

The Relationship between scuba diving participant's selective attribute, emotional response, and empirical value

Yoo-Chan Lee, Sang- Ok Jung*

*Professor, Department of Recreation and Leisure Sports, Dankook University, Korea
lychan@dankook.ac.kr*

**Instructor, Department of Recreation and Leisure Sports, Dankook university, Korea
ad7918@nate.com*

Abstract

The purpose of this study is to investigate the structural relationship between resort selection attributes, emotional responses, and empirical values of scuba diving participants. The general population who enjoys scuba diving in Korea was selected as the population. Using the convenience sampling method, 553 of the 600 questionnaire samples were extracted as the final valid sample. For data processing, frequency analysis, exploratory factor analysis, and Cronbach's α test were performed using SPSS 23, and confirmatory factor analysis and structural equation model analysis were performed with AMOS 18. The results are as follows: First, among the sub-factors of selection attributes, equipment, facility environment, and diving point showed a positive effect on emotional response, but staff service did not have any significant effect. Second, the emotional response positively affected by the selection attribute showed a positive effect on all factors of service excellence, consumer utility, fun value, and aesthetic value of empirical value. Therefore, scuba diving resort managers must recognize the importance of equipment, facility environment, and diving point among these selection attributes of customers. And to satisfy the customer needs the resort must accurately identify the needs for diving equipment, facility environment and diving point. Various methods for this should be explored through the needs of the identified customers, and efforts should be made to provide safe equipment, comfortable facilities, and various diving points.

Keywords: *scuba diving, selective attribute, emotional response, empirical value*

1. Introduction

Sports activities in modern society are increasing in value as a tool to pursue the enjoyment of life beyond the purpose of promoting health. Modern people are active in nature-friendly adventure sports as active leisure activities to satisfy their desire to escape from the boredom of daily life. Korea has a geographical environment called the sea on three sides, so it has a good environment to enjoy marine sports. Among various marine sports, scuba diving has become one of the extreme sports and has recently become popular among young people with an increasing number of participants wanting to enjoy scuba diving experience the mysteries of the sea. And

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Corresponding Author: ad7918@nate.com

Tel: +82-41-550-3807

*Instructor, Department of Recreation and Leisure Sports, Dankook university, Korea

it is a representative adventure sport with increasing public interest.

The sea is also a place of fear that calls for challenges, adventures, and courage against the danger and fear. Therefore, you should participate in scuba diving activities with a more challenging spirit, and when you overcome your fear from the sea, you will feel a sense of mystery in the sea as you enjoy the freedom from your daily life [1].

From this point of view, participants can have a challenging spirit about the underwater environment and even a perception of underwater tourism indicating various demands for the selection of scuba diving resorts. In other words, as it is nature-friendly, scuba diving has a major impact on participants' selective attributes of scuba diving resorts including equipment, facilities, services, and underwater environment.

These optional attributes are distinguishable from the various attributes of scuba diving participants who choose scuba diving resorts, which affect participants' preferences or behavioral decisions, and are directly related to participants' purchasing decisions or preferences. It is a property that has a significant impact on the participant's decision-making as a basis for purchasing a product or service [2]. This suggests that it is necessary to better understand the participants' needs and needs for the scuba diving resort's optional properties, and to overhaul the operation strategy considering the various optional properties that scuba diving resort consumers perceive [3],[4].

According to Ahn's(2016) study, the optional attribute factor has a positive affects on the emotional response of participants which will play an important role in consumer's choices [5]. In addition, Lee Hak-sik and Lim Ji-hoon(2002) defined emotions as those directly experienced as a result of consumption, and defined consumption as a concept that includes buying and using a product or service[6],[7]. Modern people are increasingly interested in empirical consumption beyond material consumption as their desire to improve the quality of life grows. Empirical consumption has a greater impact on positive feelings such as pleasure and happiness for quality of life than material consumption, which is an essential factor in enhancing the quality of life for people who have experiences, and this emphasizes the importance of empirical value [8]. The purpose of this study is to provide data to expand the base of scuba diving and improve the image by identifying the empirical value of experiencing mysterious sea by the emotional response of scuba diving participants who represent adventure sports based on various underwater environments. In addition, we would like to provide basic data to establish strategies for efficient and reasonable tactics for the scuba diving resorts for the development of marine sports and expansion.

2. Research hypothesis

2.1 Relationship between selective attributes and emotional responses

Lim and Kim(2014) said in a study of fitness center customers that factors such as cost, leader, and atmosphere among the selective attributes significantly affect consumers' feelings [9]. In a study of outdoor sportswear customers, Ahn(2016) said that sub-factors of selective attributes such as functionality, symbolism, aesthetics, and participation significantly affect emotional responses [10]. In addition, Park(2018) said in a study of screen baseball stadium users that service and professional factors among selective attributes significantly affect consumers' feelings [11]. The results of these preceding studies show that selective attributes can affect emotional responses. Therefore, the following research hypotheses were established for the relationship between selective attributes and emotional responses.

Hypothesis 1. Selective attributes will have a significant effect on emotional responses.

2.2 Relationship between emotional response and empirical value

Lee(2014) said that the consumption feelings consisting of pleasure directly affect consumption values consisting of social values, functional values, emotional values, rare values, and contextual values [12]. Wong, Chang, Lee and Lin(2011) said that in online shopping situations, shoppers' feelings such as awakening and enjoyment have a positive impact on practical and hedonic values of shopping. In addition, Jeong(2015) said that positive emotions significantly affect perceived values in a study of visitors to the marine festival [13]. The results of these prior studies show that emotions can play an important role in shaping value[14]. Therefore, the following hypotheses were established for the relationship between emotional response and empirical value.

Hypothesis 2. Emotional responses will have a significant impact on empirical value.

3. Research Method

3.1 Research Subjects

The subjects of this study selected ordinary people who enjoy scuba diving as a population. Samples were taken using convenient sampling methods among non-probability sampling methods. To collect data, two scuba diving resorts in Jeju, a famous scuba diving area in Korea, and one in Uljin-gun in Gyeongsangbuk-do and Goseong-gun in Gangwon-do were selected as places to collect data. The survey was approved through a meeting with resort officials in advance. After explaining the purpose of this study to the subjects at the site, the questionnaires were distributed with the consent of the participants and collected using self-administration. In this process, a total of 600 questionnaires were recovered, excluding 47 of which were considered unreliable, and 553 questionnaires were used as the final valid sample. Consequently, the general characteristics of these subjects are as given in Table 1.

Table 1. General Characteristics of Subject

Classification		Frequency	Percentage(%)
Sex	Male	367	66.4
	Female	186	33.6
Age	20s	98	17.7
	30s	214	38.7
	40s	178	32.2
	50s or Over	63	11.4
Diving Frequency	1~4/yr	101	18.3
	5~9/yr	206	37.2
	10~20/yr	164	29.7
	20 or more/yr	82	14.8
License	OPENWATER-Beginner	167	30.2
	ADVANCED / RESCUE-Intermediate	216	39.1
	DIVE MASTER-Higher Rank	107	19.3
	INSTRUCTOR-Instructor	63	11.4
Total		553	100

3.2 Research Tools

A structured questionnaire was used as a measurement tool for identifying the relationship of variables established in this study, and the composition of the questionnaire by factor consisted of 43 questions in total, as shown in Table 2.

In this study, the measurement items of variables with proven reliability and validity used in the preceding study were refined and modified to conform to this study to construct the measurement scale of the composition concept on a 5-point Likert scale.

The survey questions to measure the optional attributes were revised and supplemented for the purpose of this study based on the results of Kim et al. (2019), who explored the optional attributes of scuba based on the study of Choi(2012) and Lee(2014)[15],[16],[17].

The survey questions to measure emotional responses were modified and supplemented to suit the questions used in the study of Lee, Oh and Kim(2013)[18].

The research questionnaire used in Mathwick, Malhota & Rigdon(2001) and Lee(2010) were modified and supplemented for measuring empirical value for this study [19],[20].

Table 2. Detail Organization of Investigation Tools

	Factors	No. of Questions
Selective Attribute	Equipment	4
	Services	5
	Facility Environment	4
	Diving Point	4
	Emotional Response	4
Empirical Value	Consumer Utility	5
	Aesthetic Value	4
	Service Excellency	5
	Fun Value	4
	General Characteristics	4
	Total Questionnaire	43

3.3 Validity and Reliability Analysis

A verifiable factor analysis was performed to verify intensive feasibility and discriminative validity for the entire research unit, resulting in the results shown in Table 3. The maximum likelihood method (ML), which assumes multivariate normality, was used as a practical analysis measurement.

The degree of conformity was verified through TLI (standard .9 or higher) and CFI (standard .9 or higher) presented by Netemeyer, Bearden & Sharma(1997) and χ^2/df values (standard 3 or less) and RMSEA (standard .05 to 0.08) presented by Kim(2007)[21],[22]. To verify the optimal state of the composition concept and each variability, the suitability is evaluated and the result is TLI=.926, CFI=.935, $\chi^2/df=2.548$, RMSEA=.073 as shown in Table 5 indicates that the suitability is relatively satisfactory. In addition, we compared the standard reliability presented by Kim(2013), the average variance extraction value(AVE), and the conceptual reliability to verify concentrated feasibility[23]. The result is that all factors are above the AVE(.5 or higher), Conceptual Confidence(.7 or higher), and Standard Reliability(.5 or higher), which satisfy the concentrated justification.

Table 3. Confirmatory factory analysis & reliability

	Factors	S.E.	M.E.	C. R	AVE	Cronbach's α
Selective Attribute	Employee 1	.822	.168	.944	.808	.892
	Employee 2	.859	.186			
	Employee 3	.876	.235			
	Employee 4	.887	.116			
	Equipment 1	.874	.257	.941	.801	.914
	Equipment 2	.926	.149			
	Equipment 3	.921	.162			
	Equipment 4	.888	.240			
	Facility 1	.829	.284	.909	.770	.860
	Facility 2	.873	.247			
	Facility 3	.908	.148			
	Diving Point 1	.713	.353	.916	.733	.836
	Diving Point 2	.844	.181			
	Diving Point 3	.852	.186			
	Diving Point 4	.832	.240			
	Emotional Response	Emotion 1	.942	.054	.952	.833
Emotion 2		.962	.032			
Emotion 3		.835	.183			
Emotion 4		.658	.319			
Empirical Value	Consumer Utility 1	.833	.163	.961	.781	.933
	Consumer Utility 2	.818	.244			
	Consumer Utility 3	.744	.263			
	Consumer Utility 4	.853	.161			
	Consumer Utility 5	.893	.134			
	Consumer Utility 6	.837	.135			
	Consumer Utility 7	.730	.210			
	Aesthetic Value 1	.804	.252	.925	.755	.892
	Aesthetic Value 2	.795	.266			
	Aesthetic Value 3	.800	.202			
	Aesthetic Value 4	.854	.140			
	Service Excellency 1	.840	.223	.946	.814	.905
	Service Excellency 2	.836	.244			
	Service Excellency 3	.924	.132			
	Service Excellency 4	.924	.114			
	Fun Value 1	.785	.147	.953	.836	.897
Fun Value 2	.761	.171				
Fun Value 3	.868	.122				
Fun Value 4	.892	.100				

$\chi^2=902.125$, $df=354$, $p=.000$, $\chi^2/df=2.548$, $TLI=.926$, $CFI=.935$, $RMSEA=.073$

3.4 Data Processing Methods

Data processing was performed using SPSS 23 and AMOS 18 to achieve the purpose of this study.

Frequency analysis was conducted to explain the general characteristics of the survey subjects and the composition of the survey questions, and exploratory factor analysis and Cronbach's test were conducted to ensure reliability for the feasibility of the survey tools.

In addition, structural equation model analysis was performed to verify the concentrated feasibility and discriminative feasibility of the measured items shown in the exploratory factor analysis results, correlation analysis, and hypothesis verification.

4. Results

4.1 Correlation Analysis

In this study, a correlation analysis to verify the discriminative validity between each factor shows that the measures used in this study have discriminative validity, as shown in Table 4.

Table 4. correlation analysis

Factors	1	2	3	4	5	6	7	8	9
Employee	1								
Equipment	.679**	1							
Facility Environment	.701**	.676**	1						
Diving Point	.777**	.702**	.740**	1					
Emotional Response	.593**	.497**	.460**	.684**	1				
Consumer Utility	.542**	.412**	.437**	.658**	.712**	1			
Aesthetic Value	.687**	.598**	.637**	.820**	.854**	.740**	1		
Service Excellency	.614**	.444**	.566**	.620**	.649**	.558**	.697**	1	
Fun Value	.603**	.483**	.480**	.690**	.764**	.765**	.728**	.709**	1

** $p < .01$

4.2 Hypothesis Verification Results

The model set up in this study was analyzed and the results were shown in Table 5. Table 5 shows TLI=.918, CFI=.930, $\chi^2/df=2.632$, RMSEA=.074 indicating that it was relatively satisfying the suitability. Therefore, the study model established in this study could be determined to be relatively appropriate, so there was no problem verifying the hypothesis. Thus, the hypothesis H1-1 was dismissed as shown in Table 7 by validating the study model established in this study, but all other hypotheses were adopted.

Table 5. Hypothesis Verification Results and Model

	Hypothesis		Estimate	S.E.	t	Adoption Status	
H1-1	Employee	⇒	Emotional	.073	.110	.661	dismiss

			Response				
H1-2	Equip.	⇒	Emotional Response	-.100	.050	1.990*	adopt
H1-3	Facility Environ.	⇒	Emotional Response	-.308	.089	3.483***	adopt
H1-4	Diving Point	⇒	Emotional Response	1.246	.177	7.043***	adopt
H2-1	Emotional Response	⇒	Consumer Utility	.842	.054	15.574***	adopt
H2-2	Emotional Response	⇒	Aesthetic Value	.924	.064	14.385***	adopt
H2-3	Emotional Response	⇒	Service Excellency	.933	.065	14.248***	adopt
H2-4	Emotional Response	⇒	Fun Value	.733	.046	15.919***	adopt

$X^2=963.234$, $df=366$, $p=.000$, $X^2/df=2.632$, $TLI=.923$, $CFI=.930$, $RMSEA=.074$

* $p<.05$, *** $p<.001$

5. Conclusion

The results of this study show that equipment, facility environment and diving points among Scuba Resort customers' selective attributes have a positive effect on emotional response, which positively affects empirical values and ultimately leads to revisit. Therefore, people in charge of scuba diving resorts will need to recognize customers' selective attributes as important to give them positive emotional responses and empirical value. In particular, customers should be able to positively recognize the structure of changes in facilities. In other words, efforts should be made to identify the level of facilities that customers want and expect, and to build facilities to meet their expectations. Also, a good pointing sites for the scuba diving can be seen as one of the important selective attributes when customers are looking for a resort. Therefore, various efforts will be needed to accurately identify the underwater environment in the area where the resort is located and introduce better scuba diving points to customers. Through these efforts, providing customers with better facilities and diving points will create positive feelings for many customers and encourage them to continue looking for them in the future. And the people in charge of the scuba diving resort will have to look for various ways for customers to visit the resort to have good feelings and good memories. In addition, the resort should be valued by exploring strategies such as posting good feelings and memories of customers who have visited through SNS or Internet websites so that they can share them with potential customers.

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