

Investigating the Relationship Between Environmental Concern and Waste Management in Tourism

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Abstract

Tourism can bring both positive and negative effects in terms of the environment, which is the prevention of negative effects, including the necessity to preserve the environmental and even cultural, social resources of touristic areas. The purpose of this research is to investigate the relationship between environmental concerns and waste management in Damavand mountain tourism areas in 2017. This study was carried out as a survey and is of the descriptive-analytical variety. In this research, the samples were selected as available among tourists, travelers and mountaineers in Damavand mountains in the number of 224 people in 2017. The researcher developed the questionnaire utilized in this study, which comprised 35 items on a 5- and 3-option Likert scale. After preparing the questionnaire and verifying its face validity by experts in this field, the reliability of the questionnaire was measured and it was equal to 0.81. Regression analysis was used to analyze the data using SPSS version 22 software. In this study, 116 people (51.8%) were women and 108 people (48.2%) were men with bachelor's education level and above for more than 50% of all people. Based on the results of the regression analysis, it was found that the "environmental concern" component had a significant role in waste management ($P\text{-value} < 0.05$). Based on the results of the research, it can be stated that if proper planning is done on the behavior of tourists and efforts are made to improve them, it will certainly have a significant impact on waste management in mountainous areas.

Keywords: Environmental concern, regression analysis, tourism, mountain areas, waste management

INTRODUCTION

Tourism has been popular for a long time both domestically and internationally in various ways, which has grown with the gradual development of its underlying factors and has led to the economic prosperity of human societies. In this regard, due to its political, economic, social and environmental importance, tourism has been fundamentally considered in many countries and is known as the most important source of their income. A look at the global statistics of the tourism industry in the world and

its major economic role makes us more aware of the importance of this industry [1]. Iran has a lot of potential in the tourist sector as it is one of the five countries in the world with the highest climatic biodiversity and one of the ten countries with historical attractions. Considering all the natural talents and anthropological, cultural and geographical features and the many capabilities that exist in this field for the development of tourism, taking into account the natural and historical attractions of Iran, tourism can be developed as a basic axis and Economic and social growth was considered [2].

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STATEMENT OF THE PROBLEM

With the expansion of the phenomenon of urbanization along with the increase in public

incomes and the changes in people's lifestyles, the motivation to travel and the increase in the importance of leisure time became a necessity to meet the spiritual needs of people. This has led to the emergence of a global phenomenon called the tourism industry. On the other hand, urban environments are considered as centers of civilization, culture, politics and sometimes with the most valuable tourism resources such as parks, natural landscapes and historical spaces. Today, tourism is beyond an industry as a dynamic global and social phenomenon with its own complexities. Many developed countries consider tourism to be the best way to enhance culture, create international understanding and achieve rich economic income [3]. Tourism is a rapidly growing phenomenon; So that today it has become one of the biggest industries in the world. The development of tourism and related recreations is one of the effective factors in shaping the development pattern of the regions and provides many direct and indirect economic, social, cultural and environmental benefits for the host; But on the other hand, such an approach has caused concerns and fears of the threat and destruction of the environment and the natural, historical and cultural heritage of the local residents, in fact, industrial tourism is not clean and non-destructive. The relationship between the environment and tourism is very close; Because one of the very important features of the environment is that it is an attraction for tourists. Tourism facilities and infrastructures, in turn, are related to the environment in some aspects and also cause effects on the environment [4]. Tourism can have both positive and negative effects in terms of the environment, which is the prevention of negative effects, including the necessity to preserve the environmental and even cultural, social resources of touristic areas. The negative effects that arise as a result of tourism include waste production, water pollution, air pollution, visual pollution, noise pollution, land use problems, overcrowding, congestion and traffic, excessive growth of the service and welfare sector, damage to landscapes and the natural areas of the region, the destruction of forests, wetlands and other unique and special habitats, etc. [5]. On the other hand, the sanitary disposal of waste in human societies is always one of the concerns of health authorities. Because pollution caused by unsanitary and unprincipled disposal of waste has many harmful environmental effects. An important part of waste is often perishable, which is important from many aspects. In the mountains, due to the problems in collecting garbage, garbage is often scattered in the mountains and surrounding valleys. Therefore, in addition to creating a bad landscape in the mountains and polluting the nature, the increase in the population of rodents, insects and other vermin causes the spread of disease in the mountains, which can ultimately pose a risk of disease to mountaineers and people who go to the mountain slopes for recreation. bring on. The accumulation of garbage, especially garbage that contains organic substances in hot and humid weather conditions, can cause the spread of diseases such as malaria, plague, and viral fevers [6]. A study conducted in the Himalayan mountains shows that the density of visitors and the influx of mountaineers to this area has increased the production of waste and has affected the neighboring villages of the Himalayas and has faced a problem of waste. In the mentioned survey, about 50% of the people under study mentioned the problem of not spreading garbage in the Himalayas and especially in the valleys around it, such as the Valley of Flowers. Waste is very diverse and specific measures should be taken for each of them, because the stages of collection, separation, recycling and disposal are different for each one [7]. There is a problem of garbage collection and disposal in most mountains. Therefore, several plans regarding garbage collection and mountain cleaning have been implemented in European countries, including on the edge of the Alps in Europe and Eagle Mountain in California. It has been proven in the research that teaching mountain health to people who mainly go to the slopes of the mountains and the edge of the mountains for recreation and sports is the best way to keep the environment of the mountains clean [8]. Studies have shown that most of the pollution in the mountains, especially in its slopes, occurs through people who spend hours in these areas mainly for recreation, and mountaineers, especially professional people, are significantly cleaner than the rest of the people. and share the cleanliness of the mountain. The amount of waste produced in the mountains and their margins varies in different seasons and changes depending on the number of visitors to the mountains. Usually, the largest amount of waste is produced in spring and especially in summer [9]. Mount Damavand is also one of the tourist destinations that attracts a wide range of mountain tourists every year in terms of nature tourism and brings relatively good income to the local communities. Obviously, to strengthen the sustainable tourism of this mountain and prevent its destruction, extensive studies in this field are necessary. In fact, the research question that the researcher pursues is whether

there is a significant relationship between environmental concerns and waste management among tourists in the mountainous regions of Damavand.

THE NECESSITY AND IMPORTANCE OF THE ISSUE

Tourism is one of the activities that, although it has enjoyed a lot of growth in recent decades all over the world, at the same time, it is considered one of the main threats to the environment. Tourism causes environmental damage through the production of a large amount of non-durable goods, sewage, waste and carbon emissions, as well as the extensive consumption of water and energy resources. In this regard, ineffective management and uncontrolled development of tourism leads to the aggravation of extensive ecological damage to the environment [10]. Tourism development, like global development, has not paid attention to the elements and platforms that create this industry, and with the aim of making profit and increasing social welfare, it has brought destructive effects. For this reason, it has left an incorrect and inappropriate image of the relationship between tourism and the environment. In order to prevent the destructive effects of activities related to the tourism industry, it is believed that the development process should move towards the stabilization of the tourism industry and the sustainable use of resources, the participation of local communities, is one of the necessary conditions for such an industry [11]. On the other hand, the mountainous region of Damavand is considered one of the cold and wet regions, and due to its geographical and strategic location, millions of travelers pass through this region every year. Also, the proximity to natural touristic provinces such as Mazandaran in the north and Semnan in the east and the proximity to the great province of Tehran, which has important potentials of transportation lines and has become the center of various economic, political, and cultural exchanges in the west, so that there are countless capabilities for this Create an area. Investigating the abilities and facilities of this area is necessary for the correct development of tourism and its use of mountaineering and also to prevent the destruction of the environment. Because, paying attention to the protection and creation of the facilities and facilities needed by the people in the region can attract a large number of tourists from different parts of the city, and these developments will further improve the environmental values, followed by the economic and social values.

RESEARCH GOAL

Investigating the relationship between environmental concern and waste management in tourists

HYPOTHESIS

There is a relationship between environmental concerns and waste management in tourists.

CONCEPTUAL DEFINITIONS

Waste management: Management is the collection, transportation, processing, recycling or disposal and destruction of waste (waste materials). Environmental concern: the feeling of concern, fear, discomfort, etc., towards environmental problems.

BACKGROUND RESEARCH

According to the research, personality traits have a significant and independent impact on attitude toward environmental pollution [12]. The study was titled "Attitude towards littering as a mediator of the relationship between personality traits and environmentally responsible behavior." and in particular practices conscientious environmental behavior. Between personality traits and environmentally responsible behavior, the attitude towards littering in the environment plays a mediating role. The results show that people who have special and desirable personality traits and people who have an unfavorable attitude towards littering in the environment are more inclined to participate in environmental behaviors.

A study titled "Effects of Recreational Experience, Environmental Attitude on Environmentally Friendly Behavior of Nature-Oriented Tourists" came to the conclusion that engaging in nature-oriented tourism, or nature-based tourism, strengthens a person's environmental attitudes and increases their participation in tourism in general and responsible environmental behavior in particular.

Kaymaz et al. (2022) employed a questionnaire approach and SWOT analysis for issues, capacities, and constraints in their study on the environmental and socioeconomic effects of ecotourism on local people in northwest Turkey [13]. The results showed that the region has significant potential for ecotourism and the local people have a positive attitude towards ecotourism planning for development.

A study titled “Factors affecting the tendency to pro-environmental behaviors at home and recreational environments” using a sample of Norwegian citizens [14]. In this study, he collected data from a sample of 1004 people who were over 18 years old. Using regression, the correlation between two dependent variables (tendency to pro-environmental behavior in the home environment and recreational environment) 453/. it has been shown. The inferential analysis of the research has also shown that the variable of age has a negative relationship and the variable of literacy level, environmental concerns and personal norms show a positive relationship with behavior in the home environment. Income and gender variables do not have a significant effect on behavior in the home environment. From the results related to environmental behavior in recreational environments, it was that the variables of income, gender, environmental concerns and personal norms show a positive relationship with the dependent variable. In addition, women are more likely to engage in pro-environmental behavior in recreational settings than men. Age and literacy level did not show a significant effect.

The benefits of putting eco-friendly programs into place in eco-friendly hotels were covered by an article “Implementation of sustainable activities in environmentally friendly hotels in Greece” [15]. He mentioned these programs, which include saving energy and reducing waste production, increasing the satisfaction of hoteliers from reducing operational costs, and increasing the satisfaction of guests, among the features and benefits of these hotels.

There is a correlation between environmentally friendly activities and the desire to stay in a green hotel, as confirmed by Ee GJ and Seo N. (2018) article on “Environmentally friendly activities, environmentally friendly attitudes and the willingness of travelers to choose green hotels in Malaysia” [16].

STATISTICAL POPULATION, SAMPLING METHOD AND SAMPLE SIZE

The statistical population of this research includes tourists, travelers and mountaineers of Damavand mountains, which are estimated to be 1500 people on average. Also, the sampling method was readily available, and the research samples were selected from among these people equal to 224 people.

Research Variables

Waste Management

According to the number of questions related to the variable of waste management (5) and its five-point Likert scale, the lowest and highest scores for waste management were 5 and 25, respectively. The statistical distribution of this variable is shown in Table 1.

Table 1. Description of statistical indicators of waste management.

Average	Middle	Mod	Standard deviation	Minimum	Maximum
21/20	0/20	0/19	05/2	0/15	0/25

Considering that the lowest score of waste management was equal to 15 and the highest was equal to 25, it was observed that the average score of this variable was equal to 20.21 ± 2.05 .

Environmental Concern

According to the number of questions related to the variable of environmental concern (5) and its five-point Likert scale, the lowest and highest scores for environmental concern were 5 and 25, respectively. The statistical distribution of this variable is shown in Table 2.

Table 2. Description of statistical indicators of environmental concern.

Average	Middle	Mod	Standard deviation	Minimum	Maximum
41/20	0/20	0/21	96/1	0/16	0/25

Considering that the lowest score of environmental concern was equal to 16 and the highest score was equal to 25, it was observed that the average score of this variable was equal to 20.41 ± 1.96 .

CHECKING THE NORMALITY OF RESEARCH VARIABLES

The result of the Kolmogorov-Smirnov test showed that at the 5% error level, the distribution of all variables do not follow the normal distribution as shown in Table 3.

Table 3. Checking the normality of research variables.

Variable	The value of the statistic	P-value	Test result
Waste management	80/1	003/0	abnormal
Environmental concern	63/1	01/0	abnormal

EXAMINING THE RESEARCH HYPOTHESIS

Research hypothesis: There is a relationship between environmental concern and waste management in tourists. In order to check the research hypothesis, Spearman's correlation test was used, and the following result was obtained as shown in Table 4.

Table 4. Examining the relationship between environmental concern and waste management.

Number of samples	Correlation value	P-value
224	0/138	0/039

It was observed that there is a positive and significant relationship between environmental concern and waste management, in other words, with the increase of one variable, the other also increases by 13.8%.

Table 5 above also showed that environmental concerns have a positive and significant influence on waste management by 14.6%. To put it another way with an increase of one unit of environmental concern score, waste management will increase by 14.6%. It should be noted that based on the above regression model, environmental concern can explain 14% of waste management changes.

Table 5. Univariate regression of environmental concern.

Effect	The amount of effect	standard error	The value of the t statistic	P-value
Fixed	23/17	43/1	09/12	001/0>
Environmental concern	146/0	07/0	09/2	037/0

$R^2=0.14$

CONCLUSION

Waste management and environmental concern have a favorable and significant association, according to the research premise. Based on this, it can be said that air pollution, destruction of natural habitats, increase in household and industrial waste, and reduction of tourism space are important for tourists, and if this attention and concern about the above cases increase. It can be hoped that if a person observes something that harms the mountain environment, he will report it immediately in order to prevent it.

RESEARCH LIMITATIONS

There were two limitations for this study, which are mentioned below:

1. Due to the fact that the present study was conducted among the mountain tourists of Damavand, therefore, it has been considered as a spatial limitation and a limitation under control.
2. Among these limitations, we can point out the lack of control of psychological and sociological variables such as personality traits and individual interests of tourists, etc.

OFFERS, PROPOSALS BASED ON DATES

According to the findings of the research, the following suggestions are presented:

1. It is suggested to take necessary measures to increase the level of knowledge and awareness of tourists, for example, officials can use brochures or public education at the entrance of tourist areas for free.
2. It is suggested to deliver free garbage bags to each tourist and give valuable prizes to encourage other tourists when they return from mountainous areas.
3. It is suggested that for each of the tourism tours, an individual from the tourism organization or the environmental protection organization should be present as a representative in that team.

Author Contributions

Conceptualization, RG and TT; methodology, MT and TT; software, RG and MT; validation, MT and TT; formal analysis, RG and MT; investigation, MT and RG; resources, TT and MT; data curation, RG and TT; writing—original draft preparation, TT and MS; writing—review and editing, RG and MT; visualization, TT and MS; supervision, RG and TT; project administration, RG and MT. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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