

Factor Analysis of Hot Springs Tourist Motivation

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ABSTRACT

The purpose of this study is to determine the dimensions or factors of tourists' motivation to hot springs tourism. It is driven by a research gap that past studies on hot springs tourism mainly focus on the relationship between motivation variables with various indicators and other behavioral constructs. They have not fully acknowledged the fundamental factors forming tourists' motivation to hot springs. A self-administered survey was handed out and 375 usable data were gathered from respondents who holiday at hot springs in Ciater and Cipanas. To generate new underlying dimensions of hot springs tourist motivation an exploratory factor analysis was used. The result shows three factors of push motivation and two factors of pull motivation, namely; Leisure, Health, Kinship, Outdoor, and Entertain respectively. Next, to check that the the reliability and validity of the new dimensions were correct, a confirmatory factor analysis was conducted. The result confirms the dimensionality of the hot springs tourists' motivation construct. This study adds to the body of knowledge on hot spring tourists' motivation and its dimensions.

Keywords: hot springs, push motivation, pull motivation, exploratory factor analysis, confirmatory factor analysis.

1. INTRODUCTION

Hot springs tourism is one of the mainstays of the West Java province, Indonesia. People visit hot springs for a number of reasons. Health, recreation, and interaction with nature are some reasons that motivate them to come to hot springs [1-3]. Lee and King [4] argue that natural hot springs in Asia have been traditionally used for leisure purposes, and their therapeutic and medicinal aspects are emphasized. Further, Kamata [5] maintains that Japanese spa destinations offer many different kinds of attractions, and each destination has its own distinct appeal, proven to be effective for health and beauty treatment, a goal of relaxation, and obtain a calm atmosphere that one has never had before. One of the reasons tourist visits a spa destination is definitely to enjoy the specific attractions. Thus, it can be said that tourists visiting hot springs are driven by many different motivations. Identifying these motivations can help hot springs destination managers to target the visitors and improve the destinations as motivation is a basic construct in understanding tourism behavior [6]. However, studies on hot springs tourist motivation are scarce. Thus, conducting a study to identify tourist motivation to hot springs is valuable as motivation is a driver for tourists to visit a destination

and is a crucial factor for destinations' competitiveness [7].

Past studies on hot springs tourism have emphasized the relationship between tourist motivation with various indicators and other behavioral constructs, but they have not appropriately identified the underlying dimensions of hot springs tourist motivation. For example, Cain et al. [8] identify spa customer segments based upon their motivations and tests these segments in relation to the experience variable. Similarly, Liu et al. [9] examine hot springs tourist loyalty in relation to on-site experience and place attachment. Shavanddasht and Allan [10] investigate tourist satisfaction levels for both first-time and regular visitors to hot springs and link them with involvement and loyalty constructs. Next, Lin [2, 11] examines hot springs tourist revisit intentions which are linked with destination personality, culinary experience, mental well-being, and personality-health. These studies do not consider motivation as their central topic of investigation and those have dominated hot springs tourism research. A review from the accessible literature indicates that only one study has explored the underlying dimensions of hot springs tourist motivation which is carried out by [5]. Kamata [5] uses a factor-cluster approach to segment Japanese spa tourists based

on tourist motivations. As tourists' motivation are vary across countries and destinations, and it is important for destination sustainability, it is necessary to conduct a study to identify the underlying dimensions of tourists' motivation in the Indonesian hot springs context, as is the situation of the current study.

Taking into account the previous researches, the current study seeks to determine the underlying dimensions of hot springs tourists' motivation. This study significantly contributes to both academics and practices. Theoretically, this study extends our current knowledge on the dimensions of tourists' motivation in the hot springs tourism context. Thus, it extends the extant hot springs tourism literature. Practically, it provides hot springs destination managers with a practical tool to sustain their destination on the basis of tested items on the underlying dimensions of tourists' motivation.

2. THEORETICAL DEVELOPMENT

2.1. Travel motivation

That everyone has needs is fundamental to travel motivation study [12, 13]. Pearce and Caltabiano [14] define travel motivation as 'a combination of wants and attitudes that motivates a person to engage in tourism goal-directed activities'. Most studies on a person's motivation to travel were oriented to content, including determining what motivations make people travel to certain destinations and engage in certain travel activities. The identification of push and pull variables is at the heart of this discussion in the early stage (e.g. [15, 16]). Push factors denote inherent stimuli and wants (e.g., yearning for away from routine and recreation) that lead to a desire to travel. Attractive qualities of a location are known as pull factors that attract a person in making a decision to travel and include tangible properties and the emergence of tourists' perceptions and expectations about the destination [13, 17]. With the emergence of a better understanding of travel motivation from tourists, it can certainly facilitate the tourism business sector in making market segmentation, scarce tourism resources can be allocated by tourism marketers efficiently [12, 18]. Thus, tourism destination managers need to really understand the underlying dimensions of tourist travel motivation both to allocate the resources and to target the right tourists for their destination's competitiveness.

2.2. Push and pull motivation

Dann [19] advocates that the motivation that emerges from tourists must be within a two-level framework, a push and a pull territory. In this framework, the push territory focuses on a socio-physiological tendency when a tourist travels, while the focus of the question "where to" is on a pull territory which is a decision in

choosing a destination. This motivating strategy is based on interaction, with destination 'pull' in response to motivational 'push'. The 'push' refers to tourist motivation, whereas the 'pull' refers to the unique attractions in a destination that entice a traveler to choose it above other options. Push forces are supposed to motivate people to travel, but pull factors are thought to explain why people choose certain destinations. Kozak [20] maintains that the push factors lead to basic needs that can stimulate people to travel (eg, recreation) and search for (eg, adventure). On the other hand, natural attractions, beaches, culture, lodging, history, and religion are all examples of pull factors that can make a destination appealing with its resources..

Crompton [15] explains that the motivation of tourists to travel on vacation is for a pleasant purpose. This study emphasizes the importance of having time to rest from the hectic routine as a basic motive for traveling. There are nine motivational factors identified through interviews. Seven of them are categorized as socio-physiological (pushing factors), including get away from routine, self-evaluation, exploration, recreation, prestige, regression, enrichment of relationship, acceleration, and most importantly are activities of social interaction. Two other motivational factors (pull elements), novelty and education, are grouped into cultural aspects. Su et al. [21] observe push and pull dimensions of motivation for food tourism. The research uncovers the internal motivations of potential food tourists as well as their chosen destination characteristics. The results of the exploratory factor analyses and measurement model evaluations of this study indicate three push dimensions: the food taste, integration, and cultural encounters; and three pull dimensions: attractiveness of food tourism as a whole, local food attractions, and local destination attractions. Further, in the hot springs tourism context, [5] examines the push and pull factors of tourists visit traditional Japanese spas or onsen. The study groups 21 push motivations into three factors: sight and nature, relaxing, and companion and 17 pull motivations into three factors: inn, destination, and hot springs. Although those items and factors seem to be similar, within diverse research, their importance and measuring items differ. Thus, further observations on each destination are required to fully comprehend the underlying dimensions of tourist travel motivation, as the case of the current study that focuses on hot springs tourism destination.

3. RESEARCH METHODS

3.1. Questionnaire developments

The current study's objective is to determine the underlying dimensions of tourists' motivation to hot springs tourism. To achieve this objective, the design of this research takes on a quantitative study. The questionnaire was developed both from the literature review of the previous studies on hot springs tourism

and from the interview with visitors of hot springs. The review of the literature reveals some motivation indicators from the previous studies by [2, 5, 8]. The literature provides some items of hot springs tourist motivation that can be adapted for the current study. Next, the interview was conducted to get the indicators of tourists' motivation to visit hot springs in Indonesia. Five participants were interviewed and the lists of indicators were gathered. The initial pool of items derived from the literature and interview were then combined for the questionnaire of this study. Academic faculty members and several hot springs visitors improved and modified the pieces for content authenticity. The final items generated were 11 push motivation and nine pull motivation items. These items were distributed to 50 hot springs visitors for pilot testing. Having satisfied with the reliability and validity of the questionnaire, then it was distributed to the respondents.

Likert scale with a five-point, from 1 as "strongly disagree" to 5 "strongly agree", was adopted to gauge all the indicators. As the sample was domestic visitors, the questionnaire was developed in Bahasa Indonesia. A self-administered method was employed to distribute the questionnaire to 390 respondents, resulting in 375 valid responses. A purposive sampling method was implemented to gather the data from the respondents who must be at least 18 years old and have experience of using facilities in the hot springs. The data collection was carried out from June to August 2019 at the hot springs tourist attractions in Ciater Subang and Cipanas Garut, West Java, Indonesia. Four final-year marketing students were employed as data collectors. They had training relate to this study prior to doing the data collection. Their duties were initiating a conversation with the targeted respondents, asking their age, giving them the questionnaire, handling questions from the respondents, collecting the filled questionnaires, and thanking the respondents.

3.2. Exploratory Factor Analysis (EFA)

An EFA with a Varimax rotation using SPSS software was carried out to determine the factors of the scales. An examination of the strength of the link among the items is required to determine whether a data set is acceptable for factor analysis [22]. The items with factor loadings lower than 0.4 [23] or cross-loaded on more than one factor were eliminated and then measured using Cronbach's alpha to measure the internal reliability of each factor. The results show Cronbach's alpha is higher than 0.7 which means that the variables show a moderate correlation with their grouping of factors and can be considered internally consistent and stable [22]. In addition, Based on statistical tests for the existence of correlations between variables, known as Bartlett's Test of Sphericity and measuring the adequacy rate when sampling KMO (Kaiser-Meyer-Olkin) was carried out in this study to

assess the ability factor of the data. The resulting KMO value is 0.81 where the position exceeds 0.6 which is the minimum acceptable value [22].

3.3. Confirmatory Factor Analysis (CFA)

To confirm the factorability of the dimensions, this study used CFA through Smart-PLS software. In identifying CFA, it can be done through construct reliability measurement by computing average variance extracted (AVE) and composite reliability (CR). The higher the value of composite reliability, the greater the consistency for every indicator of the recommended construct. And the CR value is expected to be higher than 0.5 if you want to get a good reliability value [22].

4. RESULTS

The study has some results explained in subsequent paragraphs. The characteristics of 375 respondents gathered in this study are displayed in Table 1.

Table 1. The Respondents' profile

Respondents' profile	N	Frequency	Percentage
Gender	375		
Male		172	46
Female		203	54
Age	375		
18 – 24 years old		101	27
25 – 36 years old		94	25
37 – 52 years old		129	34
> 53 years old		51	14
Occupation	375		
High school student		40	11
University student		60	16
Government employees		105	28
Private employees		134	36
Others		36	10
Purpose of visit	375		
Recreation		209	56
Health		166	44

4.1. Factor analysis of push motivation

Based on the calculation of the EFA from the push motivation variable, the results are displayed in Table 2 and Table 3. Table 2 shows that the Kaiser-Meyer-Olkin Measure (KMO) sampling test has a significance value of 0.000, Chi-Square 1270.984, with 55 degrees of freedom, and A high KMO of more than 0.50 (0.813) which is based on research from [22] becomes an

acceptable value. The results show that there is a correlation between variables and deserves to be analyzed further based on KMO and Bartlett's Test.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.813
Bartlett's Test of Sphericity	Approx. Chi-Square	1270.984
	df	55
	Sig.	0.000

Table 3 shows the rotated component matrix with three new factors. The new factors are labeled as (1) leisure with five indicators related to tourists' leisure activities, (2) health with four indicators related to health motives, and (3) kinship with two indicators related to social and family interactions. Each indicator has a loading value of 0.60 with an eigenvalue of more than 1.00 and cumulative variance of 25.16%, 46.64%, and 60.83% respectively.

Table 3. Rotated Component Matrix

Indicator	Component		
	Leisure	Health	Kinship
push6: escape from routine	0.783		
push4: rest and relaxation	0.760		
push2: adventure	0.679		
push5: self-esteem	0.665		
push7: novel experience	0.623		
push9: health		0.808	
push10: bathing in hot springs		0.759	
push11: enjoyment		0.691	
push8: prestige		0.648	
push1: social interaction			0.755
push3: family togetherness			0.749
Eigenvalue	2.768	2.363	1.564
Cumulative variance explained %	25.160	46.641	60.863

4.2. Factor analysis of pull motivation

Based on the calculation of the EFA from the pull motivation variable. Table 4 shows that the sampling test of Kaiser-Meyer-Olkin Measure (KMO) has a significance value of 0.000, Chi-Square 1595.109, with 36 degrees of freedom, and A high KMO of more than 0.50 (0.881) which is based on research from [22] becomes an acceptable value. The results show that there is a correlation between variables and deserves to be analyzed further based on KMO and Bartlett's Test.

Table 4. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.881
Bartlett's Test of Sphericity	Approx. Chi-Square	1595.109
	df	36
	Sig.	0.000

Table 5 shows the results of the EFA of the pull motivation variable. It shows the rotated component matrix result with two new dimensions. The new factors are labeled as (1) outdoor with five indicators related to tourists' outdoor activities and (2) entertainment with four indicators related to entertainment motives. Each indicator has a loading value of above 0.60 with an eigenvalue more than 1.00 and cumulative variance of 32.69%, and 64.76 respectively.

Table 5. Rotated Component Matrix

Indicator	Component	
	Outdoor	Entertain
pull3: outdoor resources	0.800	
pull2: natural attractions	0.791	
pull1: scenic beauty	0.767	
pull4: sports activities	0.671	
pull5: cleanliness and safety	0.582	
pull7: entertainment		0.838
pull9: accessibility		0.777
pull8: historic and cultural resources		0.731
pull6: facilities for recreational activities		0.706
Eigenvalue	2.943	2.886
Cumulative variance explained %	32.695	64.760

4.3. CFA of tourist motivation

The CFA was conducted to ensure the factorability of the push and pull motivation variables; the result is shown in Table 6. The analysis indicates five dimensions of tourist motivation to hot springs with factor loadings above 0.70 [22] which is better than the factor loading of the EFA.

Table 6. The result of confirmatory factor analysis

Indicators	Component				
	Leisure	Health	Kinship	Outdoor	Entertain
Escape from routine	0.788				
Rest and relaxation	0.727				
Adventure	0.740				
Self-esteem	0.724				
Novel experience	0.725				
Health		0.782			
Bathing in hot springs		0.825			
Enjoyment		0.789			
Prestige		0.622			
Social interaction			0.845		
Family togetherness			0.827		
Outdoor resources				0.805	
Natural attractions				0.775	
Scenic beauty				0.806	
Sports activities				0.773	
Cleanliness and safety				0.777	
Entertainment					0.807
Accessibility					0.869
Historic and cultural resources					0.816
Facilities for recreational activities					0.748

To confirm the correctness and dependability of the data of the five new factors, the Cronbach's alpha (CA), average variance extracted (AVE), and composite reliability (CR) were calculated. Table 7 shows the results of the construct reliability and validity. It shows that CA and CR values are higher than the suggested level of 0.7, signifying that the variables are consistent [24]. Further, the AVE values are above the cut-off value of 0.5, showing that the variables' convergent validity condition has been met [24].

Table 7. Validity and reliability results

Variable	CA	CR	AVE
1. Entertainment	0.828	0.885	0.658
2. Health	0.755	0.843	0.575
3. Kinship	0.770	0.823	0.699
4. Outdoor	0.847	0.891	0.620
5. Recreation	0.796	0.859	0.550

The results of the discriminant validity test by the Hetertotrait-Monotrait Ratio (HTMT) as shown in Table 8 indicate that there is no value greater than 0.9, representing that the discriminant validity of the selected variables is accurate [24].

Table 8. Discriminant validity

Construct	Entertain	Health	Kinship	Outdoor	Leisure
Entertainment	0.811				
Health	0.510	0.759			
Kinship	0.431	0.384	0.836		
Outdoor	0.640	0.590	0.548	0.787	
Recreation	0.353	0.411	0.473	0.507	0.741

5. DISCUSSION AND IMPLICATION

The current research has some significant results. First, five new dimensions of hot spring tourist motivation have emerged from the exploratory factor analysis: leisure, health, kinship, outdoor, and entertainment. This finding suggests that these five factors are what the Indonesian hot springs tourists look for when they visit hot springs destinations. This finding is parallel with [4]'s study in which natural hot springs have long been used for recreational reasons in Asia, considering the importance of their medical and therapeutic components. Thus, the hot springs tourism managers shall develop their hot spring destination on the basis of these five factors. Further, the finding of the current study has similarities and differences to [5]'s study in traditional hot springs tourism context in Japan. The similarity is that Japanese hot springs tourists are searching for sight and nature, relaxing, and companion factors when visiting the hot springs. Meanwhile, the difference lays in the destination and hot spring factors. However, the five dimensions of the current study are similar but their items are different from previous studies in various tourism contexts conducted by [17], [13], and [21]. Thus, the hot springs destination managers should not adopt the underlying motivation factors that are different from their core businesses.

Second, the confirmatory factor analysis result has shown the five new factors. This shows that the five elements, as well as their components, are trustworthy

and valid. Thus, they can be used for future research in the hot springs tourism contexts or others. The approach used in this research is different from the one used in [5]'s study, in which it does not test the factors with confirmatory analysis methods but only exploratory factor analysis and k-means approach to segment Japanese hot springs tourists. Thus, the result of the current study is more reliable as it has passed through reliability and validity tests.

Third, the current research is considerably of one scarce studies in the field of hot springs tourism that determine the underlying dimensions of tourists' motivation. Previous studies on hot springs are more about measuring the relationship between tourist motivation and other constructs, e.g. [8], [2], and [10], there are few studies on the underlying factors of hot springs tourist motivation. Thus, the results of this current study add our knowledge on the hot springs tourist motivation dimensions in the context of Indonesian hot springs tourism.

6. CONCLUSION

The results of the current research add to the works on the underlying dimensions of hot springs tourist motivation. Twenty indicators of hot springs tourist motivation have been successfully grouped into five meaningful dimensions through EFA and CFA. Those are leisure, health, kinship, outdoor, and entertainment. The leisure dimension is related to a group of tourists who visit hot springs because of the need to escape from routine, to have a rest and relax, to get an adventure, and to get a novel experience. The health dimension covers a group of tourists who visits hot springs because of their health. They want to have a bath both for enjoyment and prestige. The kinship dimension relates to tourists who are motivated by social interaction and family togetherness. The outdoor dimension involves tourists who search for outdoor activities, natural attractions, scenic beauty, and sports activities. Meanwhile, the entertainment dimension is a group of tourists who considers the entertainment, accessibility, historic and cultural attraction, and recreational activities. For the hot springs destination managers, those motivation dimensions should provide useful guidance to improve and sustain their destination by designing different attractions for tourists relate to their motivation.

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REFERENCES

- [1] Yen C-L, Kyutoku Y, Dan I. Exploring tourists' perceptions of traditional and contemporary hot springs hotels in Japan. *International Journal of Hospitality & Tourism Administration*. 2018;19(3):336-60.
- [2] Lin C-H. Determinants of revisit intention to a hot springs destination: Evidence from Taiwan. *Asia Pacific Journal of Tourism Research*. 2013;18(3):183-204.
- [3] Chen K-H, Chang F-H, Wu C. Investigating the wellness tourism factors in hot spring hotel customer service. *International Journal of Contemporary Hospitality Management*. 2013;25(7):1092-114.
- [4] Lee CF, King BE. Using the Delphi method to assess the potential of Taiwan's hot springs tourism sector. *International Journal of Tourism Research*. 2008;10(4):341-52.
- [5] Kamata H. A Segmentation Analysis of Japanese Spa Tourists. *Journal of Tourism & Services*. 2016;7(12).
- [6] Wong BKM, Musa G, Taha AZ. Malaysia my second home: The influence of push and pull motivations on satisfaction. *Tourism Management*. 2017;61:394-410.
- [7] Devesa M, Laguna M, Palacios A. The role of motivation in visitor satisfaction: Empirical evidence in rural tourism. *Tourism Management*. 2010;31(4):547-52.
- [8] Cain LN, Busser J, Baloglu S. Profiling the motivations and experiences of spa customers. *Anatolia*. 2016;27(2):262-4.
- [9] Liu X, Fu Y, Li J. The effect of on-site experience and place attachment on loyalty: Evidence from Chinese tourists in a hot-spring resort. *International Journal of Hospitality & Tourism Administration*. 2019;20(1):75-100.
- [10] Shavanddasht M, Allan M. First-time versus repeat tourists: level of satisfaction, emotional involvement, and loyalty at hot spring. *Anatolia*. 2019;30(1):61-74.
- [11] Lin C-H. Effects of cuisine experience, psychological well-being, and self-health perception on the revisit intention of hot springs tourists. *Journal of Hospitality & Tourism Research*. 2014;38(2):243-65.
- [12] Bright AD. Motivations, attitudes, and beliefs. *Handbook of hospitality marketing management*: Routledge; 2009. p. 261-87.

- [13] Michael N, Nyadzayo MW, Michael I, Balasubramanian S. Differential roles of push and pull factors on escape for travel: Personal and social identity perspectives. *International Journal of Tourism Research*. 2020;22(4):464-78.
- [14] Pearce PL, Caltabiano ML. Inferring travel motivation from travelers' experiences. *Journal of Travel Research*. 1983;22(2):16-20.
- [15] Crompton JL. Motivations for pleasure vacation. *Annals of tourism research*. 1979;6(4):408-24.
- [16] Dann GM. Anomie, ego-enhancement and tourism. *Annals of tourism research*. 1977;4(4):184-94.
- [17] Bayih BE, Singh A. Modeling domestic tourism: motivations, satisfaction and tourist behavioral intentions. *Heliyon*. 2020;6(9):e04839.
- [18] Yoon Y, Uysal M. An examination of the effects of motivation and satisfaction on destination loyalty: a structural model. *Tourism Management*. 2005;26(1):45-56.
- [19] Dann GM. Tourist motivation an appraisal. *Annals of Tourism Research*. 1981;8(2):187-219.
- [20] Kozak M. Comparative analysis of tourist motivations by nationality and destinations. *Tourism Management*. 2002;23(3):221-32.
- [21] Su DN, Johnson LW, O'Mahony B. Analysis of push and pull factors in food travel motivation. *Current Issues in Tourism*. 2020;23(5):572-86.
- [22] Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate data analysis*. 8th ed. Upper Saddle River: Chengage; 2018.
- [23] Tabachnick BG, Fidell LS, Ullman JB. *Using multivariate statistics*: Pearson Boston, MA; 2007.
- [24] Hair JE, Hult GT, Ringle CM, Sarstedt M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 2 ed. Thousand Oaks: Sage; 2017.