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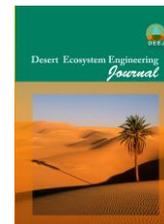
Evaluating the Environmental Literacy of Tourists Visiting in Arid Regions (Case Study: Qom city)

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Abstract

Contemporary environmental crisis is the result of human misunderstanding or ignorance in the world. Having thought about various environmental crises that human beings have undergone, we understand that what exacerbates these crises is ecological illiteracy, which causes a lot of problems in a society. Therefore, reforming environmental crisis, according to the environmentalists, is dependent on reforming human instruction and changing the attitude, insight and knowledge of human about his own destiny and his environment. This study aims at acquainting with knowledge, attitude and environmental behaviors of tourists visiting the arid city of Qom. 386 people were selected as the sample of the study via Cochran formula, 200 questionnaires were distributed among domestic tourists, and 186 questionnaires among foreign tourists. The research utilized a researcher-made questionnaire and face validity and Cronbach's alpha coefficient were used for confirming its validity and its reliability (0.762). SPSS software was used for descriptive analysis and one-sample t-test, and AMOS software was used for structural equation modeling. T-test results with a significant level less than 0.05 shows that tourists have environmental value, behavior, attitude and knowledge. Also, there is a significant correlation between these variables. The factor loadings are 0.96 between environmental knowledge and environmental attitudes of tourists, 0.65 between environmental knowledge and environmental values of tourists and 0.53 between environmental attitudes and environmental values of tourists, and reciprocal relationship is confirmed at the significance level of 0.000. It can be concluded that strengthening the environmental attitude of tourists will affect their environmental values. Strengthening educational systems and informing people can lead to favorable and sustainable behaviors in tourism communities.

Key words: environmental value, environmental knowledge, environmental behavior, environmental attitude, structural equation modeling.

1. Introduction

In a globalized world, political, economic, cultural, social, environmental and health events are related to each other (Sajasi Qaidari, Sadeghloo, Shahdadi, 2015: 156). Today, human activities and its impact on the environment are such that contamination and environmental degradation are not limited to a specific part of the world (Honar Bakhsh and Ghaffarzadeh, 2006). Along with population growth and increased human destructive activities, an increase in environmental crisis, which is somehow the result of human activities in biosphere, has destroyed the balance on the planet (Parhizgar, Shobiri, Sarmadi, 2013: 36). Contemporary environmental crisis is the result of human misunderstanding or ignorance in the world. Having thought about various environmental crises that human beings have undergone, we understand that what exacerbates these crises is ecological illiteracy, which causes a lot of problems in a society. Therefore, reforming environmental crisis, according to the environmentalists, is dependent on reforming human instruction and changing the attitude, insight and knowledge of human about his own destiny and his environment (Rezaei and Shobiri, 2015: 274). Environmental literacy consists of several components such as knowledge, attitude and behavior, and the low level of environmental responsibility causes environmental problems (Hunecke et al., 1991; Hopper, Oskamp, 1991). Tourism, as one of the most important human activities is based on the environment. The tourism boom in every area has environmental impacts along with the positive and negative economic and social consequences. It is experienced that developing tourism without a specific framework, planning and strategy causes many environmental and social problems, and in the long run tourism problems will be more than its benefits (Hashemi, 2010). Such problems has formed environmental movements. The idea of environment protection requires attention to environmental values and behaviors and, ultimately, environmental literacy more than ever before. The importance of the effect of moral beliefs on behavior towards others, including the relation with other organisms and plants, emphasizes on morality as the solution to environmental crises (Entezari, 2012: 48). Obviously, different factors and variables are involved in shaping behavior. For this reason, Barr et al., believes that it is necessary to move toward a greater understanding of the complexities of values, attitudes, contexts, and personality factors that affect particular behavior (2003). Many believe that environmental problems depend on different factors such as the level of knowledge, the conditions, the context, and the norms of the community. For this reason, one has to understand how people think about the environment, how they know the environment and to what extent they are concerned about nature and environment (Stern, 2000). Therefore, planning movements towards sustainable development should change the behavioral patterns of people in the community and assess their behavior consistent with the principle of coexistence with nature (Pazoukinejad and Salehi, 2014). Environmental behavior is important for the reasons mentioned, but the study of the environmental behavior of tourists, which has a high impact on the environment of destination, is of particular importance. Today, researchers are interested in transforming human thoughts and behavioral solution due to the high cost of technological plans (Rezai and Shobiri, 2015: 274).

The location of Qom in the direction of natural and cultural attractions such as Mazandaran and Isfahan has increased the number of tourists and environmental consequences in this city. Therefore, this research is dedicated to study the environmental literacy of tourists visiting Qom as one of the arid cities. According to theoretical foundations and research background, seven hypotheses are considered for this research:

-Tourists in Qom are committed to environmental values.

-Tourists in Qom believe in and act to the environmentally friendly behaviors.

-Tourists in Qom have good environmental knowledge.

-Tourists in Qom have a good environmental attitude.

- There is a significant relationship among environmental knowledge, environmental attitudes and environmental values of tourists.

2. Theoretical Foundations
2.1. Environmental Literacy
According to the UNESCO definition, environmental literacy is a basic practical training for all people, providing them with basic knowledge, skills and motivation to meet their environmental needs and help sustainable development (Azimi, Gholami and Ramin Azad, 2013). Bert defines environmental literacy as understanding the interactions between natural systems and social-human systems (Barrett, Peles, and Odum, 1997). Dubliss defines environmental literacy as acquiring knowledge from nature, understanding the basic principles of ecology and living with this principle. (Duailibi, 2006) states that environmental literacy includes the six main components of environmental knowledge, socio-political knowledge, knowledge of environmental issues, emotional skills, cognitive skills, and responsibility of environmentalists based on Wooleck and Macbeth opinion (Azimi, Gholami, Ramin Azad, 2013). In another definition, environmental literacy refers to the ability to apply basic environmental science, concepts and thinking skills to operationalize specific environmental issues in every day behaviors (Shobiri, Farajollahi, Kuhiafdam , Meibodi, 2013).

2.2. Environmental behaviors
Conceptually, environmental behaviors are a set of human reactions to environment that embraces a wide range of emotions, tendencies and specific readiness for environment (Salehi and Imamgoli, 2015). In other words, environmental behavior is a positive behavior toward the environment in which the actor not protecting the environment, do not harm it. Attitudes, values, consciousnesses and perceptions of an individual are subjective considerations, and the possibilities for environmental behavior, social control, or costs that a person has to deal with for environmental behavior is the basis for the objective explanation of environmental behavior. (Fazeli and Jafar Salehi, 2013).

2.3. Environmental value
Environmental value includes the basic orientation of the individual towards environment and reflects his worldview in relation to the natural world and environment (Barr et al, 2003). In general, three value orientations within the scope of environmental studies are worth consideration:
1. Self-centered value orientation that individuals try to fill their personal interests.
2- Other-centered value orientation that people seek the welfare of human beings.
3. Biological value orientation which focuses on non-human species and other biological spheres (Steg et al., 2011)

2.4. Environmental knowledge
One of the most important features of people involved in environmental activities is knowledge of environmental issues and how to deal with it (Fransson and Garling, 1999). Environmental knowledge is one's information about environmental problems, the factors influencing the spread of these problems and what one can do to improve this situation (Salehi Omran and Agha Mohammadi, 2008). In other words, environmental knowledge is the practical information that people have about the environment, the ecological problems of the earth, and the impact of human actions on the environment (Arcury, et al., 1990). The researches done by (vining and Ebreo, 1990; Granzin and Olsen, 1991; Oskamp et al, 1991; Domina and Koch, 2002) confirm the effect of knowledge on increasing environment protection (cotrell, 2003). Environmental knowledge is related to environmental attitudes and environmental attitudes is dominated by particular profit-oriented, religious, and national values that can affect people's environmental behaviors (Frick et al, 2004).

2.5. Environmental Attitudes
Conceptually, environmental attitude is a set of pleasant or unpleasant feelings about the physical environment or its issues (Manzanal et al., 2007), with knowledge of specific realities affecting those attitudes (Kaiser et al., 1999). Many researchers believe that individuals have a combination of attitudinal orientations and we cannot find a person with a pure attitudinal orientation, for example, an

orthogonal anthropocentric (widgern, 1998). He also states that when selfish people are asked about their desire for paying taxes on gas, these people are willing, but they are reluctant to engage in environmental movements and the like, and environment-oriented people are more willing to engage in such activities (Ferdowsi et al., 2007). Despite the fact that a lot of studies have confirmed an environmentally friendly attitude among people, there is sometimes a conflict between attitudes and behavior of people (Haghighatian et al., 2015). In environmental and energy studies, there are several reasons for conflicts of attitudes with behaviors. The realization of attitudes into action depends on three things:
- Freedom of individuals to realize attitudes toward action
- The amount of social control to realize attitudes into action
- Ability to escape social control (Hini et al., 1995)

3. Research Background

Ferdowsi et al., (2007), in the study on the relationship between environmental knowledge and environmentally friendly behaviors found that students who had an environmental education course showed more environmental behaviors than students who have not completed such a course. Jan Karajhanzi (2010) has reviewed the environment and preventive behaviors. In a conceptual approach, the researcher states that individuals knowledge about environmental issues can have a great effect on the formation of individuals' environmental behaviors. It supports environmentally friendly behavior in practice. The researcher selects five characteristics of personal communication and explains how these attributes can affect both the attitudes and the environmental behaviors. The author also emphasizes the importance of personal relationship with nature. In this regard, individual perception of the general condition of environmental education is effective in developing consistent and preventive behaviors. Salehi and Karimzadeh, (2013) investigated the relationship between environmental knowledge and environmental behaviors in Urumia. The results showed no significant relationship

between environmental knowledge and behavior. Lei Zhang and Jing Gao (2014) in a research on identifying the effects of international tourists on China's economic growth, energy consumption and environmental pollution found that tourism has been driving economic growth and increasing carbon emissions. Aligolizadeh Firoozjayi et al., (2015) assessed the environmental behaviors of tourists in rural areas of Khore and Biabanak. According to the findings, tourists in the rural areas of this region had desirable environmental behaviors. Sara Dolnicar and Emil Juvan (2015) in their study on determining environmentally friendly behavior of tourists showed that there is a relationship between tendency to environmental support and desirable social behavior of tourists. Long Guo, Ruyin Chen, Daoyan Feiyuchen, Hong (2017) conducted a study entitled "Analysis of the environmentally unfriendly behaviors among Chinese students." To achieve the results of the study, the study was conducted on 1947 students at different levels. In this research, maladaptive behaviors were divided into two types of active behaviors (one that is non-compatible with the environment) and passive behaviors (ignoring others' destructive behaviors). The results were also evaluated by qualitative analysis and factor analysis method. In this way, indicators such as income have not affected environmental behaviors. But the educational level has a significant effect on the formation of environmental behaviors. So, people with lower educational level have more adaptive behaviors and increasing the educational level increases non-adaptive environmental behaviors. Hong Chen, Feiyu Chen, Xinru Huang, Ruyin Long, Wenjie Li (2017) conducted spatial analysis on individual environmental adaptive behavior. The analysis of the results of a sample of 1509 housewives indicates that spatial identification and analysis of individual motivations and behaviors for environmental protection is very important for programmers. To achieve this, researchers have used factor analysis and cluster analysis. Environmental behavior can be divided into basic environmental behaviors, decision making environmental behavior, interpersonal environmental behavior, and civil

environmental behavior. Also, people generally are less willing to protect the environment in the public places than at home and in the work place.

4. Material and Methods

In this study, in order to assess the environmental literacy of tourists, the factors affecting it such as environmental value, environmental knowledge, environmental behavior and environmental attitudes of tourists were studied. To determine fidelity and belief in each of the mentioned factors and to provide descriptive and inferential analysis, SPSS software was used and also structural equation modeling software was used for AMOS modeling and relation analysis. Regarding the studied components and the nature of the subject, the approach used in this research is descriptive-analytic. This research is applied and library and field studies are used for collecting background information. The information required for the background of the study are collected through documentary and library studies.

4.1. Population

According to the tourism expert at the Cultural Heritage and Tourism Organization of Qom, the number of domestic and foreign tourists in 1995 is 115,682 who are the population of this study. Of these, 9967 are domestic tourists and 105,715 are foreign tourists. A sample of 386 was selected randomly using Cochran formula. 200 questionnaires were distributed among domestic tourists and 186 translated questionnaires were distributed among tourists from Myanmar, Pakistan, Syria, Lebanon, Bahrain, Saudi Arabia, Afghanistan and Iraq. The population was 386 people using Cochran's formula. The research utilized a researcher-made questionnaire consisting of two separate sections: First, general questions such as age, gender, marital status, type of trip, loyalty, travel goal, duration of residence, and satisfaction rate were asked. Then, special questions were presented as 5- point likert scale. From the operational point of view, the environmental values are measured using the seven main items of Kaiser, Wolfing and Foohr (1999). Environmental knowledge has been utilized through nine operational items (Salehi and Karimzadeh, 2011: 169). To operationalize the environmental attitude of tourists, 11 related questions based on theoretical foundations and review of the research background were used. Conceptually, the environmental behavior in this research refers to obvious and visible actions of an individual in response to the environment. Operationally, it was measured by 14 questions.

4.2. Validity and reliability in designing the questionnaire

The validity of the questionnaire was evaluated by experts and reliability was assessed using Cronbach's alpha method. Cronbach Alpha coefficients for environmental values, behavior, knowledge and attitude are presented in Table 1.

Total	Attitude	Knowledge	Behavior	Value	Environmental Indicator
0.762	0.749	0.727	0.87	0.774	Cronbach's Alpha

Table 1: Reliability Statistics

Source: Research findings, 2017

5. Results and Discussion

As described in the research methodology, tourists' environmental literacy was categorized into four categories of environmental values, environmental behaviors, environmental knowledge, and environmental attitudes by reviewing resources and surveying experts in the field of tourism and the environment. In order to measure the status of each dimension, 42 variables were used. With this purpose, 8 indicators for environmental value, 14 indicators for environmental behavior, 9 indicators for environmental knowledge and 11 indicators for environmental attitudes were designed. To evaluate the significant effect of each of these factors, one-sample t-test was used. The results of one-sample t-test in Table 2 show that among tourists in Qom, fidelity to environmental values is significant according to the t test and a significant level of 0.00.

Table 2: T-test results for analyzing significance of environmental values of tourists

Sub- criteria	T	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Raising animals in a cage should not be legal.	13.353	0.000	3.80	0.802	0.68	0.92
The planet is worth on its own and does not have to do with human presence	3.039	0.003	3.22	0.216	0.08	0.36
All living animates are valuable and must be protected and have the right to live.	34.594	0.000	4.52	1.516	1.43	1.60
Nature must be preserved even in its lifeless aspects.	27.962	0.000	4.36	1.364	1.27	1.46
Wild animals, insects and other creatures also have a right to live	26.723	0.000	4.29	1.294	1.20	1.39
The immortal nature and any kind of wildlife affect human welfare	23.116	0.000	4.17	1.171	1.07	1.27
Nature and the environment are valuable apart from the benefits they have for human beings.	37.657	0.000	4.52	1.518	1.44	1.60
To preserve the quality of life, we need to protect nature.	44.791	0.000	4.66	1.665	1.59	1.74
Total	37.52	0.000	4.22	0.802	1.16	1.29

(Source: Research findings, 2017)

So, tourists, by allocating the highest average of 4.66, believe that preserving the quality of life requires protecting nature. Also, an average of 4.24 for indicators of "All living things are valuable and must be protected and have the right to exist", and "Nature and the environment are valuable apart from the benefits they have for human beings" indicate that tourists are believed in environmental values. The significance level less than 0.05 and the positive upper and lower bounds for significance at 95% confidence level indicate that tourists are faithful to environmental values.

One-sample t-test was used to answer the second hypothesis and investigate the performance of tourists in Qom in the emergence of environmental behaviors. The environmental behaviors of respondents have been exploited by 14 operational variables. The results show that in all cases, tourists believe in and act on environmentally friendly behaviors.

Table 3: T-test results for analyzing significance of environmental behaviors of tourists

Sub- criteria	T	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I turn off extra lights and use low-energy bulbs.	40.611	0.000	4.54	1.535	1.46	1.61
I remind others to protect the environment.	25.866	0.000	4.28	1.281	1.18	1.38
I volunteer in activities of environmental organizations.	4.027	0.000	3.29	0.288	0.15	0.43
In the cold season, I use more warm clothes than more appliances.	17.353	0.000	4.00	0.997	0.88	1.11
I try to use public transport and bike to commute.	6.215	0.000	3.47	0.466	0.32	0.61
When I have enough dirty clothes, I use washing machine	14.214	0.000	4.12	1.116	0.96	1.27
I care about the separation of household waste into wet waste and dry waste.	10.088	0.000	3.72	.719	0.58	0.86
I turn off the heating appliances when not necessary.	21.302	0.000	4.22	1.220	1.11	1.33
I take a quick bath.	9.193	0.000	3.62	.622	0.49	0.75
When brushing and washing fruits and vegetables, I try not to waste a lot of water.	20.735	0.000	4.15	1.152	1.04	1.26

Sub- criteria	T	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I'm looking for energy when buying electrical appliances	14.750	0.000	3.78	.782	0.68	0.89
I use environmentally friendly sprays.	8.093	0.000	3.53	.532	0.40	0.66
When I need hot water, I try to reduce the degree of water.	10.058	0.000	3.65	0.650	0.52	0.78
I care about the cleanliness and beauty of the city I live in.	27.898	0.000	4.35	1.354	1.26	1.45
Total	37.52	0.000		1.22	1.16	1.29

(Source: Research findings, 2017)

The most environmentally friendly behavior by tourists was to turn off the extra lights and use low energy bulbs, with an average of 4.54. After that, the importance of the cleanliness and beauty of the city of residence is the highest environmentally friendly behavior of tourists. The average of 4.35 for this variable is an evidence. Also, in the context of the environmental behavior, tourists have pointed out to others to protect environment and the average of this variable is 4.28. As the results of table (3) show, the significance level for all variables of the environmental behaviors of tourists was 0.000. In addition, the upper and lower bound have a meaningful and positive level. The mentioned conditions and t statistic show that tourists are faithful to environmentally friendly behaviors. The average of integrated variable of tourists' environmental behaviors with a value of 4.22 and t statistic of 37.52 and a significant level of 0.00 estimates the extent of fidelity of tourists to environmental behaviors to a large extent.

The environmental knowledge of tourists is also considered as one of the factors affecting their literacy in the third hypothesis, so that the researchers believe that tourists in Qom have an appropriate environmental knowledge. To test this hypothesis, one-sample t-test was used. The results are presented in Table (4) for the individual variables. Finally, from the set of indicators, an integrated variable was designed to examine and test the status of tourists' environmental knowledge and their fidelity.

Table 4: T-test results for examining the significance of environmental knowledge of tourists						
Sub- criteria	T	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Lower
An increase in human population has destroyed many natural resources.	12.007	0.000	3.74	0.741	0.62	0.86
One of the most important reasons for protecting natural resources is conservation of animals in these areas.	26.161	0.000	4.22	1.220	1.13	1.31
Wild animals are part of ecosystem and should be protected.	28.524	0.000	4.32	1.322	1.23	1.41
If we continue cutting trees, there will be no wood for the next generation.	27.008	0.000	4.31	1.307	1.21	1.40
Recycling is effective in saving environment and will cause less damage.	33.138	0.000	4.39	1.393	1.31	1.48
Waste separation at home to wet waste and dry waste helps preserve the environment.	29.356	0.000	4.35	1.346	1.26	1.44
More funds are needed to keep protected areas and the animals in it.	32.142	0.000	4.30	1.304	1.22	1.38
People should be informed about the dangers of forest destruction and ozone depletion.	27.935	0.000	4.33	1.333	1.24	1.43
There is little information about dehydration of earth and its consequences.	18.891	0.000	4.05	1.051	0.94	1.16
Total	43.56	0.000	4.24	1.24	1.18	1

(Source: Research findings, 2017)

In the explanatory variables of environmental knowledge of tourists, belief in the role of recycling in saving environment and less damage to it has gained the highest average. Respondents also believe that wild animals are part of the ecosystem and needs to be protected. Also, tourists believe that if we continue cutting trees, there will be no wood for the next generation. This variable also received an average of 4.31. The results for the integrated variable of environmental knowledge of tourists with an average of 4.124, t statistics of 43.56, as well as upper and lower positive levels for the 95% confidence level show that tourists have good environmental knowledge.

Sub- criteria	T	Sig. (2-tailed)	Mean	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Lower
We are approaching the maximum number of people earth can withstand.	12.128	0.000	3.69	0.690	0.58	0.80
The land has very limited resources and space.	6.688	0.000	3.43	0.428	0.30	0.55
Humans tried to dominate nature, but now they are more environmentally friendly.	12.404	0.000	3.70	0.698	0.59	0.81
The balance of nature is very fragile and can be transformed easily.	17.311	0.000	3.87	0.870	0.77	0.97
I feel close to God when watching nature.	47.238	0.000	4.63	1.634	1.57	1.70
I would like to have fun in nature.	33.650	0.000	4.50	1.503	1.42	1.59
Parents' environmental education to children is important for protecting the environment.	33.340	0.000	4.49	1.492	1.40	1.58
I would like to protect the environment by going to the nature.	35.034	0.000	4.42	1.422	1.34	1.50
Interference in nature in this same way will have more catastrophic consequences.	23.329	0.000	4.15	1.146	1.05	1.24
Seeing the cut trees, the dried animals, the ruined natural environments, and the destruction of forests for farming do make me sad.	27.978	0.000	4.38	1.381	1.28	1.48
The most important reason for protecting the environment is human happiness and survival.	24.067	0.000	4.25	1.246	1.14	1.35
Total	41.37	0.000	4.25	1.256	1.14	1.35

Table 5: T-test results for investigating significance of environmental attitudes of tourists

(Source: Research findings, 2017)

Results of investigation of environmental attitudes of tourists is reviewed in Table (5). The environmental attitude of tourists is measured using 11 variables. For a general understanding of the attitude of the tourists, in addition to the eleven variables mentioned in table (5), an integrated variable of the sum of eleven variables is constructed and measured by one sample t test. The results show that tourists with a significance level of 0.000 and t-test of 41.37 have a good environmental attitude, so that their average environmental perception is 4.14. Thus, it can be stated that respondents had desirable environmental knowledge.

The fifth hypothesis states that there is a significant relationship among environmental knowledge, environmental attitude and environmental values of tourists. To answer this hypothesis, the significance of the relationship among these factors is evaluated using structural equation modeling. The combination of two measurement models with the aim of identifying the relationship between independent and dependent variables creates a structural model aiming at finding regression relationships and correlations between variables (Shatirian et al., 2017: 122). The results of structural equation modeling show that there is a significant regression relationship among the environmental knowledge, attitude and values of tourists. Fig. 2 shows that there is a significant correlation between the environmental knowledge of tourists and their environmental attitude with factor loading of 0.96. The relationship between environmental attitudes and their environmental values is 0.53

at 95% confidence level. Also, the correlation between environmental knowledge and environmental values of tourists is confirmed with a factor loading of 0.65. As the results show, the strongest correlation is between environmental knowledge and attitudes of tourists. And, there is a correlation between environmental knowledge of tourists and their environmental values. Finally, the relationship between environmental attitude and value of tourists is in the third rank due to the strong of the relationship.
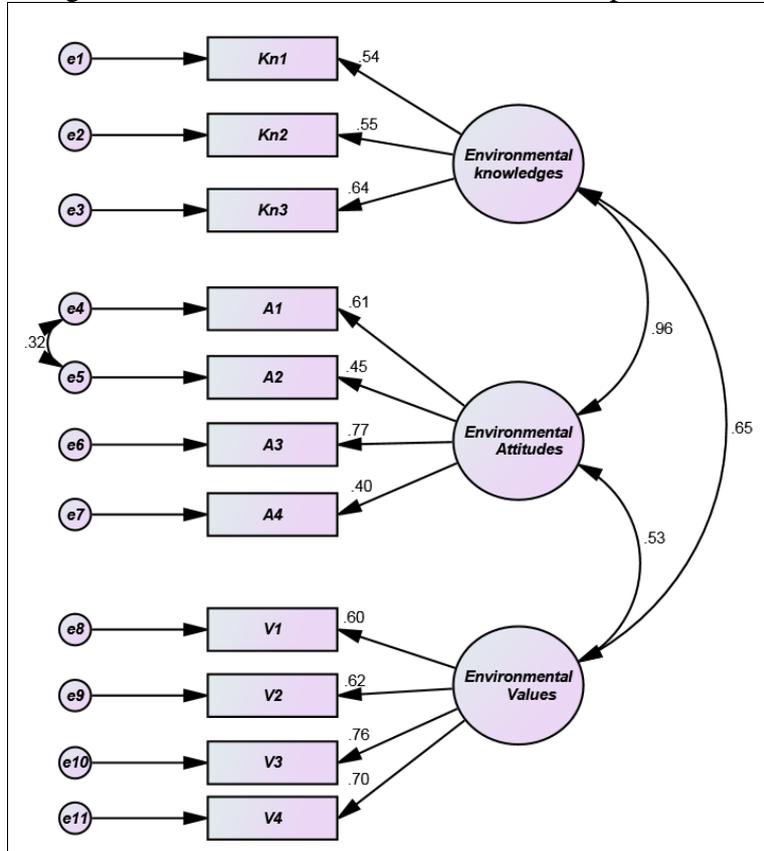

Figure 1: structural model of correlation of environmental knowledge, attitudes and values of tourists

In Table 6, the observed variables are presented to measure the hidden variables of environmental value, attitude and knowledge of tourists. The results of Table 6 indicate that the P value in all of the above relationships is less than 0.05. Also, the critical ratio (CR) (more than 1.96) and standard error (SE) are low. All of the above mentioned conditions indicate that all relationships in this model are supported by empirical research data.

Table 6: Non-standard values, standard error, critical ratio and covered area of the default model

			Estimate	Standard Error	Critical Rate.	P Value	Standardized Regression Weights
Kn1	<---	F1	1.000				0.535
Kn2	<---	F1	0.817	0.104	7.857	***	0.553
Kn3	<---	F1	0.898	0.104	8.600	***	0.643
A1	<---	F2	1.000				0.612
A2	<---	F2	0.862	0.102	8.460	***	0.449
A3	<---	F2	1.490	0.147	10.119	***	0.772
A4	<---	F2	0.871	0.134	6.516	***	0.405
V1	<---	F3	1.000				0.600
V2	<---	F3	1.189	0.131	9.054	***	0.618
V3	<---	F3	1.107	0.109	10.158	***	0.762
V4	<---	F3	0.999	0.102	9.807	***	0.703

(Source: Research findings, 2017)

In Table (7), the fitting of the model has been investigated according to the indicators (absolute, comparative, and multiplicative). Data evaluation indicates the suitable fitting of the model supported by experimental data.

Table 7: Main Indicators of Structural Model Adjustment

Indicator		scores
degrees of freedom	DF	40
-	CMIN/DF	2.85
goodness of fit index	GFI	0.949
adjusted goodness of fit index	AGFI	0.916
parsimony goodness of fit index	PGFI	0.575
Bentler-Bonett normed fit index	NFI&DELTA1	0.90
Bollen's relative fit index	RFI	0.862
Bollen's incremental fit index	IFI& DELTA2	0.932
The Tucker-Lewis coefficient	TLI&rohz	0.930
comparative fit index	CFI	0.90
parsimony ratio	PRATIO	0.727
parsimony adjustment	PNFI	0.654
parsimony adjustment	PCFI	0.677
-	RMSEA	0.070

(Source: Research findings, 2017)

6. Conclusion and Suggestion

By reviewing the environmental situation we can found out that ignoring or neglecting the environment due to lack of scientific and expert education, wrong environmental attitudes and behaviors, lack of responsibility for the environment and in general lack of environmental knowledge and literacy has been a major factor leading to environmental pollution and degradation. Also, tourists with different environmental knowledge, attitude, behavior, and education have been affected too. The aim of this study was to assess and evaluate the environmental knowledge of tourists from arid regions and, in particular, tourists from the religious city of Qom. The results show that religious tourists in Qom are faithful to environmental attitude, knowledge, value, and behaviors as the factors of environmental literacy. Average values indicate that tourists have more environmental knowledge than any other factors. The average amounts show that tourists have had good environmental knowledge among the mentioned factors. So, it can be said that interest and knowledge of environment is very important for tourists. The average of the environmental behaviors and environmental values of the tourists was 4.22 which is desirable. The lowest mean was for the environmental perception of tourists with an average of 4.14. Structural equation modeling was used to determine the relationship and correlation among environmental attitude, knowledge, values and behavior of tourists. The results of structural equation modeling show that there is a reciprocal and significant relationship among environmental knowledge, attitudes and values of tourists. The strongest correlation was between environmental knowledge and attitudes of tourists. The factor loading of 96% indicates that improving the environmental knowledge of tourists will also enhance their environmental attitude. The correlation of 0.65 between the environmental knowledge and values of tourists places the impact and effectiveness of these factors in the second place. Also, there is a positive and significant relationship between the environmental attitude and values of tourists with a factor loading of 0.56. It can be concluded that strengthening the environmental attitude of tourists will affect their environmental values. Strengthening educational systems and informing people can lead to favorable and sustainable behaviors in tourism communities.

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