

An Influence of Outdoor Recreation Participants' Perceived Restorative Environment on Wellness Effect, Satisfaction and Loyalty

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Abstract. During recent years in Korea, the participants in outdoor recreation have significantly increased, and relevant industries have also shown a great growth. This phenomenon is to pursue outdoor recreation based on nature as a way of maintaining healthy lifestyle. This study aimed to explore how perceived restorative environment influences wellness, satisfaction, and loyalty by researching climbers in the National Park. The data were collected at four times only on weekends from 12th July to 20th July 2014 at the entrance of Mt. Dobong in Mt. Bukhand National Park in Seoul. Researchers selected every 5th visitors with systematic sampling. Out of 420 collected questionnaires, except from 20 questionnaires which include unanswered items, 400 questionnaires were used for empirical analysis. The result of the analysis by using SEM shows that perceived restorative environment has a critical influence on wellness, and this wellness also affects satisfaction and loyalty. This result of the research provides a useful insight into how policy makers and practitioners in the National Parks, urban parks and Ministry of Health and Welfare develop the places for outdoor recreation based on nature in order to pursue wellness as a way of the improvement of the public health.

1 Introduction

As outdoor recreation has been recently booming in Korea, the extraordinary growth in outdoor industry is perceived as an unprecedented phenomenon which cannot be found in any other places in the world. This attributes to the increase of leisure time due to 40 hours of working time per week, a raise of pay, and the growth of interests in health and wellbeing. The contemporary population who resides in urban areas tends to pursue wellness through outdoor recreation based on nature in order to relieve work-related stress and tensions due to the urban environment.

Wellness pursues not only physical health but also emotional, physical, intellectual, social, occupational, and spiritual wellness [1], and the ultimate aim of this wellness is balanced happiness of life [13]. The study on the relationship between nature-based activities and psychological health has been actively conducted worldwide to find the causes and effects resulted from outdoor recreation activities pursuing wellness. They are mainly the study on the effect on health restoration through experimental methods such as restoration experience based on restorative environment perception [6], the gap between nature environment and urban environment [12], the study that proves the effect through physical measurement as well as psychological measurement as a result of the development of science [11], the degree of satisfaction of wellness tourism [17]. In reality, though, there is lack of the research on the correlation between multi-dimensional wellness and perceived restorative environment

on nature-based outdoor recreation which people in the contemporary world generally pursue in their daily lives.

2 Literature Review

Restorative environment is a main concept of Attention Restoration Theory and the environment that does not require directed attention but restore fatigue and energy [16]. The feature of restoration environment in attention restoration can be measured in four perspectives including 'being-away', 'fascination', 'coherence', and 'compatibility' [15]. Compatibility refers to the quality that environmental condition is equated to purposes and character the person requested. It should be easy to move from the place the direction that one prefers.

Wellness is not new one in public health and medical history but started as a way of expression to escape from a pain of disease for a holy purpose and the notion of wellness has a meaning of more than the absence of disease [9]. Since then, many scholars have defined the core notion of wellness not as simply absence of disease but as pursuit of more than that [5]. This wellness is a process of achieving wellbeing [7] and can be explained as an individual's positive health condition such as the quality of life and wellbeing in a multidimensional state [3]. Therefore, the purpose of wellness is health, physical training, the quality of life, the balance of happiness, tension-relief and stress-ease [13].

Many studies show that people tend to better recover in natural environment than green environment in urban environment [4].

Hypothesis 1: Perceived restorative environment will have a critical influence on mental wellness.

Hypothesis 2: Perceived restorative environment will have a critical influence on emotional wellness.

Hypothesis 3: Perceived restorative environment will have a critical influence on social wellness.

Customers' satisfaction is very important, and as satisfaction in tourism industry can determine a company's survival or failure, the perception on customers' satisfaction is always crucial [14]. In previous research, wellness was found to have a positive effect on satisfaction [17]. Therefore, this study has established the hypothesis that wellness pursuit in natural environments will affect satisfaction of nature-based outdoor recreation as follows:

Hypothesis 4: Mental wellness will have a beneficial effect on satisfaction.

Hypothesis 5: Emotional wellness will have a beneficial effect on satisfaction.

Hypothesis 6: Social wellness will have a beneficial effect on satisfaction.

Loyalty is the most important variable of marketing in business [2]. The loyalty and purchase intentions have been used reciprocally in marketing and tourism [18]. Therefore, based on previous research, this study has established the hypothesis to explore how much satisfaction of outdoor recreation for health can affect in natural perceived restorative environment of nature as follows:

Hypothesis 7: Satisfaction will have a beneficial influence on loyalty.

3 Method

3.1 Measurement

This study aimed to reveal how perceived restorative environment affects wellness effect and satisfaction behavior intentions. Therefore, perceived restorative environment is divided in five different elements of Berto's simple scale. Wellness effect was based on Huttler's six areas and previous studies, and Kim (2001) created five areas of Korean wellness life style scale (KWLESS) for Korean context.

3.2 Data Collection

The data were collected at four times only on weekends from 12th July 2014 to 20th July 2014 at the entrance of Mt. Dobong in Mt. Bukhand National Park in Seoul. The place of data collection included the subway station of Mt. Dobong and bus stops, where there was the most numbers of pedestrians staying because of transportation convenience. For the systematic sampling, the researchers selected every 5th visitors for the questionnaire among mountain climbers who got out of the exit. As there was the popular time of climbing, the rate of rejection of response was high. The number of questionnaires distributed was 1,125 and 420 questionnaires were collected among them. Based on this process, the rate of response is 37.33%. Out of 420 questionnaires collected, 20 questionnaires were deleted because they include unanswered items. Finally 400 questionnaires were used for empirical analysis.

3.3 Data Analysis

SPSS 18.0 was use for the data analysis of 400 questionnaires for frequency analysis, exploratory factor analysis, and reliability analysis. Also, in this study, the two-stage testing procedure was adopted by using AMOS 18.0.

4 Results

4.1 Characteristics of Respondents

The general characteristics of respondents are shown in Table 1. The rate of the gender of respondents is similar between male and female, 49.5 and 50.5%, respectively.

Table 1. Characteristics of Respondents

Characteristics		n	%	Characteristics		n	%	
Gender	Male	198	49.5%	Marital Status	Single	149	37.3%	
	Female	202	50.5%		Married	246	61.5%	
					Other	5	1.3%	
Education	High school or less	149	37.3%	Age	Below 19	56	14.0%	
	Junior College	53	13.3%		19 ~ 29	56	14.0%	
	University	183	45.8%		30 ~ 39	67	16.8%	
	Graduate school	15	3.8%		40 ~ 49	84	21.0%	
			50 ~ 59		97	24.3%		
			Over 60		40	10.0%		
Occupation	Professional	49	12.3%	Monthly Household Income (US\$=1,000 Won)	Less than 1 million won	74	18.5%	
	Business	50	12.5%		1-2.99 million won	126	31.5%	
	Service	49	12.3%		3-4.99 million won	129	32.3%	
	Clerical	54	13.5%		5-6.99 million won	43	10.8%	
	Official	19	4.8%		7-8.99 million won	18	4.5%	
	House wife	50	12.5%		Over 9 million won	10	2.5%	
	Student	89	22.3%					
	Unemployed	19	4.8%					
Others	21	5.3%						
Total		400	100%	Total		400	100%	

4.2 Measurement Model

This study used Confirmatory factor analysis to analyze structural relationships, and structure model as the two-stage testing procedure [10].

Table 2. Goodness-of-fit Indices

Model	CMIN	DF	CMIN/DF				RMSEA
			(Normed χ^2)	NFI	TLI	CFI	
Measurement Model	466.011	211	2.209	.915	.942	.951	.055
Structural Model	526.785	218	2.416	.904	.932	.941	.060
Suggested value			<3	>0.9	>0.9	>0.9	<0.08

Note. NFI: Normed Fit Index, NNFI: Non-Normed Fit Index, CFI: Comparative Fit Index, RMSEA: Root Mean Square Error of Approximation.

4.3 Confirmatory Factor Analysis

Reliability analysis was adopted in order to test reliability of a measurement model of construct.

Table 3. Results of Confirmatory Factor Analysis

Factor	Observed Variable	Convergent Validity				α	
		λ	C.R.	AVE	CR		
Perceived Environmental Restorativeness	This is a place away from everyday demands where I would be able to relax and think about what interests me. (being away)	.617				.806	
	This place is fascinating; it is large enough for me to discover and be curious about things. (Fascination)	.713	11.815				
	That is a place where the activities and the items are ordered and organized. (Coherence)	.642	9.162	.532	.850		
	That is a place which is very large, with no restrictions to movements; it is a world of its own. (Scope)	.610	8.435				
Wellness	In this place, it is easy to find my way, move around, and do what I like. (Compativility)	.600	8.442			.897	
	Spiritual	Mountain climbing enhances achievement.	.703				
		Mountain climbing enhances a motivation of life.	.879	16.624			
		Mountain climbing enhances the worth of life.	.870	16.050	.801		.941
		Mountain climbing enhances self-confidence.	.874	16.113			
	Emotional	Mountain climbing provides mental comfort.	.817				
		Mountain climbing eases stress.	.854	18.226	.743		.896
	Mountain climbing helps positive attitude.	.687	13.694				
Social	Mountain climbing enhances a sense of altruism.	.652		.685	.866		

	Mountain climbing enhances respect of others.	.866	13.653			
	Mountain climbing improves social relationship.	.771	11.478			
	Mountain climbing satisfies my expectation	.707				
Satisfaction	I am satisfied with my decision to visit mountain climbing	.804	17.569	.719	.885	.870
	I feel very good with mountain climbing	.815	14.598			
	Overall, I am satisfied with the mountain climbing	.816	14.585			
	I would like to visit mountain climbing next time	.758				
Loyalty	I will recommend the mountain climbing to my friends and neighbors	.821	16.386			
	I will prioritize mountain climbing over other outdoor recreation when deciding whether to activity	.657	13.019	.704	.904	.924
	I will spread positive word-of-mouth about the festival	.816	16.268			

Note. λ : Factor loading, C.R.: Critical Ratio, AVE: Average Variance Extracted, CR: Construct Reliability, α : Cronbach's Alpha.

As shown in Table 4, discriminant validity and nomological validity were analyzed by correlations of confirmatory factor analysis. There are three kinds of method in order to test discriminant validity which shows the difference among latent variables [8]. The first way is that if average variance extracted between two factors is higher than coefficient of determination (r^2), which is square of each factor's correlation coefficient, it can be said that discriminant validity between two factors is achieved. The second way is a method of using standard error which $\phi \pm 2 \times \text{S.E.}$ is lower than 1. The last way is to identify discriminant validity through the difference of χ^2 between unconstrained model and constrained model. In this study, the first method was used to test discriminant validity, and as in Table 4 discriminant validity was achieved since coefficient of determination (r^2), which is square of each factor's correlation coefficient, was generally lower than average variance extracted. However, as coefficient of correlation between satisfaction and loyalty was higher than average variance extracted, discriminant validity was verified by using the second method, standard error of correlation coefficient. Correlation coefficient of satisfaction and loyalty is $[\lambda \pm 2 \times .025 = .92 \sim .82]$ by applying 0.865 and 0.025, which is the standard error between two latent variables, into $[\phi \pm 2 \times \text{S.E.}]$, and discriminant validity is achieved as it does not include 1.

Table 4. Measure Correlations, Squared Correlations

Constructs	PRS	SPW	EMW	SOW	SA	LO
PRS	.532					
SPW	.641*** (.410)	.801				
EMW	.622*** (.386)	.726*** (.527)	.743			
SOW	.521*** (.271)	.603*** (.363)	.532*** (.283)	.685		
SA	.583*** (.309)	.527*** (.277)	.555*** (.308)	.432*** (.186)	.719	
LO	.547*** (.299)	.563*** (.316)	.551*** (.303)	.498*** (.248)	.865*** (.748)	.704

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. The number in the parentheses indicate R Squared(r^2), Diagonal Bold text is Average Variance Extracted (AVE)

4.4 Test of Hypotheses

Research model analysis in figure 1, perceived restorative environment is a high path coefficient and is found to have a crucial influence on mental, emotional and social effect of wellness. This great effect can be proven in the result of the study that mountain climbers perceive the environment of Mt. Bukhan National Park as the best environment in wellness-pursuit. Also, it has been found that mental, emotional and social effects of wellness have a positive influence on satisfaction, and emotional effect has the greatest influence on satisfaction. This shows that people are satisfied with health-pursuit through climbing in Mt. Bukhan National Park. It is found that satisfaction of outdoor recreation climbing has a great influence on loyalty. This result shows that urban residents pursue health in natural environments, and climbers who enjoy outdoor recreation regard perceived restorative environment of Mt. Bukhan National Park as a natural environment as the optimal place for health-pursuit.

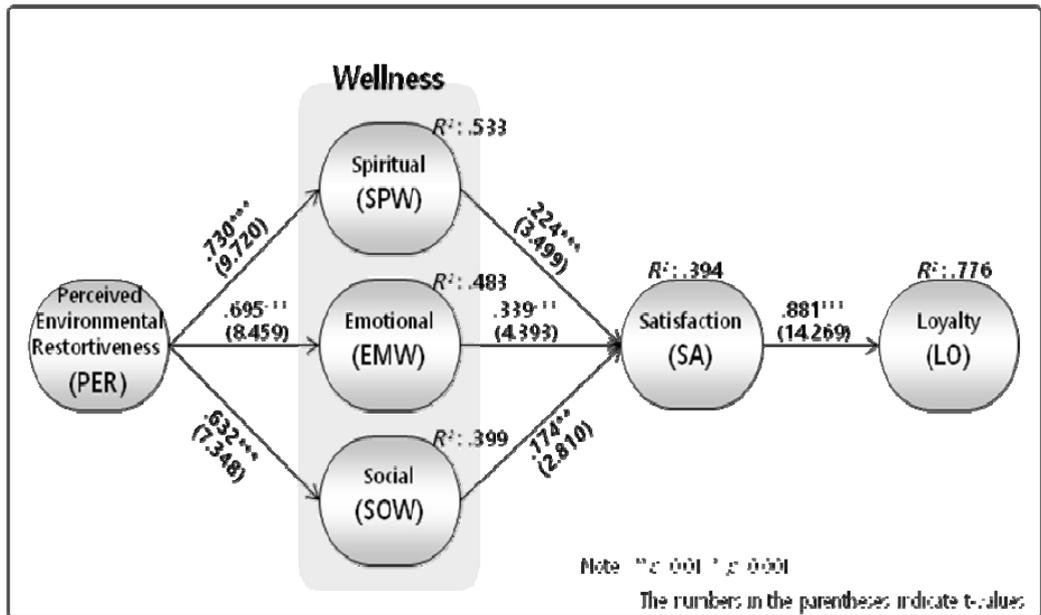


Figure 1. Estimates of the Structural Model.

5 Conclusion

The theoretical implication of this study is to explore the relationship between natural restorative environment perception and wellness with the participants in nature-based outdoor recreation based on the previous study that natural restorative environment perception has a crucial effect on restorative experience. Also, based on the result of research, the study can provide academic theoretical expansion and practical implication as follows. Perceived restorative environment in this study is found to have a great influence on spiritual, emotional and social wellness. This result means that climbers who were participated in outdoor recreation in a natural environment of National Parks have a positive perception on natural restorative environments, and therefore this perception affects wellness for health-pursuit. For the public health, in order to make people easily use nature-based National Parks, it needs to develop trails according to the features of National Parks, and build up parks of greener environment where people can enjoy nature in cities, because this can reduce stresses due to overwork and noise people in cities experience. Companies in high-floor buildings can make the roof of the building into gardens in order to ease stress due to overwork and consequently enhance efficiency in work by making natural environment.

Also, satisfaction is found to have a great effect on loyalty. This result shows that as people in the contemporary world who pursue wellness have a high degree of satisfaction through nature-based outdoor recreation, nature-based outdoor recreation needs to be conducted for actively pursuing wellness. In the time when the urban population has increased, the places where people can enjoy nature-based recreation should be built up around cities in order to ease various kinds of stress from urban life such as stress from urban environment and work-related stress. Through this effort, people can pursue wellness for a better life, and the government should prepare for the improvement of the cities' environment in a long term for the public health.

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