

Investigating the impact of visitors' perceptions and attitudes towards Sustainable Tourism Management in Greece: The case of Pella prefecture

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Abstract. Tourism is one of the key factors for regional development while in combination with alternative forms developed in an area, it can contribute to the integrated development of economic growth within it. In this line, this study presents scenarios for the spatial and tourist interventions in the county of Pella aimed for planning the management of specific alternative forms of tourism and the development of a new policy and governance. The survey was conducted using a face-to-face questionnaire survey (n = 323 guests) and it is based on an analysis of the data which emanated from investigating the attitudes and opinions of the visitors of the Thermal Springs of Pozar, which was used as a sampling center, while the parameters considered were the sustainable management of the wider region and the creation of a tourist destination package with the purpose of transforming the area into a holiday resort.

Keywords: Recreational Value, Recreational Activities, PCA, Typology.

1 Introduction

Sustainable management of tourism in Greece is a growth strategy for both government policies and private businesses and companies, following the Guidelines set by the European Commission as well as current EU regulations. The (Contingent Valuation Method) CVM is a recognized methodology in the field of the economics of the environment, acknowledged by the European Commission for determining spatial GIS data in areas of special scientific interest (Quintano and Barredo, 2015). Determining the economic value of a good is described using direct and declared preferences (Stated Preference Methods - SPM) and indirect methods or disclosed preferences (Revealed Preference Method - RPM) for the economic valuation of the environment by dividing its value in use and no use (Fürst et al. 2000). The economic evaluation applied by the CVM methodology (direct method) can be applied to natural resources such as forests and aquatic resources for the presentation of new management policies and the sustainable development of a region. In particular, the WTP technique was used for the valuation of forest recreation as an economic dimension at the University Forest of Pertouli, in Greece (Matsiori et al. 2012). In a

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coastal region of Volos, Halkos and Matsiori (2012) applied the CVM to enhance environmental resources and recreational activities. What is more, they chose a sample of visitors/tourists in another research with the aim to explore the importance of water resources and value the protection of aquatic ecosystems (Halkos and Matsiori, 2013). Biodiversity, another environmental parameter necessitating protection, was the developmental pillar of the CVM for Halkos and Jones (2012). Also, in many cases, the recreational value of economic valuation of natural resources of a national park focuses on wildlife, with conflicts identified on the WTP of/by visitors concerning environmental problems (Zyl et al. 2000).

The purpose of this research is to record and analyze tourism and development demand conditions with an environmental, social and economic impact on a region. For this reason, with the help of employing a tool, a map for leisure was formed to record the tourism value and the importance of a leisure destination in combination with other ones along with intervention scenarios both in the research area of the Thermal Springs of Pozar and the wider area.

Investigation of CVM Analysis

The method of Dependent Valuation (CVM) is based on the development of techniques of Willingness to Pay (WTP) (Jones et al. 2011) Willingness to Accept (WTA) and Willingness to Travel (WTT) using a questionnaire as a tool which involved both open and closed questions as well as the use of cards (Vakrou and Parry, 1997). The hypothetical market which is formed through the application of the method is developed through specific stages of presenting environmental problems and ways of solving them or rationally managing them (Garrod and Willis, 1999).

The satisfaction of visitors in a recreation area can be expressed and measured by means of presenting criteria of leisure activities (Arabatzi and Grigoroudis, 2010). Concerning mountainous regions, many researches presented goods to be evaluated by applying the WTP for offering services with an environmental, social and economic impact on a region (Apostolidis and Latinopoulos, 2015). Attitudes and opinions of the visitors of an aesthetic forest in Greece were investigated by Papaspyropoulos and Pappas (2008), who developed a guest typology by creating a hypothetical market and use of ticket with the aim to provide an economic evaluation of the visiting area by consumers and highlight the importance of multiple-use forests.

Investigating the literature concerning CVM, most authors and researchers combine this methodology with additional multivariate analysis such as PCA, Cluster Analysis, and Cronbach's α , resulting in the development of reliability indicators for governance policies (Jones et al. 2008; Halkos and Matsiori, 2012; Halkos and Matsiori, 2014). In addition, in research conducted by Togridou et al. (2006), the accounting regression model (Logit) and the multiple regression models were used to indicate the importance of environmental parameters, information sources with characteristics of visitors of the sample.

2 Sampling and Statistical Methodology

To conduct the present research, questionnaires aimed at the population of visitors to the Pozar Thermal Springs during the winter period of 2015-2016 were used. The sample size is $n = 323$ guests, which should be considered as representative, and the use of results should meet the basic statistical conditions. A questionnaire was drafted and tailored to be filled on site with personal interviews of the respondents - guests carried out by the investigator.

The Haphazard Sampling method was used, which is a method applicable to recreation and yields samples that are not based on probabilities (Matis, 2004). The definition of the total sample size is provided by the following Formula (Humphry, 2004; Thrusfield, 2005):

$$n = \frac{Z^2 \times P(1-P)}{e^2} \quad (1)$$

where:

Z = value from standard distribution corresponding to desired confidence level
($Z=1.96$ for 95% CI)

P = estimated true proportion (prevalence)=0.3

e =desired precision=0.05

Therefore, the Total Sample Size calculated: $n= 323$ questioners.

The processing of the results and the analysis of the data were realized by using the statistic program IBM SPSS v.20. The Method of Factor Analysis in Principal Component Analysis was used to reduce the large number of criteria set on the respondents and to form new parameters and finally the Rotation Method: Varimax with Kaiser Normalization was used (Rencher, 2002; Arabatzis and Myronidis, 2011; Tsiantikoudis et al. 2013; Ntona et al. 2015; Galatsidas et al. 2015). The χ^2 test was used to investigate the relationships and strength among the variables (Ntona et al. 2015). Also, Hierarchical Cluster Analysis was used in order to create a typology (Sharma, 1996; Johnson and Wichern, 2007; Grigoroudis et al. 2012; Galatsidas et al. 2015).

3 Field of Research

This study focused on the prefecture of Loutraki Arideas, which is situated in Central Macedonia. The Loutraki region is a mainly mountainous area of 1.146 residents, according to the Greek National Census of 2011. Tourist facilities are organized in a small spa town with hotels, swimming pools, changing rooms, restaurants, cafeteria. In the Spa area, there are guesthouses within a distance of one kilometer, while in Loutraki and the wider area there are hotels and apartments. In winter, many visitors combine the thermal spa with the ski center of Kaimaktsalan. Hiking, walks in the gorge of Loutra, climbing, and visits to the caves of the area are some of the activities for the visitors.

4 Results

As regards the question, which focused on creating a new vision or proposal on the management of the wider region, 83.3% of the sample (n = 269) guests stated that they have a new vision for the region, while only 16.7% (n = 54) of the respondents have no vision. Then, visitors who have a new management vision were asked through prefabricated closed-ended questions to choose proposals that can be implemented in the region through the technique of willingness to travel (WTT). The first proposal concerned the construction of a Cable car from the Thermal Springs of Pozar to the Kaimaktsalan Ski Centre since both recreational areas are located in the same mountainous area. The results revealed that this scenario would be chosen by 205 guests (63.5%) while it would not be chosen by 64 of the respondents (19.8%). Regarding the second proposal, which involved developing an Environmental Education Center, 124 respondents (38.4%) were positive while 145 respondents, that is 44.9% were negative. Regarding the third proposal, the development of organized ecotourism leisure activities such as hiking/climbing, etc., 171 of the sample visitors, that is 52.9% were in favour of it while as a lower rate of 30.3% (n = 98) were not in favour of this vision. Finally, the opportunity was given to sample visitors to express their opinion through a free and open-ended question which produced the results presented below. The Alternative Proposals for the Management of the Wider Area are: Wi Fi ,Wind Surfing – Kite-surfing in Lake Vegoritida, Sports Facilities, Upgrading the facilities of Pozar, Utilization of Geothermal Energy, Utilization and renovation of the old hotel, Utilization of Geothermal Energy, Development of Religious tourism in Monastiraki, Utilization of old accommodation facilities, Development of an English language site with offers on tourism packages, Creating a sports and medical center , Designating a special area for caravans Establishing Sanitary facilities for waste management, Create fauna access sites, Developing a traditional settlement, Leisure time-Introducing organized centres - Clubs, Promoting abroad through advertising, Water resources management, Activities for children, Horse riding , Casino , Better links among nearby destinations (roads), Campsite, Construction of a Pool Bar, Cafes for non-smoking individuals, Transferring and creating Folklore Museum within the Resort, Guided tours in the Springs area, Guided Tours across Almopia region - excursions, Exploring nature on horseback and more Spas and baths.

The estimate of the additional frequency of visits to the Pozar Thermal Springs in case the options related to the visions for the region were realized, has significant results concerning the positive effects that can arise at the economic and social level. 77.1% of the sample, that is n = 249 respondents, would more often visit the Spa while only 5.6% (n = 18) would not. The figures for the tourists' visits based on response data in terms of visiting the Thermal Springs more times per year are presented in Table 1. Concerning managing of the Thermal Spring, the respondent guests were asked indicate whether they have a suggestion/ vision. The majority, 75.2% (n = 243) had an alternative while only 24.8% (n = 80) did not have one. For the 243 respondents who had a positive alternative option, closed-type scenarios gave them the chance to choose. The first proposal was to create a hotel complex within the resort; statistics revealed that 117 respondents (36.2%) would like this vision,

whereas 126 would not choose this option that is, 39% of 75.2% of the sample who were positive towards the scenarios. The second scenario involved the creation of ultramodern spas; the results of the analysis revealed a positive response rate by the majority of the sample at a rate of 48.3% (n = 156), while this option was not desired by 26.9% (n = 87). Creating new leisure parks with specific thematic areas in the resort comprised another vision for the Thermal Springs area; 140 visitors (43.3%) selected this alternative and wanted to implement this proposal as opposed to 103 (31.9%) who did not choose to implement it. Improving technical infrastructure of the area (roads, sidewalks, etc.) was selected by 138 of the respondents (42.7%) while 104 respondents (32.2%) did not select it. Finally, the sample visitors were given the opportunity to express their opinion on a free and open-ended question about what they wish to have implemented in the area of Loutra; the results are shown below. The alternative Scenarios of Managing the Thermal Springs are: Restoration of the surroundings and developing of new ones, Gym with personal trainers and Erotic Massage, Creating facilities for the disabled, Creating theme parks, Establishing a clinic, Creating new changing rooms with lockers, Creating facilities for the disabled, Advertising campaign of the Thermal Springs and the region, Cleanliness of the pool and waterfalls infrastructure, Construction of a Pool Bar, Guides available within the resort, Guides available in the region, Presentation of the ancient history of the Thermal Springs, More benefits, more cleanliness at the River and Hydroelectric station.

The WTT technique was also used in the spas management scenarios concerning the realization of the visions and the proposals selected with reference the visit frequency in the wider region. 71.5% of the sample (n = 231) responded that they would more often visit the region while only 3.4% (n =11) would not visit it. The figures for the tourists' visits based on response data in terms of visiting the wider region more times per year are presented in Table 2. The comparative results from the application of the WTT technique revealed that in case the scenarios concerning the management of the wider region were applied, the WTT per year would be 1288 journeys compared to the ones to the Thermal Springs area, which are 1125 trips.

Table 1. Willingness to Travel (WTT) to Pozar Thermal Springs			Table 2. Willingness to Travel (WTT) to the Wider Area		
N	Valid	248	N	Valid	231
	Missing	75		Missing	92
Mean		5.19	Mean		4.87
Median		3.00	Median		3.00
Std. Deviation		11.440	Std. Deviation		8.581
Variance		130.877	Variance		73.635
Range		99	Range		99
Minimum		1	Minimum		1
Maximum		100	Maximum		100
Sum		1288	Sum		1125

Furthermore, to investigate the attitudes and opinions of the visitors towards environmental issues, their opinion for environmental awareness, the Natura 2000 network, etc. was sought. The environmental awareness of visitors to issues related

to caring for natural resources (rangeland, forest, water, game) was investigated by the degree of their interest. The responses of the total sample (n = 323) showed great environmental awareness 70.9% (n = 229), low environmental awareness 27.6 (n = 89) and no environmental awareness 1.5% (n = 5) respectively. As to their knowledge of what the protected areas are (e.g. areas included in the network Natura 2000), frequencies and percentages of the sample show that the majority of respondents, 68.1% (n = 220), know what the Natura 2000 areas are while 31.9% (n = 103) of respondents do not know. The percentage distribution of information resources of the protected areas Natura 2000, of the sample who have knowledge of these areas, showed that the percentage of respondents who draws information on the protected areas from the media is 32.8%, from friends and relatives 20.1%, from government agencies/local authorities 12.1%, from the internet 39.9%, from their studies 19.5%, while only 7.4% of the respondents draws information from seminars and 1.2% from another source (n = 220). The knowledge of the respondents on the classification and integration of Voras Mountain area in the Natura 2000 network as a game reserve cannot be regarded as satisfactory since the majority of the respondents (n = 204) do not know about the protected area while only 119 guests of the total sample declared to have some relevant knowledge.

As part of the correlation of the Pozar Thermal Springs with the Kaimaktsalan Ski Centre, the visitors of the Baths were asked to answer whether they have visited the Ski resort. Their responses indicate that 225 visitors have visited the Ski Center in contrast to 98 who have not visited it, a fact that indicates that at a first stage there is a connection between the two areas.

To construct a new tourist plan with special and alternative forms of tourism which are developed in the wider area, the tourist attraction areas were presented to the sample of guests who were asked to choose which of the following destinations they would choose or have already chosen during their visit. The plan shows that the visitors will plan or have planned a trip firstly to the Ski Center (n = 214), a result which indicates that ski tourism emerges first in the preferences of visitors to the area, then they choose the settlement of St. Athanasios as a travel destination, that is, cultural tourism (n = 175), eco-tourism on Mt. Voras (n = 83) follows, after that, the visitors choose the Lake Vegoritida, that is, water sports tourism (n = 56), the destination of the wetland Agra-Vrytton-Nisi follows by developing agrotourism (n = 44) and finally, the tourist plan of preferences ends with the selection of Panagitsa airport (n = 36) which offers activities of air sports tourism.

The results of the Factor Analysis show that the analysis is significant for the research. The KMO has a very high index of 0.927 (sig. = 0), which means that the exploratory work is almost perfect. Approx. Chi-Square=5161.397 and df:276. From the 24 eigenvalues, which were exported, only four are located above one and explain the 64.841% of the variance. The results are shown in the block diagram (scree plot) in which there is an exact alignment of the curve with the horizontal axis x. After the final separation and the creation of new factors, the location of the variables within the dimensions of leisure activities drawing on the elements of environmental resources, took place as follows: Fly Foxing, Kayaking, Rafting, Boating-Ecotourism, 4x4 Routes, Horse Riding and Archery, contribute to the first factor (activities related to water), Moto cross, Snowboarding, Motorcycle Racing, Aviation - Air sports, Controlled fishing, Professional winter sports, Camping and

Paragliding contribute to the second factor (activities related to the earth and the air), Climbing, Exploration of forest paths, Climbing, Mountain Hiking-Trekking, Mountain Biking, Adventure games in nature and Cycling contribute to the third factor (recreational activities related to the forest), while only the Tour of the Chapel of Prophet Elias and Skiing at the Ski resort of Kaimaktsalan contribute the fourth factor (activities related to the snow) . Finally, the largest load occurred between the first and the second factor with a 0.554 index.

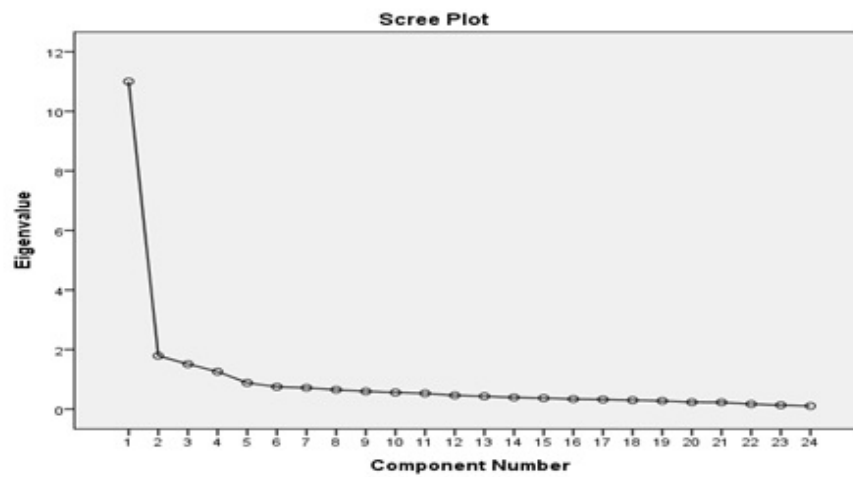


Fig. 1. Diagram of Components

Table 3. Rotation Matrix

Variables	Component			
	1	2	3	4
Fly Fox	0.779	0.237	0.211	0.080
Kayak	0.792	0.285	0.223	0.096
Moto cross	0.314	0.742	0.188	-0.021
Rafting	0.804	0.310	0.197	0.075
Snowboard	0.326	0.601	0.049	0.319
Motorcycle Racing	0.410	0.690	0.156	-0.059
Aviation – Air sports	0.094	0.534	-0.042	0.193
Climb	0.407	0.471	0.573	-0.116
Boating - Ecotourism	0.758	0.086	0.244	0.250
4x4 routes	0.479	0.386	0.347	0.047
Tour of the chapel of Prophet Elias	0.162	0.243	0.207	0.725
Controlled Fishing	0.312	0.591	0.241	0.194
Forestry exploration paths	0.129	-0.088	0.659	0.385
Professional winter sports	0.058	0.716	0.336	0.236
Riding	0.756	0.200	0.159	0.231
Camping	0.371	0.586	0.480	0.027
Climbing	0.280	0.327	0.748	-0.060
Mountain Hiking -Trekking	0.148	0.145	0.685	0.293
Mountain Biking	0.503	0.305	0.536	-0.032
Adventure games in nature	0.301	0.122	0.704	0.142
Paragliding	0.161	0.732	0.153	0.228
Cycling	0.536	0.255	0.545	0.050
Skiing at the resort of Kaimaktsalan	0.183	0.289	0.117	0.727
Archery	0.726	0.237	0.252	0.106

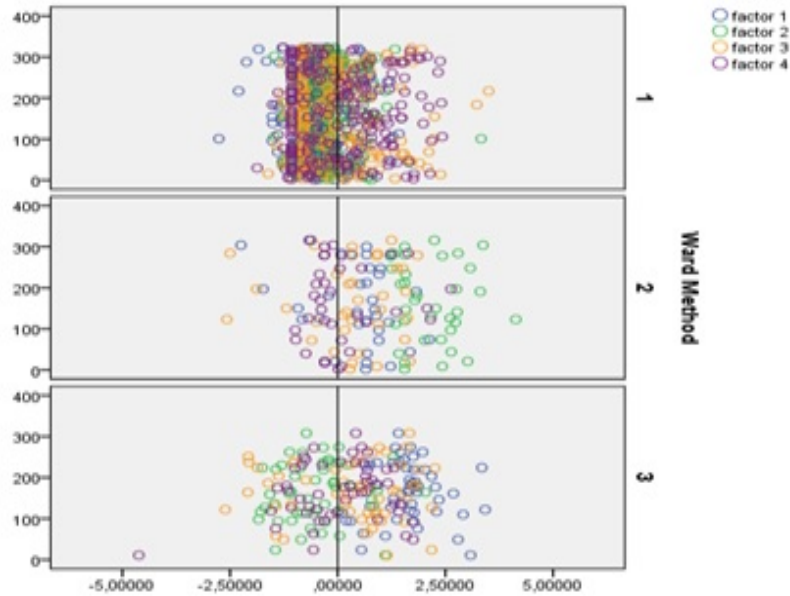


Fig. 2. Scatter Diagram

Cluster1: (the third factor outweighs) = Green Tourists with special motivation for the mountain. **Cluster2:** (the second factor outweighs) = Tourists with a motive for racing sports. **Cluster3:** (the first factor outweighs) = Tourists seeking alternative adventure.

Table 4. Typology of Guests

Ward Clustering	Frequency	Percent
1	235	72.8
2	35	10.8
3	52	16.1
Total	322	99.7
Missing System	1	0.3
Total	323	100

To construct a novel tourist plan for developing a new policy and governance in the region, guests were asked to answer if they would be interested in having a combo ticket for attempting further leisure activities in the area.

Then, as part of the data collection process, a recreation card was used which involved all leisure activities at the county level as well as their cost currently. The results revealed that the 88.9% of the total sample of 323 respondents, that is their vast majority (n = 287) would choose this combo-ticket, as opposed to 11.1% (n = 36) who would not choose it. For the guests who had selected the common economical ticket for recreation activities, the descriptive results are presented by Missing System (n = 36 i.e., 11.1%).

Table 5. Percentage Distribution for the Combo Economical Ticket

Activity	Frequency (n)	Percentage Distribution (%)
Skiing at the resort of Kaimaktsalan (15€)	YES= 228	70.6
	NO= 59	18.3
Balneotherapy in Pozar (15€ private a la carte)	YES= 270	83.6
	NO= 17	5.3
Riding in Agios Athanasios (20€)	YES= 157	48.6
	NO= 130	40.2
Boating in the Wetlands of Agra (15€)	YES= 140	43.3
	NO= 147	45.5
Kayaking in Lake Vegoritida (15€)	YES= 121	37.5
	NO= 166	51.4
Flights from the Panagitsas Airport (20€)	YES= 102	31.6
	NO= 185	57.3

From the above table, it is shown that the majority of the sample prefers Balneotherapy, skiing, riding, boating, kayaking and flights in order of preference. Pearson χ^2 between kayaking and boating activities showed prices equal to 66.015 (df = 1, sig. = 0) and Phi Cramer's $V = 0.480$ (sig. = 0) is weakly positive and statistically significant at level ($p < 0.05$). All the results for the control χ^2 for the tour plan are presented in the following table. The minimum total percentage discount on the selected activities in the combo ticket was requested to encourage visitors to buy it.

Table 6. Percentage descriptive statistics of total Combo-Ticket discount

N	Valid	287
	Missing	36
Mean		13.59
Median		10
Std. Deviation		12.058
Variance		145.397
Range		59
Minimum		1
Maximum		60

In addition, 278 of the visitors (86.1%) would like to have organized visits to the tourist destinations in the region offered, while only a part of the sample that is 13.9% ($n = 45$) would not opt for them. Of them, 265 respondents (82%) stated that they would be willing to pay for such a service while only 22 respondents (6.8%) would not be willing to pay. The maximum amount of money that the visitors in the sample would be willing to pay for such service was identified, as shown below in terms of descriptive statistics.

Table 7. Maximum WTP for organized visits

N	Valid	265
	Missing	58
Mean		41,15
Median		30
Std. Deviation		39.296
Variance		1544.162
Range		298
Minimum		2
Maximum		300
Sum		10906

The table 8 shows the correlations and their strength among the activities and recreation areas which were selected in the wider region. The greatest strength was presented for flying and kayaking (0.604) which is statistically significant, then boating with kayaking followed with index 0.480, which is statistically significant, and immediately after that the

boat trip and flying with index 0.440 which is also statistically significant. Positive weak indicators were presented between skiing and having a spa, skiing and boating, horse riding and boating, riding and kayaking as well as between riding and flying from the airport, all statistically significant at a basic level $p < 0.05$ (excluding skiing and having a balneotherapy).

Table 8. Based on χ^2 Criterion

Variables	χ^2 Criterion
Hydrotherapy-Ski	$\chi^2(1)=7.771$ $p=0.005$, Phi & Cramer's V=0.165 $p=0.05$
Riding-Ski	$\chi^2(1)=0.924$ $p=0.337$ Phi & Cramer's V=0.057 $p=0.337$
Riding- Hydrotherapy	$\chi^2(1)=0.124$ $p=0.725$,Phi=-0.021,Cramer'sV=0.021 $p=0.725$
Boating-Ski	$\chi^2(1)=14.923$ $p=0$ Phi=-0.228 Cramer's V=0.228 $p=0$
Boating- Hydrotherapy	$\chi^2(1)=0.418$ $p=0.518$, Phi & Cramer's V=0.038 $p=0.518$
Boating- Riding	$\chi^2(1)=30.855$ $p=0$, Phi & Cramer's V=0.328 $p=0$
Kayak-Ski	$\chi^2(1)=0.723$ $p=0.395$, Phi & Cramer's V=0.050 $p=0.395$
Kayak- Hydrotherapy	$\chi^2(1)=2.058$ $p=0.151$, Phi=-0.085,Cramer's V=0.085 $p=0.151$
Kayak- Riding	$\chi^2(1)=54.733$ $p=0$, Phi & Cramer's V=0.437 $p=0$
Kayak- Boating	$\chi^2(1)=66.015$ $p=0$, Phi & Cramer's V= 0.480 $p=0$
Flight-Ski	$\chi^2(1)=2.299$ $p=0.129$, Phi & Cramer's V=0.090 $p=0.129$
Flight- Hydrotherapy	$\chi^2(1)=1.047$ $p=0.306$, Phi=-0.060 Cramer's V=0.060 $p=0.306$
Flight- Riding	$\chi^2(1)=30.043$ $p=0$, Phi & Cramer's V=0.339 $p=0$
Flight- Boating	$\chi^2(1)=55.681$ $p=0$, Phi & Cramer's V=0.440 $p=0$
Flight- Kayak	$\chi^2(1)=104.827$ $p=0$, Phi & Cramer's V=0.604 $p=0$

5 Conclusions

According to the research findings, the technique of WTT offers future spatial intervention scenarios in the study area. Heyes and Heyes (1999) developed a series of economic evaluation tools, contingent valuation method (CVM) - contingent activity method (CAM) & travel cost method (TCM), evaluating the recreational benefits from/ of a park with tourist importance. The present study attempts to shape and define the specific resource needs with the aim of sustainable, effective management and control of the environment in accordance with the potential of the

area. After all, it is believed that leisure activities can identify developmental goals and create tourist standards to ensure the maximum satisfaction of guests. Moreover, the results of this research propose a different tourist plan compared to the already existing ones, which involve the development of a new policy, and governance identified as essential at the local level. The models formed to determine the quality level of leisure services within this framework of sustainable tourism development. Last but not least, suggestions for further research can involve the implementation of the TCM for determining both the recreation value and the tourism value of the particular region.

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