been found to be influenced by motivation (Huang S. & Hsu, 2009; Um, Chon, & Ro, 2006). The overall image of a destination, which comprises experience quality, attractions, value, and environment, is largely determined by socio-psychological travel motivation (Baloglu & McCleary, 1999). Hence, the travel motivation of target tourists should be identified to enhance the loyalty of tourists and encourage them to spend more time in a destination (Huang S. & Hsu, 2009; Li & Cai, 2012). Accordingly, identifying the motivation of target cruise passengers will have important strategic implications for cruise destinations and cruise lines.

The adoption of measurement scales for general tourist motivation in cruise research will be inappropriate because cruise travel differs from other modes of tourism in many aspects, such as using water transportation and the duration of a cruise (Hung & Petrick, 2010). Therefore, studies that examine cruise experience or satisfaction based on generic travel motivation (e.g., Qu & Ping, 1999) can be problematic because factors that drive tourists to take a cruise trip may not be the same as those that drive other types of tourism (Fan, Qiu, Hsu, & Liu, 2015). To date, only one study has systematically examined cruise motivation. Hung and Petrick (2011a) identified four factors of cruise passenger motivation in the North American context. Their pilot study was based on 293 undergraduate students who completed a survey in class and the final model fit was based on an online panel sample. Although the measurement scale was deemed acceptable, the results were not cross-validated between subsamples or with additional samples. Hung and Petrick (2011a) cautioned that the results should not be generalized to other markets (e.g., Asia) and the scale development process should be improved. Subsequent cruise motivation studies in various contexts have rarely adopted the entire measurement scale of Hung and Petrick (2011a); thus, this scale has not been widely accepted nor validated. For example, Lemmetyinen, Dimitrovski, Nieminen, and Pohjola (2016) selected items from certain dimensions reported by Hung and Petrick (2011a) when they designed their own research instrument for a sample that comprised mostly British cruisers. Chen, Neuts, Nijkamp, and Liu (2016) studied the motivation of cruisers from Mainland China, Taiwan, Hong Kong, and Japan using items that were mostly adopted from Hung and Petrick (2011a). However, only 11 out of the original 13 items remained after the confirmatory factor analysis.

Researchers have long recognized that travel motivation can vary among nationality and cultural backgrounds (Kim & Prideaux, 2005) as well as destinations and origins (Kozak, 2002). Despite considerable accomplishments in understanding travel motivation, no universally accepted measurement, or even conceptual framework, is yet available partly due to cultural differences (Kim & Prideaux, 2005). With regard to cruise motivation, Teye and Leclerc (2003) found fundamental differences between

Caucasian and ethnic minority passengers. The research of Guo, Hu, Huang, and Dong (2014) on Chinese cruisers and that of Josiam et al. (2012) on Taiwanese cruisers also indicated the need to develop cultural specific motivation measurements. A research on cruise further showed that passengers with different previous experiences (e.g., first timers versus experienced tourists) might have varying perceptions and might pursue various objectives (Brida, Chiappa, Meleddu, & Pulina, 2014; Lu, 2001). In addition, research on other forms of travel has also documented motivation differences among participants with various experience levels (Buning & Gibson, 2016; Hsu, Lee, & Chen, 2016; Pearce & Lee, 2005).

Consequently, recent studies on the motivation of Chinese cruise travelers have developed their own instruments based on various information sources. For example, Fan and Hsu (2014) found that the motivation of Chinese cruise tourists is a two-dimensional (i.e., push and pull) construct. However, they did not perform a comprehensive scale development process and used the same dataset to identify the underlying dimensions of motivation (via exploratory factor analysis) and confirm dimension structure (via confirmatory factor analysis). Thus, the necessity to specifically investigate the cruise motivation of emerging Asian travelers using a rigorous process that ensures reliability, validity, and generalizability remains unfulfilled. A systematically developed measurement scale for the motivation of Asian cruisers that uses the results of Hung and Petrick (2011a) as basis will have considerable value. Such scale makes a timely contribution to cruise research and industry operation in rapidly growing emerging markets. In view of the aforementioned issues, this study aims to identify the motivation of Chinese cruise tourists and develop a measurement scale.

Literature Review

Numerous studies have examined tourist motivation, and thus, various motivation elements have been identified. Researchers agree that tourists are motivated to travel by both push and pull factors (Dann, 1981; Iso-Ahola, 1982; Yoon & Uysal, 2005). Push factors are internal desires that influence the travel decision making of tourists, whereas pull factors are external forces of destinations that affect the choice of tourists (Crompton, 1979; Iso-Ahola, 1982). Pearce and Caltabiano (1983) classified travel motivation into five categories: psychological, safety, love and belongingness, self-esteem, and self-actualization. On the basis of this earlier work, Lee and Pearce (2002) proposed the travel career ladder model, which postulated that people would progress through motivation levels with accumulated travel experiences. The model was later renamed as travel career patterns (Pearce & Lee, 2005) and empirically tested in both Western and Eastern cultural contexts.

Scholars have argued that motivations vary with different types of tourism and among tourists with various cultures (Kozak, 2002). For example, Crompton (1979) identified nine motivations of vacation tourists: escape, self-exploration, relaxation, prestige, regression, kinship enhancement, social interaction, novelty, and education. Moreover, Crompton and McKay (1997) categorized motivations into six types, namely, cultural exploration, novelty, recovery equilibrium, known group socialization, external interaction, and gregariousness, based on a study of festival and event visitors. Similarly,

Loker-Murphy (1997) identified four motivation-based clusters of backpackers in Australia (i.e., escapers/relaxers, social/excitement seekers, self-developers, and achievers) but noted that categorization might differ in other cases. In addition, motivations may vary based on culture, as indicated in the study of Kim and Lee (2000), which compared the motivations of Anglo-American and Japanese tourists. Zhang and Lam (1999) examined the forces that motivated Mainland Chinese to travel overseas and identified five push and six pull factors. Kim, Lee, and Klenosky (2003) identified seven motivations that drove Koreans to visit national parks. A study conducted in Taiwan found five factors, namely, novelty search, self-esteem, ego enhancement, socialization, as well as rest and relaxation, that pushed senior tourists to travel (Jang, Bai, Hu, & Wu, 2009). Therefore, researchers have attempted to study the specific motivation of tourists based on either different cultures or travel modes (Li & Ryan, 2015; Wu & Pearce, 2014). An (2014) indicated that Chinese tourists had distinctive views or values that might result in behavior different from that of tourists from other cultures. Hsu and Huang (2016) summarized the three types of Chinese cultural values, namely, instrumental, terminal, and interpersonal, and determined that these values might influence the travel motivations and behavior of people. For example, the value of "conformity" may lead to a preference for visiting famous attractions (Hsu & Huang, 2016). Thus, exploring the motivation of Chinese cruise tourists can not only provide insights into the expectations and behavior of cruisers, but also has practical implications for cruise operators, who are eagerly yet cautiously entering emerging markets due to potential growth opportunities and limited understanding.

Cruise travel provides tourists with special experiences. Hosany and Witham (2009) examined the experiences of cruisers based on four elements: entertainment (passive-absorption), education (active-absorption), escapist (active-immersion), and aesthetic (passive-immersion). They found that aesthetic was the main determinant of cruise experience. Cruise trips provide tourists with diverse experiences through meeting and interaction with other passengers; such social interaction can create a special frame of mind, which may motivate people to take a cruise (Huang J. & Hsu, 2009a). Huang J. and Hsu (2009b) categorized cruise experience into six aspects: learning, relaxation, self-reflection, family relation, fitness, and people. They found that the quality of customer-to-customer interaction positively influenced the experience of cruise passengers and also indirectly affected cruise vacation satisfaction through experience. In addition to customer-to-customer interaction, the experience provided by cruise travel differs from those of other types of tourism in many aspects. For example, a cruise ship serves as a home away from home, and thus, the cruise shipscape plays an important role in overall experience; moreover, cruise travel involves long-duration service encounters; and the cruise context is hedonic, experiential, and symbolic (Kwortnik, 2008). The special experiences provided by a cruise are important factors that affect the decision making of potential cruise tourists and the reasons for investigating cruise motivation rather than simply adopting general tourism motivation measurements (Xie, Kerstetter, & Mattila, 2012).

In addition to special experiences, cruise tourists are motivated by their internal needs. While some passengers may take a cruise to escape from their daily life so as to reduce pressure (Josiam, Huang, Spears, Kennon, & Bahulkar, 2009; Qu & Ping, 1999),

others intend to get away from their everyday life to seek refreshment or adventure (Lu, 2001). Andriotis and Agiomirgianakis (2010) reported that exploration and escape were among the main motivations of cruise tourists. Cruise ships provide opportunities for social interactions (Huang J. & Hsu, 2009a); hence, attending social gatherings is another important motivation for cruise travelers (Qu & Ping, 1999; Yarnal & Kerstetter, 2005). In addition to providing travelers with opportunities to communicate with others, a cruise trip is a venue to enjoy quality time and a platform for passengers to strengthen their relationships with friends or relatives (Josiam et al., 2009). Some travelers enjoy sharing cruise experiences with their friends after the holidays, which is related to another motivation, namely, prestige (Josiam et al., 2009). The discovery of something new, the exploration of the world, and the enhancement of self-images through cruise trip may improve the socio-psychological well-being of an individual (Fan & Hsu, 2014; Hung & Petrick, 2011b). Furthermore, a cruise trip itself may be something new for some travelers and may also provide a romantic experience (Kwortnik, 2008).

The entertainment and other recreational activities provided during a cruise can also motivate travelers to take a cruise holiday (Lu, 2001). Petrick (2004) found that the quality of cruise services positively influenced behavioral intentions. For repeat cruisers, past experience may also be a motivation (Huang S. & Hsu, 2009) that drives them to take a cruise again (Petrick, 2004). Qu and Ping (1999) reported that the most important motivating factors that drove cruise revisit were accommodations, food and beverage, and entertainment. Moreover, the amount of time spent in ports may positively relate to repeat cruising, whereas long distance from place of residence may reduce the likelihood of return (Gabe, Lynch, & McConnon, 2006). Thus, distance can be a constraint, i.e., an opposing force to motivation. Other factors, such as health, can be a constraint for some travelers but a motivation for others (Park & Petrick, 2009).

Cruise motivation has been shown to vary among cultures and subcultures. Teye and Leclerc (2003) compared the cruise motivations of Caucasian and ethnic minority passengers and found significant differences between the two groups. Among African Americans, uninhibited pursuits, cultural discoveries, and entertainment opportunities are the primary cruise motivations, whereas Caucasian cruise tourists are driven by social interaction and family attributes (Teye & Leclerc, 2003). Another study based on Berlitz found that four-star rated cruise ships also exhibited differences in motivation among cruisers from various cultural groups (Lu, 2001). Thus, cruise motivation factors for tourists from one cultural background may be inapplicable to others (Hung & Petrick, 2011a; Brida et al., 2014).

Three research gaps can be identified based on the review of existing literature. First, although extant studies present the motivation of cruisers from their respective perspectives, research that systematically develops a reliable and valid measurement for cruise motivation is rare. Second, most studies on cruise motivation have focused only on tourists with prior cruise experience, and thus, the perspective of potential cruisers is disregarded. Third, most studies have been conducted in mature markets; hence, the understanding of cruisers and potential cruisers in emerging markets remains limited. In the present study, potential and experienced Chinese cruisers were interviewed and surveyed following rigorous scale development procedures, thereby providing a quality measurement scale and a clear understanding of cruise motivation in emerging markets.

Research Design

A cruise motivation scale that strictly followed the most influential procedure (Churchill, 1979) was developed in this study. Churchill (1979) asserted that eight steps would be necessary to develop a scale with high reliability and validity: 1) specifying the construct domain, 2) generating the sample items, 3) collecting data, 4) refining the measurement, 5) collecting data, 6) assessing reliability, 7) evaluating validity, and 8) developing norms. The first step requires the definition and scope of cruise motivation, which are presented in the first paragraph of the section "Item Generalization of Cruise Motivation." Churchill (1979) suggested several methods to generate items, including literature search, experience survey, insight-stimulating examples, critical incidents, and focus groups. The current study generated its pool of items from literature search, focus group interviews, and expert panel review.

Data collection was performed in Hong Kong (HK hereafter) and Mainland China (MC hereafter). HK and MC accounted for nearly 50% of Asian cruise passengers in 2014, with both having over 70% compounded annual growth rates from 2012 to 2014 (CLIA, 2015a). Among MC cruise passengers, those from Shenzhen and Guangzhou accounted for high proportions and exhibited a steady increase in number (iResearch Global, 2016). All three cities (HK, Guangzhou, and Shenzhen) have made considerable investments in cruise infrastructure and planned to develop themselves as regional cruise hubs. Therefore, the potential cruise travelers from these three cities were surveyed in this study.

Multiple waves of data were collected to develop, test, and validate the measurement. To obtain feedback on the readability and clarity of motivation items, as well as to explore possible item reduction, a pilot study was conducted in a cruise terminal in HK among Chinese passengers who were waiting to embark. A total of 276 questionnaires were completed in this pilot study. After the questionnaire was refined based on the data obtained in the pilot study, two marketing research firms (one for the telephone survey and one for the online survey) collected the main survey data. The two data collection methods reduced the common method bias and obtained more diverse populations. A quota sampling method was used to select potential respondents based on the actual geographical distribution of the population reported in the respective census data of each city. A screening question was asked to identify respondents who had resided in the districts of the cities for at least one year. Once the quota for a district is reached, potential respondents from the same district were asked to discontinue the survey. The research firms were also asked to recruit respondents according to gender, age, and income distribution in the city to ensure extensive representation of the population. The respondents were asked to rate their agreement to the motivation statements from strongly agree (7) to strongly disagree (=1).

For the telephone survey, random digit dialing of mobile and fixed line numbers was used. To reduce fatigue among respondents and check their attention level, the motivation items were separated into multiple parts by placing an irrelevant question (e.g., how many days are there in November?) between subsections. To ensure the quality of the measure, 20% of the completed cases of each interviewer were called

back by an independent team of quality controllers to check the authenticity of the interviews and the time required for the interviews. In addition, 20% of the interviews were audio recorded to spot check their quality. Problematic cases were removed from the dataset. Finally, 250 completed questionnaires were collected from each city (i.e., 750 questionnaires in total).

The telephone survey data were randomly split into two groups using SPSS. The first group was used as calibration sample, whereas the second group was used as validation sample. Exploratory factor analysis (EFA) was performed on the calibration sample to identify latent factors, as well as to check and improve the effectiveness of the measurement. This procedure is the 4th step suggested by Churchill (1979), where the coefficient alpha and EFA were used to refine the measurement. For reliability and validity assessments (6th and 7th steps), composite reliability, convergent validity, and discriminant validity were analyzed based on the results of the confirmatory factor analysis (CFA) performed on the validation sample. Finally, for norm development, means and standard deviations (SDs) were adopted to summarize the distribution of scores (Churchill, 1979).

The telephone survey data were also cross-validated with data from an online survey. A total of 495 questionnaires were collected from the three cities. Strict quality assurance measures were implemented for the online survey to enhance the reliability and validity of the collected data. For example, the order of the measurement items was random, and thus, each respondent rated the statements in random order to avoid sequence bias. Respondents who provided 80% or more of the same response (e.g., selecting "6" on a 7-point scale) for motivation items were disqualified; that is, the survey session ended once the 80% threshold was reached. A speed check was also conducted in the online survey. Respondents who completed the entire questionnaire within 3 minutes were disqualified due to the potential of not reading the questions carefully given that the survey should normally take approximately 10 minutes to complete. The items were also divided into different sections with an irrelevant question placed between subsections to ensure that respondents were paying attention. Those who did not answer two of the questions correctly were disqualified.

Cross-validation evaluates the external validity of a construct or a model across different samples (Hair, Black, Babin, & Anderson, 2009), which is important for generalization. It can be conducted via data splitting, where a model is estimated for each half and then compared (Field, 2013). In the current study, the first- and second-order CFA models for cruise motivation were analyzed through the online survey and the results were compared with those based on the telephone survey. Cross-validation was also conducted by comparing the models derived from two halves of the online survey data based on a moderating variable (Hsu, Oh, & Assaf, 2011). The place of origin (HK versus MC) was adopted as the moderating factor because the cruise motivation of tourists may vary across different cultural backgrounds or places of origin (Hung & Petrick 2011a; Teye & Leclerc, 2003).

Item Generalization of Cruise Motivation

The present study defines cruise motivation as a set of psychological desires or factors that cause a person to participate in cruise travels (Kim & Eves, 2012; Hung & Petrick, 2011a). The item pool was design based on the literature and the results of the focus group discussions. All the statements from Fan and Hsu (2014) and Hung and Petrick (2011a) were adopted as starting points for item generation. Two focus group discussions were conducted with local residents in HK and two in Shenzhen as the second step to understand the motivations of potential cruisers and to generate as many potential measurement items as possible (Churchill, 1979). The focus group discussions were audio recorded and transcribed. The content of the text data was analyzed using ATLAS.ti software. A total of 92 motivation items were identified from the aforementioned two sources. An expert panel comprising six academics with cruise research experience and an understanding of Chinese travelers was invited to comment on the relevance of each of the 92 items using a 3-point scale (1 = low relevance, 2 = medium relevance, 3 = high relevance). In addition, 18 Chinese travelers who were about to embark on a cruise journey in a cruise terminal in HK were invited to comment on the relevance of each of the 92 items using the same scale. The consumer average, expert average, and overall average of each item were examined. For items with an overall average of 2.0 or lower, the average of the experts and that of the consumers were reviewed. When both averages were 2.0 or lower, the item was omitted. When either the expert or consumer average was higher than 2.0, the item was retained. This procedure eliminated 26 items, thereby resulting in 66 items.

EFA with principal component analysis and varimax rotation was performed using the pilot study data (n = 276) to reduce the number of measurement items and refine the scale. To ensure that each item is loaded on only one factor, items with a factor loading lower than 0.4 were suppressed and items with cross loadings (i.e., one item loaded on two factors with both loadings higher than 0.4) were omitted (Field, 2013; Hung & Petrick, 2010). When removing items, "Cronbach's α if Item Deleted" was adopted as reference. Items with low or cross loadings were deleted if the deletion led to a higher α value of the construct or only slightly reduced reliability. In addition, the internal reliability of the factors was assessed using Cronbach's α. A low α level indicates a low contribution to the construct measurement. Thus, a factor with an α value lower than 0.7 is supposed to be eliminated (Churchill, 1979). After measurement refinement, 49 items were retained. A questionnaire was designed based on the retained items for data collection.

Findings

Demographic Profile of Participants

The profiles of the participants of the telephone survey (n = 750) and the online survey (n = 495) are similar to that provided by CLIA (2015b). The number of male respondents (n = 380, 50.7%) in the telephone survey is slightly higher than the number of female respondents, whereas the number of female participants (n = 293, 59.2%) in the online survey is higher than the number of males (Table 1). In the telephone survey, fewer than two-thirds of respondents fall in the 18–45 age cohort (61.4%), whereas

most of the participants in the online survey are aged between 18 and 45 (88.7%). Most of the respondents in both the telephone (54.8%) and online (73.9%) surveys have a higher diploma or a bachelor's degree. The online survey respondents reported a higher income in both HK and MC groups compared with the telephone survey respondents. This result is reasonable because Chinese people who have access to the Internet generally have a higher income than those who do not (Fang & Yen, 2006). Most of the respondents are single (57.3% in the telephone survey and 47.1% in the online survey). The telephone survey respondents have more family members in their household than the online survey respondents. These differences further reinforce the need to avoid collecting data via a single method.

(Insert Table 1 here)

Measurement Refinement Based on EFA

EFA was conducted using the calibration sample (n = 375) from the telephone survey. The maximum likelihood method was employed because this method is suitable for a follow-up CFA, which used the same method (Kline, 2011). Varimax rotation was adopted because the correlations between the derived factors are higher than 0.2 based on promax rotation (Field, 2013). The Kaiser–Meyer–Olkin measure of sampling adequacy is equal to 0.87, and Bartlett's test of sphericity indicates significance ($P < 0.001$). Thus, the data can be analyzed using EFA (Field, 2013).

Several items were eliminated based on the factor analysis results using the following criteria: a) an item has a factor loading lower than 0.5, or an item is loaded on two factors with both loadings higher than 0.5 (Hair et al., 2009); and b) the removal of an item does not significantly reduce the reliability of the scale based on the "Cronbach's α if item Deleted" value (Field, 2013). The factor analysis identified eight factors (Table 2) with eigenvalues all higher than 1.0 and factor loadings all higher than 0.5 (Field, 2013). The eight factors explained 70.03% of the variances, higher than the minimum 50% (Hair et al., 2009), and all have α values higher than 0.7.

The first factor explained 28.82% of the variances and has high reliability with an α value of 0.91 (>0.7) and average factor loadings (AFL) of 0.73 (>0.5). Nine items indicate that tourists take cruise trips to gain new and adventurous experiences. Thus, this factor was called "Novelty." Factor 2, called "Escape," explained 14.44% of the variances with high reliability and validity (α = 0.87, AFL = 0.77). Factor 3 explained 5.99% of the variances. Its internal reliability and validity are high (α = 0.93, AFL = 0.84). This factor described the longing of cruise travelers for "Nature." Four items were loaded on Factor 4, called "Leisure," which also presented acceptable reliability and validity (AFL = 0.69, α = 0.79). The fifth factor, called "Social Interaction," explained 4.06% of the variances (α > 0.7). Factor 6 explained 3.97% of the variances and was called "Relaxation." Cruise travelers also wished to strengthen "Relationships," as indicated by Factor 7 (α = 0.80, AFL = 0.67). Finally, Factor 8 reflected the need of cruise passengers for "Isolation."

(Insert Table 2 here)

Reliability and Validity Assessment via CFA

Reliability describes the extent to which consistent results of a measure are produced under different conditions (Hair et al., 2009). Cronbach's α was adopted to assess composite reliability in this study. Validity refers to the extent to which a measure reflects the construct that it intends to measure conceptually without any systematic or nonrandom error (Hair et al., 2009). The content validity of the measurement scale was assessed and confirmed by an expert panel (as mentioned earlier). Convergent validity and discriminant validity were also analyzed via CFA (Churchill, 1979). The former describes the extent to which two measures of the same construct are correlated (Hair et al., 2009). The average variance extracted (AVE), which estimates the overall amount of variance explained by a construct in relation to the variance resulting from the measurement error, is commonly adopted to measure the validity of measurements (Fornell & Larcker, 1981). A rule of thumb for a validity test is that AVE should be higher than 0.5 (Fornell & Larcker, 1981). Factor loadings are also used for convergent validity, and they need to exceed 0.6 or 0.5 in exploratory studies (Hair et al., 2009). Discriminant validity refers to the extent to which two similar constructs are distinct (Hair et al., 2009). Discriminant validity is acceptable when the square root of the AVE of a construct is higher than its correlation coefficients with other constructs (Kline, 2011).

CFA was performed in AMOS 20.0 using the validation sample (n = 375) of the telephone survey data. The model goodness-of-fit indices were listed as follows: χ^2 = 2686.5, df = 377, comparative fit index (CFI) = 0.92, Tucker–Lewis index (TLI) = 0.89, and root mean square error of approximation (RMSEA) = 0.082. As a rule of thumb, CFI and TLI should be higher than 0.9 for a good model fit, whereas RMSEA should be lower than 0.1, preferably 0.08 (Hair et al., 2009; Kline, 2011). However, the criteria for the indices tend to decrease when the numbers of observations and variables increase (Fornell & Larcker, 1981; Hair et al., 2009). For a sample larger than 250 and variables more than 30, CFI and TLI values may be lower (Hair et al., 2009). In addition, motivation or constraint studies commonly show that tourists may simultaneously have several motivations and strongly disagree with motivations that are inapplicable to them (Hung & Petrick, 2010; Petrick, 2004). This finding was reflected in the modification indices in that motivation items from different factors were correlated with one another. For example, the item NA3, "to get a better appreciation of nature," is correlated with R3, "to view the scenery" (Pearson correlation coefficient = 0.409, P < 0.001), where the former is in the "Nature" factor and the latter was loaded on "Relationship." L3, "to do things my own way," was significantly correlated with I1, "to enjoy isolation" (correlation coefficient = 0.388, P < 0.001); the two items are not completely independent from each other. Some items loaded on different factors correlated in motivation studies is reasonable (Hung & Petrick 2011a), and modifications can be made. Further analysis indicates that removing R3 and L3 only slightly improved the fit indices (CFI = 0.91, TLI = 0.90, RMSEA = 0.081). Thus, the measurement model of cruise motivation, as presented in Table 3, was regarded as having acceptable data fit.

The measurement model results are listed in Tables 3 and 4. All factor loadings are higher than 0.5, and all the α values of the eight factors exceed 0.7, thereby indicating high reliability. For the AVE values of the eight factors, five are higher than 0.5, two are 0.5, and only one is slightly lower than 0.5 (Leisure: α = 0.78, AVE = 0.47). The factors are accepted as valid considering the exploratory nature of this study (Hair et al., 2009). Meanwhile, the square root values of the AVE for all the factors are higher than the correlation coefficients (Table 4); therefore, the discriminant validity of all the factors is supported.

The mean and SD of the variables are presented in Table 3. Most of the items have means higher than 4.5, thereby indicating agreement with the motivations. SDs are high, which suggests that motivations vary among different cruise passengers. The means and SDs that summarized the distribution of scores were derived for "norm development," which was the last step for the process of Churchill (1979). This process also includes counting the percentage of each alternative (1–7) for all the questions, regarding them as weights, multiplying each alternative by its weight, and then calculating the sum. These parameters are applicable to all respondents (Churchill, 1979; Hair et al., 2009) to identify the norm of motivation (M = 5.13, SD = 1.58). When the sample size from which the norm of the scale has been developed is large, the norm will be representative (Churchill, 1979; Hair et al., 2009).

(Insert Tables 3 and 4 here)

Cross Validation

Although the measurement model in the present study fits the data from the telephone survey, the results may be specific to this particular sample. Thus, another study was conducted to validate the measurement findings. The second study was performed online and 495 responses were collected. The sixth and seventh steps suggested by Churchill (1979) were implemented again in the validation study. The model fit indices are listed in Table 5. The model indices are similar to those based on the telephone survey data. The model testing of the eight factors of cruise motivation exhibits less than good but acceptable model fit (χ^2 = 2703.3, df = 377, CFI = 0.91, TLI = 0.91, RMSEA = 0.082). Meanwhile, the second-order model for cruise motivation also presents approximately acceptable fit (χ^2 = 4926.0, df = 405, CFI = 0.89, TLI = 0.90, RMSEA = 0.081). Thus, the validation study also supports the factor structure of the cruise motivation scale.

(Insert Table 5 here)

Cross-group validation based on the two subsamples (HK and MC) was conducted to investigate the extent to which the measurement model was invariant across respondents from the two areas. The results are reported in Table 6. Model 1 was first estimated with the eight-factor construct, with the factor pattern set to be invariant across the two subsamples. The indices indicate that the model approximately fits the data. Thus, the factor structure of cruise motivation is verified as applicable and

consistently reliable in these two subsamples (Hair et al., 2009). Model 2 further involved equal factor loadings. The test ($\chi^2_d(11) = 19.7$, P = 0.052) shows that the equal factor loadings of the two subsamples are supported. Model 3 further tested the error variances between the subsamples given the equal factor loadings. The results ($\chi^2_d(12) = 45.4$, P = 0.00) suggest that the error variances are unequal. The measurement scale of cruise motivation in the present study can be generalized for Chinese tourists across HK and MC cities because of the invariant factor pattern and factor loadings.

(Insert Table 6 here)

Discussion and Implications

The objectives of the present study are to understand the dimensions of Chinese cruiser motivation and to develop a measurement scale. Both qualitative and quantitative approaches were adopted for scale development, and eight steps were taken following the procedure suggested by Churchill (1979). Cruise motivation was defined based on previous research. Items were created from both the literature and the result of a qualitative study. Four focus group discussions were conducted to generate items and to confirm the measurement items from the literature. The views of experts and cruise passengers were solicited to further verify the content validity of the items. A pilot study was conducted to test the clarity of the items and to conduct initial item reduction. Data were collected in HK and MC via a telephone survey and an online survey. Factor analysis was performed to identify the latent factors of the construct. The refined measurement was confirmed via CFA and cross-validation.

Cruise motivation can be explained using eight factors, with "Novelty" (Factor 1) and "Escape" (Factor 2) as the primary motivations for Chinese cruisers, which explain nearly half of the variances. The other six factors, namely, "Nature," "Leisure," "Social Interaction," "Relaxation," "Relationship," and "Isolation," also have high reliability and validity. Some of the factors are similar to those found in various previous studies on cruise motivation (although labeling may differ). These factors include social gathering (Qu & Ping, 1999) and escape and relaxation (Andriotis & Agiomirgianakis, 2010; Hung & Petrick, 2011a). Similar to other types of tourists, cruise passengers are driven by push and pull factors in the forms of escaping from personal and interpersonal environments, as well as seeking potential rewards, such as relaxation, leisure, and relationship enhancement via social interactions (Crompton, 1979; Hsu & Huang, 2008). In addition to these similarities, this study identified new dimensions, which could reflect modern and traditional Chinese cultural values, including "Novelty," "Nature," and "Isolation". Hsu and Huang (2016) asserted that leisure and liberation are modern Chinese values, whereas horizon broadening/novelty and family orientation/kinship are traditional Chinese values. These values all have implications for Chinese travel motivation or behavior.

The eight aspects of cruise motivation may have implications for cruise operators and destination managers who can develop products, services, and communication strategies to attract the Chinese population. Cruise holidays are a relatively new concept to the Chinese. Thus, unique experiences and the novelty effect should be emphasized

in promotional materials. Products and services offered should strike a balance among the unfamiliar, novel, and favorites to appeal to their curiosity and preferences. Pictures and videos of the tranquility of private spaces, open seas, remote areas, and close encounters with nature, along with various activities and programs onboard, can be presented to potential cruisers through various communication channels. Shows and entertainment on the cruise should be carefully selected to be culturally relevant and enjoyable to Chinese holidaymakers. As a collectivist society, conformity is an important cultural value in China (Hsu & Huang, 2016); thus, mobilizing cruisers to spread positive word of mouth to their (virtual) friends and family will motivate potential cruisers to follow suit. Other messages, such as to experience social interaction and strengthen relationships, can also be used to pique the interest of potential cruisers.

The model fit of CFA is not excellent. However, convergent validity and discriminant validity were confirmed with the data of Chinese cruise travelers. The models are regarded as acceptable considering the exploratory nature of this study. Furthermore, this study conducted cross-validation using data from an online survey. The results of the cross-validation supported the factor structure of the Chinese cruise motivation scale. Meanwhile, the testing of the measurement scale shows initial evidence of generalizability for Chinese tourists because of the invariances found between different Chinese subsamples. Future research can collect additional data from other cities in China, such as Shanghai and Beijing, to further validate or enhance the measurement. Other means of data collection (e.g., traditional paper-based questionnaires) can also be used to reach a different group of potential respondents, such as senior travelers. Researchers can also use this scale for empirical testing in other emerging markets (e.g., India) to further verify its generalizability.

The Likert scale design used in this study followed that used in most tourism studies (Dolnicar & Grün, 2013). However, one potential issue is that when a motivation item is inapplicable to a respondent, he/she may choose to "strongly disagree" because "not applicable" is not provided among the choices. Whether this issue may influence the reliability and validity of the measurement remains unknown. Future research can consider the influence of different Likert scales (e.g., seven-point scale, five-point scale, and the availability of "not applicable" as an option) on the performance of the measurement scale. These comparisons will provide insights not only into cruise motivation research but also into tourism studies, in general, because of the importance of the questionnaire design.

Lastly, past experience, which is one of the important factors that affects the decision making of tourists, may influence cruise motivation (Xie et al., 2012). This study did not examine the past experience (either travel or cruise experience) of the respondents. Thus, the potential differences among respondents with varied travel experiences were not considered. The number of residents in emerging markets who are gaining travel and cruise experience is increasing; hence, the scale should be refined to reflect their experiences. The role of experience in their cruise behavior can also be a future research direction.

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Table 1. Demographic profile of the respondents

Demographic variables	Telephone survey (n = 750)		Online survey (n = 495)	
	No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
Gender				
Male	380	50.7	202	40.8
Female	370	49.3	293	59.2
Age				
18–25	148	19.7	91	18.4
26–35	162	21.6	216	43.6
36–45	151	20.1	132	26.7
46–55	124	16.5	44	8.9
56–65	82	10.9	11	2.2
65 or older	83	11.1	1	0.2
Education				
High school or lower	295	39.3	92	18.6
Higher diploma or bachelor's degree	411	54.8	366	73.9
Postgraduate	44	5.9	37	7.5
Monthly household income (HK, n = 250 for telephone survey, n = 315 for online survey)				
HKD 20,000 or lower	67	8.9	28	5.7
HKD 20,000–HKD 29,999	40	5.3	44	8.9
HKD 30,000–HKD 39,999	39	5.2	68	13.7
HKD 40,000–HKD 49,999	29	3.9	56	11.3
HKD 50,000–HKD 59,999	26	3.5	55	11.1
HKD 60,000–HKD 69,999	19	2.5	36	7.3
HKD 70,000 or higher	30	4.0	28	5.7
Monthly household income (MC, n = 500 for telephone survey, n = 180 for online survey)				
¥ 4,000 or lower	44	5.9	2	0.4
¥ 4,000–¥ 7,999	108	14.4	6	1.2
¥ 8,000–¥ 11,999	188	25.1	27	5.5
¥ 12,000–¥ 15,999	100	13.3	29	5.9
¥ 16,000–¥ 19,999	26	3.5	30	6.1
¥ 20,000–¥ 29,999	28	3.7	40	8.1
¥ 30,000–¥ 39,999	4	.5	15	3.0
¥ 40,000–¥ 49,999	0	0	13	2.6
¥ 50,000 or higher	2	.3	18	3.6
Marriage status				
Single	430	57.3	233	47.1
Married, without child	116	15.5	60	12.1
Married, with children	204	27.2	202	40.8
Number of family members				
1	18	2.4	15	3.0
2	66	8.8	81	16.4
3	155	20.7	176	35.6
4	190	25.3	145	29.3
5	143	19.1	57	11.5

| 6 or more | 178 | 23.7 | 21 | 4.2 |

Table 2. Results of EFA on cruise motivation (n = 375, calibration sample)

Factor/item	Factor loading	Eigen-values	% of variance	α
Factor 1: Novelty		8.65	28.82	0.91
N1. to gain a new perspective on life	0.82			
N2. to explore the unknown	0.80			
N3. to have a daring/adventurous experience	0.77			
N4. to experience thrills (as depicted in some movies)	0.75			
N5. to have diverse experiences	0.75			
N6. to follow the current trend of cruising	0.73			
N7. to satisfy my curiosity	0.73			
N8. to develop my personal interests	0.61			
N9. to treat my family to a relaxing and restful vacation	0.60			
Factor 2: Escape		4.33	14.44	0.87
E1. to get away from the usual demands of life	0.82			
E2. to get away from daily psychological stress/pressure	0.82			
E3. to get away from daily physical stress/pressure	0.77			
E4. to reduce stress	0.68			
Factor 3: Nature		1.80	5.99	0.93
NA1. to be close to nature	0.85			
NA2. to be harmonious with nature	0.83			
NA3. to get a better appreciation of nature	0.83			
Factor 4: Leisure		1.66	5.31	0.79
L1. to enjoy shows and entertainment	0.74			
L2. to be away from my daily routine	0.72			
L3. to do things my own way	0.65			
L4. to experience open space	0.64			
Factor 5: Social Interaction		1.22	4.06	0.82
S1. to observe other people in the area	0.85			
S2. to meet people with similar values/interests	0.68			
S3. to meet the locals	0.66			
Factor 6: Relaxation		1.19	3.97	0.89
RX1. to give my mind a rest	0.81			
RX2. to rest and relax	0.80			
Factor 7: Relationship		1.12	3.75	0.80
R1. to strengthen relationships with my family/friend(s)	0.78			
R2. to strengthen relationships with my companion(s)	0.71			
R3. to view the scenery	0.63			
Factor 8: Isolation		1.04	3.48	0.85
I1. to enjoy isolation	0.80			
I2. to go to places that are otherwise difficult to reach	0.71			

Table 3. Measurement model results (n = 375, validation sample)

Factor/item	Factor loading	T-value	Mean[a]	SD
Novelty (α = 0.90; AVE = 0.50)				
N1	0.67	16.41	4.68	1.93
N2	0.66	NA[b]	4.79	1.68
N3	0.82	19.30	4.68	1.77
N4	0.66	16.05	4.48	1.76
N5	0.69	16.72	5.04	1.61
N6	0.60	14.92	4.40	1.94
N7	0.68	16.63	4.62	1.66
N8	0.79	18.76	4.76	1.81
N9	0.77	18.42	5.66	1.47
Escape (α = 0.86; AVE = 0.61)				
E1	0.84	22.97	5.39	1.43
E2	0.84	22.96	5.48	1.48
E3	0.76	NA	5.51	1.36
E4	0.68	18.25	5.55	1.35
Nature (α = 0.93; AVE = 0.82)				
NA1	0.88	34.11	5.29	1.61
NA2	0.95	39.05	5.08	1.70
NA3	0.88	NA	5.40	1.54
Leisure (α = 0.78; AVE = 0.47)				
L1	0.73	NA	5.15	1.45
L2	0.70	15.52	5.19	1.47
L3	0.65	14.58	5.35	1.55
L4	0.67	14.90	5.25	1.56
Social Interaction (α = 0.81; AVE = 0.58)				
S1	0.67	NA	5.27	1.61
S2	0.79	17.55	5.25	1.69
S3	0.82	17.87	4.97	1.57
Relaxation (α = 0.87; AVE = 0.77)				
RX1	0.87	NA	5.68	1.43
RX2	0.88	22.24	5.52	1.60
Relationship (α = 0.75; AVE = 0.50)				
R1	0.64	13.42	4.76	1.69
R2	0.71	14.95	5.17	1.57
R3	0.77	NA	5.27	1.61
Isolation (α = 0.85; AVE = 0.72)				
I1	0.76	12.86	4.97	1.69
I2	0.68	NA	4.88	1.71

a. 7 = strongly agree, 1 = strongly disagree

b. NA indicates that the regression weight has been fixed to 1 (automatically by AMOS).

Table 4. Correlations and square root values of AVE

	NV	ES	NA	LE	SI	RX	RE	IS
NV	1							
ES	0.101	1						
NA	0.141	0.470	1					
LE	0.082	0.445	0.407	1				
SI	0.198	0.420	0.548	0.462	1			
RX	0.166	0.500	0.396	0.416	0.389	1		
RE	0.052	0.384	0.384	0.460	0.428	0.339	1	
IS	−0.041	0.431	0.288	0.433	0.326	0.359	0.364	1
SRAve	0.707	0.781	0.906	0.686	0.762	0.877	0.707	0.849

Note: (1) NV: Novelty; ES: Escape; NA: Nature; LE: Leisure; SI: Social Interaction; RX: Relaxation; RE: Relationship; IS: Isolation. (2) SRAve: square root values of AVE.

Table 5. Cross-validation of cruise motivation measurement model

	χ^2	df	P	CFI	TLI	RMSEA
Telephone survey (n = 375, validation sample)						
Model testing of cruise motivation as a first-order factor with eight dimensions	2686.5	377	0.00	0.92	0.89	0.082
Model testing of cruise motivation as a second-order factor with eight dimensions	5273.4	405	0.00	0.90	0.89	0.081
Online survey (n = 495)						
Model testing of cruise motivation as a first-order factor with eight dimensions	2703.3	377	0.00	0.91	0.91	0.082
Model testing of cruise motivation as a second-order factor with eight dimensions	4926.0	405	0.00	0.89	0.90	0.081

Table 6. Comparison of two subsample analyses (HK vs. MC)

Goodness-of-fit indices	Model		
	M1: Equal factor pattern	M2: Equal factor loadings	M3:Equal factor loadings and error variances
χ^2 (df)	561.8 (20)	581.5 (31)	626.9 (43)
P	0.00	0.00	0.00
CFI	0.91	0.91	0.89
TLI	0.90	0.90	0.89
RMSEA	0.081	0.081	0.081
Model comparison		M2–M1	M3–M2
		$\chi^2_d(11) = 19.7$	$\chi^2_d(12) = 45.4$
		P = 0.052	P = 0.00