

Article

Residents' Perceptions and Satisfaction toward Tourism Development: A Case Study of Petra Region, Jordan

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Abstract: This study investigates whether local residents' sociodemographics and community attachment can influence their perceptions toward the impact of tourism (economic, environmental, and sociocultural effects) and, further, whether these perceptions influence their satisfaction with local tourism management. The perceptions of 467 residents were surveyed from six communities in the region of Petra, Jordan. The results of a regression analysis indicate that the respondents' sociodemographics and community attachment influence their perceptions of the impacts of tourism. Gender and distance from tourist sites are found to be very important factors that influence local residents' perceptions. In addition, the perceived economic impact is the most important aspect for these respondents, and perceived negative impacts do not significantly influence their satisfaction. Suggestions for future studies in the region and possible implications are discussed.

Keywords: residents' perceptions; community attachment; community satisfaction; socio-demographic characteristics; Petra

1. Introduction

The importance of understanding residents' perceptions of the impact of tourism is substantial when it comes to the successful development of tourism [1], as well as local support of tourism development [2–4] and the satisfaction of host communities [5,6]. Many authors agree that tourism has an effect on the economy, social-culture, and environment of host communities [7]. Tourism tends to be beneficial to the communities whose government is in the stage of tourism development because it can increase their quality of life in different ways, such as improved facilities and employment opportunities [8]. It also enhances the economy [9], creates more natural and cultural attractions, and helps protect these attractions [10,11]. Besides this, tourism leads to an increase in restaurants and accommodation services and creates more festivals and outdoor recreation opportunities [9]. Regrettably, despite such benefits to the community, negative impacts can occur when tourists interact with local residents. For instance, tourism increases the cost of living and contributes to an increase in crime, the use of drugs, and traffic, leading to a big change in the culture of local residents [12–14], as well as environmental damage [3].

Several studies have found that the influence of residents' perceptions toward tourism affects their satisfaction [5,6,11,15,16]. Wang et al. [17] noted that residents' satisfaction is one of the key factors leading to tourism development's success. Tourism studies show that there is a lack of research into the perceptions of residents in developing [18] and Muslim countries [19] and residents' satisfaction with tourism in the public sector [20]. Therefore, this research was conducted in the Petra region of

Jordan. Tourism contributed to 19.4% of the GDP, 8.8% of the total investment, and 18.1% of the total employment in the country in 2016 [21]. Petra Tourism and Development Region Authority (PDTRA) is an autonomous agency created to develop the region in all aspects, especially the tourist industry, and to emphasize the importance of cultural heritage. Despite its touristic and cultural importance, Petra as a tourist destination is surrounded by many challenges, such as the decreasing number of visitors, political instability in the Middle East, and an increase in the number of one-day visitors [22]. Political and security instability influence the growth of tourism in any country [23]. Consequently, the region's economy may experience instabilities, such as the seasonality of tourism employment, resulting in the dissatisfaction of residents who expect to gain economic benefits from tourism activities [11].

However, sustainability initiatives have recently started in the region. After joining the National Protected Areas Network in 2017, a remarkable step for the PDTRA and United Nations Development Programme (UNDP) was to assess 17 sustainable development goals. The main objective that must be met to make Petra a nature reserve is to minimize the negative impacts of tourism (see Supplementary Material 1) and to involve the local community in the tourism industry.

In spite of the importance of Petra as a world heritage destination, there is a notable absence of opinions and perceptions of the local population regarding tourism [22]. This research provides knowledge about the residents' satisfaction with local management and examines the role of sociodemographic characteristics, especially the role played by gender and place of residence, in the perception of three types of impacts: Sociocultural, economic, and environmental. Furthermore, while many studies have been carried out to investigate the archaeological site of Petra, few studies have been conducted to investigate the residents' perceptions of tourism impacts. This study was conducted to meet the need for a perception analysis of residents in the Petra region toward tourism leaders. This study involved five years of observations of the most important issues and included in-depth desk research of projects, strategic plans, and the government's role in the region. The authors believe that this study will eventually help tourism leaders to manage the impacts of tourism on the local community and create a healthy host–guest environment. Moreover, it is a part of a greater effort that aims to investigate tourism development and its impacts on the local community in the Petra region and shed light on the key factors that support sustainable tourism development.

This paper contributes to the existing knowledge of tourism's impacts and residents' perceptions by examining their satisfaction with local management and determining how their satisfaction is influenced by the perceived tourism impacts. Furthermore, this study fills the gap in the literature related to the use of sociodemographic variables as predictors of perceived tourism impacts.

Specifically, this study has three objectives: (1) Assess and identify residents' perceptions of the impact of tourism in the Petra region, (2) examine whether residents' sociodemographic characteristics and community attachment influence the residents' perceptions of the impact of tourism, and (3) examine the influence of the perceived impact of tourism on the satisfaction with local management. The results of this study will help tourism leaders to identify the most important impact of tourism and understand how different characteristics of the residents influence their perception of those impacts. Moreover, it will help to establish measures according to residents' characteristics.

2. Literature Review

2.1. Tourism Impacts and Residents' Perceptions

To explain the residents' perceptions and attitudes regarding tourism impacts, a number of theories have been suggested. Some of them do not provide a theoretical view of the phenomenon (play theory, reasoned action theory, conflict theory, and compensation theory) [2,24–29]. Social exchange theory (SET) is the umbrella of this study's theoretical perspective. SET was used broadly to explain and understand residents' perceptions of tourism development. Moreover, it is considered a convenient framework to explain both negative and positive perceptions [3,30–32]. According to SET, people evaluate an exchange on the basis of the resulting benefits and costs of that exchange [33].

Tourism creates both positive and negative impacts. Positive impacts include new employment and business opportunities and enhancement of road networks and the transportation system, as well as more entertainment opportunities [11,13,34–44]. On the other hand, tourism has negative effects on the host community. It may lead to more traffic and demand on public places and services, increase the use and associated problems of drugs and alcohol, and cause damage to the environment. In certain places, tourism activities increase the cost of living [30,35–39,42–46].

Investigating the impact of tourism and the perceptions of the residents toward these impacts has become important and widespread in the tourism literature [7]. In developing countries, such as Jordan, unfortunately, studies of residents' attitudes are limited [18], although this kind of research is very important for the development stages of the tourism industry.

2.2. Factors Influencing Residents' Perceptions

Much research has been carried out on factors that may influence residents' perceptions toward tourism impacts [47]. The perception of tourism's impact can be influenced by many factors. Although there is no evident official classification of the factors, they can be classified into two groups: Extrinsic factors (stage of tourism development, type of tourism, tourists, tourism development, seasonality, national stage of development) and intrinsic factors (economic, employment dependency on tourism, community attachment, distance from tourism zone, interaction with tourists, personal values, and demographic variables, such as age, gender, and education). For instance, several works that share similar features with this study have used those factors [15,18,24,30,34,43,48–50].

According to Murphy [51], factors that influence residents' perceptions and attitudes include the type of host–guest interaction, extent of individuals' reliance on the industry, importance of the industry to the community, and the level of tourism development in the community. However, other studies have presented more specific factors, such as the distance of an individual's residence from the central tourism zone [52], the extent of tourism concentration in the community [53], economic reliance on the industry [54], and, in particular, socioeconomic factors (e.g., age, education level) [55,56].

2.2.1. Community Attachment

Community attachment influences residents' perceptions, as confirmed by many works (e.g., [2,3,12,49,57–60]), including those in regions comparable to the Petra region [2,49,61]. The literature suggests that locals perceive tourism impacts as positive when they are more attached to their community. For instance, McCool and Martin [12] reported that strongly attached residents rated the positive dimension of tourism higher than unattached residents, although they were more concerned that the costs were not shared equitably throughout the community. Moreover, Jurowski et al. [62] found that when residents are more attached to their community, they perceive economic and social impacts as positive and environmental impacts as negative. Látková and Vogt [3] found a positive relationship between community attachment and the positive perception of residents, as did the study by Jaafar et al. [61]. Meimand et al. [59] found a significant effect of community attachment on the perceptions of Malaysian Homestays's residents. In terms of negative socioeconomic and environmental impacts and positive economic impacts, Gursoy et al. [57] indicated that there is a positive relationship with community attachment. On the contrary, Um and Crompton [58] indicated that the greater the attachment of residents to their community, the less positive their perception of tourism; the study by Vargas-Sánchez generated similar findings [60]. Accordingly, the following hypotheses were formulated:

H1a. *There is a positive relationship between Level of attachment and perceived positive tourism impacts.*

H1b. *There is a positive relationship between Level of attachment and perceived negative tourism impacts.*

2.2.2. Distance from Tourist Zone

The role of the distance from tourist zones in perceived tourism impacts has been taken into consideration in several studies (e.g., [14,38,40,63,64]). According to SET, a more favorable outlook on tourism development was indicated by the residents living near the tourist area. Moreover, tourism researchers have assumed that the closer that the residents live to the tourist zone, the more negative their perceptions toward tourism development. For instance, Pizam [53] confirmed that the more tourist constructions there are in an area, the more negative the perceptions of the residents. Moreover, Khoshkam et al. [64] found a significant negative relationship with economic impacts. Jurowski and Gursoy [14] found that residents who live near tourism areas are more concerned with the social impacts of tourism. Accordingly, the following hypotheses were formulated:

H2a. *There is a negative relationship between the distance from tourist zones and perceived positive tourism impacts.*

H2b. *There is a positive relationship between the distance from tourist zones and perceived negative tourism impacts.*

2.2.3. Gender

The relationship between gender and tourism received attention in the 1990s [65], and it is a sensitive and important factor when it comes to testing and evaluating perceived tourism impacts in the field [66]. The differences between women's and men's views of tourism impacts are important for developing an understanding of the attitudes toward tourism development [50,67]. However, Mason and Cheyne [67], in a study of rural New Zealand, found that men tend to agree more with tourism development than women, and men perceive more positive impacts. Moreover, Harrill and Potts [56] found that women have more negative perceptions of tourism development than men. Nunkoo and Gursoy [50] concluded that women perceive more negative impacts than men. Thus, the following hypotheses were established:

H3a. *Women are less optimistic about positive tourism impacts than men.*

H3b. *Women are more concerned about negative tourism impacts than men.*

2.2.4. Age

Age is considered to be a variable that explains the differences in residents' perceptions. The literature suggests that young residents are more optimistic about economic tourism impacts. They consider the tourism sector as an opportunity to work [68]. For instance, Cavus and Tanrisevdi [55] found that the perceptions of older residents are less positive. Similar results were found in the study by Almeida et al. [69]. On the other hand, Tomljenovic and Faulkner [70] found that older residents present positive attitudes toward tourism impacts. In the same line, Sheldon and Abenoja [71] observed that younger residents are not satisfied with the facilities in Hawaii. Thus, the following hypotheses were developed:

H4a. *There is a negative relationship between age and perceived positive tourism impacts.*

H4b. *There is a negative relationship between age and perceived negative tourism impacts.*

2.2.5. Tourism-Related Jobs

Many studies have investigated the role of having experience working in tourism and how this factor can predict positive and negative perceived effects of tourism development (e.g., [57,72,73]). The literature suggests that residents who depend economically on tourism have a greater tendency to identify its benefits [15,38,74–76]. On the contrary, others reported the opposite [11,36,73]. For instance, Kuvan and Akan [77] found that residents with tourism-related jobs are more positive and less negative toward tourism development, and this is similar to the findings of Teye et al.'s [18] study in Ghana. In addition, some studies have indicated that having a tourism-related job is not a significant factor (e.g., Liu and Var [72]). Nevertheless, the following hypotheses were formulated:

H5a. *Residents that have a tourism-related job perceive more positive tourism impacts.*

H5b. *Residents that have a tourism-related job perceive fewer negative tourism impacts.*

2.2.6. Level of Education

Level of education has been used as a variable to predict the perceptions of residents in several studies [15,63,78]. The literature indicates that residents with higher education levels perceive tourism impacts more positively. Some have reported that this relationship may be the result of less-educated residents having fewer opportunities to acquire economic benefits from tourism. Almeida et al. [69] found that the more educated the residents, the more positive sociocultural and economic impacts they perceived. Moreover, Hernández et al. [79] indicated that less-educated residents see tourism development and its benefits less favorably. Accordingly, the following hypotheses were formulated:

H6a. *There is a positive relationship between level of education and perceived positive tourism impacts.*

H6b. *There is a positive relationship between level of education and perceived negative tourism impacts.*

2.2.7. Member of Local Organization

Teye et al. [18] included participation in a local organization in their study in Ghana as a predictor of how individuals perceive tourism impacts. They found that participation in an association is the strongest predictor of the social interaction term, and they indicated that residents who are part of a community organization have a less positive attitude toward social interaction and perceive more economic costs. In the case of Petra, we hypothesized that residents who tend to participate in local organizations are less favorable toward tourism development.

H7a. *Residents perceive fewer positive impacts when they are members of a local organization.*

H7b. *Residents perceive more negative impacts when they are members of a local organization.*

2.2.8. Satisfaction with Local Management

Studying residents' satisfaction is important to the success of tourism development since it enables the assessment of sustainable tourism development, the residents' perceptions toward tourism impacts, and support for tourism development [6,17,80–83]. The literature suggests that satisfied residents perceive tourism as having positive impacts. Likewise, unsatisfied residents perceive more negative impacts [10,11,16]. However, according to the nature of the management of the Petra region autonomy (autonomous region), this study focuses on the satisfaction of residents toward tourism development in the public sector.

The literature contains few studies related to the government's role in perceived tourism impacts [20,54]. Moreover, it has been pointed out that the residents' power to influence local institutions and their trust in local management determine the community's satisfaction [84,85]. Other studies have integrated the relationship between satisfaction with government and life with community satisfaction [86]. Kim et al. [87] hypothesized that residents' perceptions of tourism impacts influence their satisfaction with particular life domains, and those with overall life satisfaction. In Natal, Brazil Gursoy et al. [88] suggested that the locals' perceptions toward mega-event impacts are determined by their trust in the government. Andriotis [20] suggested a future work related to the community's satisfaction with the public sector and pointed out the importance of the government's (decision makers) role in the residents' perceived tourism impacts. Accordingly, the following hypotheses were formulated:

H8. *Perceived benefits of tourism development have a positive effect on satisfaction with local management.*

H9. *Perceived costs of tourism development have a negative effect on satisfaction with local management.*

The literature review provided the study with a clear path to investigate the residents' perceptions toward tourism impacts in the Petra region. However, the literature does not include several aspects, such as the influence of age on perceived environmental impacts or the relationship between gender and perceived sociocultural impacts. At this point, the results demonstrate whether the hypotheses are supported; however, according to the study's body, it is probable that the dependent variables are explained after extracting domains via factor analysis, and then the relationship can be explained for each variable. Hypotheses were tested in relation to the extracted domains of perceptions (negative and positive). Hypotheses, H1–H7, were tested by the generalized linear model (GLM) regression approach, and H8 and H9 were tested using a linear regression approach.

3. Materials and Methods

3.1. Study Area

The Petra region is located in the Maan governance south of Jordan (Figure 1). This 755 km² region includes six communities (Wadi Musa, Taybeh, Rajif, Dlaghah, Baidah, and Um Sayhoun) and a 264 km² archaeological park. It is home to 31,956 residents [89], who are characterized by their Arab-Islamic culture and restrictive, conservative traditions [90]. In 2009, the PDTRA was established as an autonomous special administrative district to develop the region. The importance of tourism in Petra began to increase after it was listed as a World Heritage site in 1985 and was named one of the new wonders of the world in 2007. There are four major issues that limit the benefits of tourism in the local community: Absence of effective management and community participation in the planning [90,91], fluctuation in visitor numbers (Figure 2), and lack of tourist attractions in the region. Despite the contributions of tourism to the country's economy, the sector in Petra provides few job opportunities because of the challenges mentioned before. Furthermore, the wages of these jobs are low. Only 1800 persons work in the tourism sector, and around 17% are not Jordanian. At the level of the county, Petra has the lowest number of Jordanian employees in the tourism sector [89]. The unemployment rate in the region reached 9%, with 60% of this figure being women. In spite of women's ability to work in the tourism sector [92], cultural norms are considered to be barriers to women's employment [93]. The local community in the region does not benefit much from the city's income and does not receive sufficient attention from tourism leaders [90].

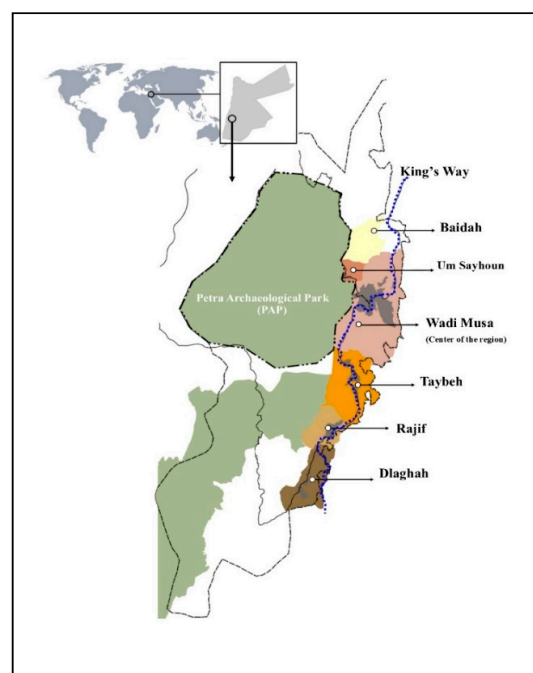


Figure 1. The Petra region map and location.

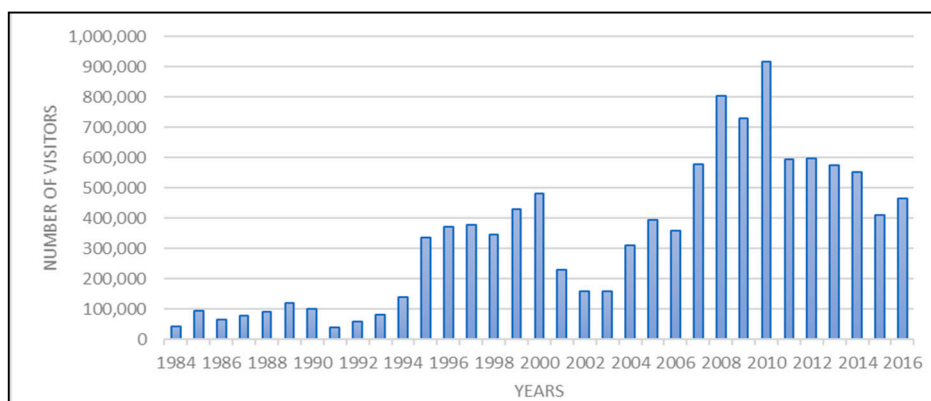


Figure 2. Visitors numbers of Petra [89].

3.2. Sampling and Data Collection

Data were collected from the residents of six communities in the Petra region who were at least 18 years of age. To achieve the desired sample size, stratified random sampling was employed according to the residents' place of residence and gender. After a preparatory review of the previously mentioned literature and involvement of the code of ethics and practices established by the American Association for Public Opinion Research [94], the survey was developed. The survey was originally written in English, and then a bilingual researcher translated the questionnaire into Arabic. Data collection was conducted for three weeks in June 2017 using two methods: A self-administrated questionnaire and interviews. For the interviewing method, a volunteer team was chosen by the authors from the field of study. The team involved four volunteers who were distributed among the six communities. The volunteers work in local associations in the region. The reason for engaging their assistance was to have easy access to the residents and facilitate explaining the questionnaire to illiterate respondents. Residents in their houses, place of work, and main streets of downtown were asked to participate. Then, a four-hour online workshop was performed to explain the study and how to fill in the questionnaire. Moreover, the questionnaire was sent via email using Google forms to access more residents. Emails were collected blindly from the local associations in the region. A total of 510 questionnaires were distributed. There were 467 valid completed questionnaires (91% response rate, 4.5 confidence interval, and 95% confidence level) included in the statistical analysis. The multiple imputation method was used for missing values for scale items in 15 surveys.

3.3. Scale of Analysis

The survey includes 4 sections. The first section involves the demographics and characteristics of the population (see Table 1). The second section is related to the community attachment scale, which is measured by three items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree): "I feel proud of living in Petra Region", "When I'm away I miss my town", and "I feel I want to move out of my place of living". These questions were derived from McCool and Martin [12] and Goudy [93]. The third section includes 33 items to measure the respondent's perceptions toward tourism impacts, and those perceptions are measured by six sub-scales (positive and negative sociocultural, environmental, and economic impacts) on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The questions were adapted from Lankford and Howard [75], Andereck and Vogt [95], and Kim et al. [87]. The last section consists of four items to measure the respondents' satisfaction with the public management of tourism development. Respondents were asked to describe their satisfaction on a 5-point Likert scale (1 = strongly dissatisfied, 5 = strongly satisfied): "Overall, I'm satisfied with tourism in the Petra region", "I'm satisfied with facilities provided to local community", "I'm satisfied with the roles and regulations of Petra Region", and "I'm satisfied with tourism management in the Petra region"; these questions were adopted from Andriotis [20]. Finally, sociodemographic questions were requested from

the respondents (e.g., marital status, which type of local organization are you a member of, years of living in the current town). The data were entered into SPSS.22 for further analysis.

3.4. Data Analysis

A summary of the respondents' demographic characteristics is shown in Table 1. The percentages of younger age groups (18–24; 25–34) and a higher education level (university degree) exceeded those of the other options; this can be explained by the percentage of these characteristic in the whole population, in which 40% are younger than 18, and 58% of the residents are aged 18–35. Furthermore, over 41% hold Tawjihi and university degrees [89]. It is important to note that, according to the survey, women participate in local associations more than men and that men have more jobs related to tourism than women.

Table 1. Profile of the respondents ($n = 467$).

Characteristic		Frequency	%
Gender	Male	235	50.3
	Female	232	49.7
Place of Living	Dlaghah	33	7.1
	Rajif	41	8.8
	Taybeh	96	20.6
	Wadi Musa	254	54.4
	Um Sayhoun	35	7.5
	Baidah	8	1.7
Age	18–24	140	30.0
	25–34	178	38.1
	35–44	84	18.0
	45–54	29	6.2
	55–64	26	5.6
	more 65	10	2.1
Education	Primary Studies	53	11.3
	Secondary Studies	72	15.4
	Tawgihi	97	20.8
	University Studies	245	52.5
T-employed	yes	81	17.3
	No	386	82.7
P-NGO	yes	239	51.2
	No	228	48.8

Note: T-employed: employed in tourism industry; education: education level of the respondent; P-NGO: part of local association.

Exploratory factor analysis (R-type) with varimax rotated principal component analysis was used to generate general groups of residents' perceptions toward tourism impacts. The assumptions for factor analysis are not violated. The Kaiser–Meyer–Olkin statistic is 0.816, which surpasses the recommended cut-off of 0.06 [96], and the correlation between these items is convenient for factor analysis. The data reveal that Bartlett's test of Sphericity is significant (approximately chi-square = 4649.167, $df = 300$, $p < 0.001$). Items with a coefficient value of less than 0.4 were deleted. To improve the results of the analysis, six items were deleted that either had low loadings or were loaded on several factors. These items were excluded from further analysis. The items' scored factor loadings range from 0.498 to 0.845. The refined (regression) method was used to calculate each factor score. This method maximizes validity and provides true factor scores [97]. These scores were used later as dependent variables in the regression analysis to test the effect of several independent variables on residents' perceptions. Accordingly, five clean domains were produced from the data after

several runs. Factors' eigenvalues are greater than one and explain 56.464% of the total variance in the data (see Table 2).

Table 2. Factor analysis.

Domains	Items	Factor Loading	Mean	SD
PSC			2.92	
α (0.732)	Tourism provides entertainment opportunities for the local community	0.757	2.76	1.408
e (6.200)	Tourism helps to creates more local associations	0.584	2.83	1.229
VE (24.800)	Tourism helps to improve the government provided facilities (Health centres, better schools, post office, sport centres, etc.)	0.656	2.96	1.351
	Tourism helps to preserve local traditions	0.663	2.74	1.363
PEn			3.02	
α (0.730)	Tourism helps to protect the environment	0.736	3.07	1.243
e (3.220)	Tourism help to creates more natural parks	0.549	2.91	1.290
VE (12.879)	Tourism encourages people to protect surrounding environment	0.704	2.99	1.269
	Tourism helps to keep my village\city clean	0.784	3.11	1.278
PE			2.92	
α (0.819)	Tourism increases my family incomes	0.544	2.47	1.249
e (1.834)	Tourism creates better public transportation infrastructure	0.674	2.82	1.308
VE (7.335)	Tourism helps to build more roads	0.802	2.93	1.267
	Tourism helps to creates business	0.805	3.15	1.325
	Tourism helps to creates more jobs	0.725	3.22	1.379
NSEn			2.93	
α (0.809)	Tourism increases the uses of drugs and alcohol	0.598	3.34	1.413
e (1.447)	Tourism increases the amount of crime	0.756	2.76	1.373
VE (5.789)	Tourism reduces my outdoor recreation	0.643	2.61	1.207
	Tourism makes crowding of public spaces and facilities	0.549	2.99	1.216
	Tourism hazards the citizen rights by using the lands and properties to create more hotels and borders from national parks	0.594	3.06	1.283
	Tourism creates more social needs	0.595	2.87	1.175
	Tourism negatively affects the family relationships	0.498	2.78	1.211
	Tourism increases pollution (noise, air, etc.)	0.596	3.12	1.304
	Tourism hazard the natural landscape	0.542	3.21	1.378
NE			3.08	
α (0.829)	Tourism increases the price of properties	0.845	3.40	1.393
e (1.415)	Tourism increases the cost of living	0.804	3.51	1.343
VE (5.661)	Tourism generates seasonal unemployment	0.665	3.53	1.390

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.816; total variance explained data = 56.464%; α : Cronbach's Alpha; e: Eigenvalues; VE: percentage of variance explained.

Table 2 shows the factor loadings and Cronbach's Alpha for the extracted domains, namely, domain 1: Positive sociocultural (PSC); domain 2: Positive environment (PEn); domain 3: Positive economic (PE); domain 4: Negative socio-environment (NSEn); domain 5: Negative economic (NE). The five domains extracted from the factor analysis were then tested for reliability. Cronbach's Alpha coefficient values from this study range from 0.730 to 0.829, indicating that the variables present a high correlation with their factor aggregations and that there is an internal consistency of the items. An examination of the correlation matrix indicates that none of the correlations among the constructs are higher than 0.50.

A regression analysis was used to identify the source of differential perceptions among residents. A test for regression assumptions was carried out for linearity (Studentized residuals $< 3/-3$; Cook's distance < 1), multivariate normality, Quantile-Quantile Plot (which was checked and found to be favorable), multicollinearity (VIFs range between 1.254 and 1.540); tolerance values have a range of 0.819–0.998; Pearson's Bivariate Correlation values among all independent variables are < 1 ; and the homoscedasticity results indicate that the assumptions are not violated. In order to assess the normality of the distribution of the data, the skewness and kurtosis of each construct were examined. The examination of the histogram for each variable indicates that the data are normally distributed. However, it was decided to include all five domains as dependent variables and use seven independent variables (attachment, gender, place of living, age, T-employed, education level, and P-NGO). A mean

score was calculated on the basis of the mean score of the community attachment items to produce a variable score.

4. Results

The GLM model results indicate that all five domains were significant ($p < 0.01$) explaining the variation of (6.3% of PCS), (10.6% of PEn), (14% of PE), (8.6% of NSEn), and (7.7% of NE). The reader is reminded that only significant results are shown in Table 3. Linear regression was applied to examine whether the perceptions' domains influence the residents' satisfaction. The model was significant ($F = 39.524$; $p = 0.000$) and explained 30% of the variation. Perceived positive economic impact was the strongest predictor of satisfaction ($\beta = 0.307$) followed by positive environment ($\beta = 0.243$) and positive socio-culture domain ($\beta = 0.196$). Negative perceived impacts were found not to be a significant predictor of the residents' satisfaction (see Table 4). It should be noted that only significant results are shown further on.

Table 3. GLM regression results.

DV	IV	B	Hypothesis	Supported?
PSC				
^a R ² 0.063 R ² adjusted 0.048 F 4.390	Distance	0.234 ***	H2a	yes
	Education	0.116 **	H6a	yes
	Attachment	0.064 *	H1a	yes
	T-employed	-0.400 **	H5a	no
PEn				
R ² 0.106 R ² adjusted 0.092 F 7.758	Distance	0.209 ***	H2a	yes
	Attachment	0.230 ***	H1a	yes
	T-employed	-0.491 **	H5a	no
	Age	0.076 *	H4a	yes
PE				
R ² 0.140 R ² adjusted 0.127 F 10.674	Distance	0.181 ***	H2a	yes
	Age	-0.086 **	H4a	no
	Gender	-0.565 ***	H3a	yes
	P-NGO	-0.170 *	H7a	yes
NSEn				
R ² 0.0 86R ² adjusted 0.151 F 6.195	T-employed	0.280 *	H5b	no
	Distance	0.239 ***	H2b	no
	Education	0.135 **	H6b	yes
	Gender	-0.355 **	H3b	no
NE				
R ² 0.077 R ² adjusted 0.063 F 5.481	Education	0.089 *	H6b	yes
	Attachment	0.150 ***	H1b	yes
	P-NGO	0.203 **	H7b	yes

^a Model summary. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. Gender (male: coded 0; females coded 1); T-employed (yes coded 1; no coded 0); and P-NGO (yes coded 1; no coded 0); age was measured in the following intervals (18–24 coded 1); (25–34 coded 2); (35–44 coded 3); (45–54 coded 4); (55–64 coded 5); (65 or older coded 6). Education level was an ordinal variable and it was measured in the following order: (primary studies coded 1); (secondary studies coded 2); (Tawgihi coded 3); (university degree coded 4); Distance: represent the place of living; coded related to the distance from tourist area (Dlaghah coded 1; Rajif coded 2; Taybeh coded 3; Wadi Musa coded 4; Um Sayhoun coded 5 and Baidah coded 6).

Hypothesis 1 predicted that when there is a greater level of attachment, the perceived negative and positive impacts increase. This hypothesis was supported in terms of negative economic impacts ($\beta = 0.150$, $p < 0.01$); positive socio-culture ($\beta = 0.064$, $p < 0.1$); and positive environment ($\beta = 0.230$, $p < 0.01$). Hypothesis 2 hypothesized that the further away residents live from the touristic area, the more they are worried about negative impacts and the less they favor positive impacts. Findings support H2a in terms of PSC ($\beta = 0.234$, $p < 0.01$), PEn ($\beta = 0.209$, $p < 0.01$), and PE ($\beta = 0.181$, $p < 0.01$), and H2b was rejected in terms of NSEn ($\beta = 0.239$, $p < 0.01$). Hypothesis 3 predicted that females perceived more negative impacts and less positive impacts than males do. Results of the PE domain support

hypothesis H3a ($\beta = -0.565$, $p < 0.01$) Conversely, the results of NSEn ($\beta = -0.355$, $p = 0.003$) reject hypothesis H3b.

Table 4. Linear regression results.

Perceptions ^{IV} → Satisfaction ^{DV} (0.300 ***) ^a					
Hypothesis	H8 (Supported)			H9 (Rejected)	
Domains	PSC (0.196 ***) ^b	Pen (0.243 ***)	PE (0.307 ***)	NSEn (−0.076)	NE (−0.073)
VIF	1.438	1.254	1.427	1.381	1.540

Note: ^a: R²; ^b: β value for regression model (perceptions satisfaction); * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Hypothesis 4a was supported by results of PEn domain ($\beta = 0.076$, $p < 0.1$). It was predicted that the greater the age of a participant, the more negatively they perceived positive tourism impacts. Moreover, in terms of the PE domain, it was rejected ($\beta = -0.086$, $p < 0.05$). There were no significant findings in the negative domains. It was hypothesized that having a job related to tourism positively influences perceived tourism impacts. Thus, H5a was rejected in terms of PSC ($\beta = -0.400$, $p < 0.05$) and PEn ($\beta = -0.491$, $p < 0.05$). H5b also was rejected by the results of NSEn ($\beta = 0.280$, $p < 0.1$). According to hypothesis 6, it was hypothesized that the higher education level the residents have, the higher they perceive negative and positive impacts. H6a was supported in term of PSC ($\beta = 0.116$, $p < 0.05$), and H6b was supported by the results of NE ($\beta = 0.089$, $p < 0.1$) and NSEn ($\beta = 0.135$, $p < 0.05$). Hypothesis 7 predicted the perceived higher negative impacts and less positive impacts to be induced by participation in local associations. Both hypotheses were supported in terms of PE (H7a $\beta = -0.170$, $p < 0.1$) and NE (H7b $\beta = 0.203$, $p < 0.05$). Moreover, hypothesis 8 predicted that the perceived benefits of tourism will positively influence the satisfaction of residents with local management. This hypothesis was supported in terms of PSC ($\beta = 0.196$, $p < 0.01$), PEn ($\beta = 0.243$, $p < 0.01$), and PE ($\beta = 0.307$, $p < 0.01$). Finally, hypothesis 9 hypothesized that when residents perceive the costs of tourism development, their dissatisfaction becomes clear toward local management. This hypothesis was rejected.

As an example of the results, the β value (regression coefficient) of gender in the PE domain tells us that females perceive fewer positive economic impacts than males, with an average score of 0.565. Likewise, the β value of the age in the PEn domain indicates that as the age group increases (e.g., from 25–34 to 35–44), the perceived positive environmental impacts increase by 0.076.

Generally speaking, the results reveal many perspectives of the residents' perceptions of tourism impacts in the Petra region. Regardless of the theoretical support of the hypotheses' results, it was found that attachment has the highest regression coefficient in the positive environment domain, distance has the highest in the negative socio-environment domain, gender has the highest in the positive economic domain, age has the highest in the positive economic domain, having a job related to tourism sector (T-employed) has the highest in the positive environment domain, education has the highest in the negative socio-environment domain, and P-NGO has the highest in the negative economic, and positive economic perceptions in satisfaction with local management. Highlighting these results helps us to determine the implications of the study.

5. Discussion and Conclusions

This study offers broad insight into residents' perceptions toward and their satisfaction with tourism development in the Petra region. An investigation of the satisfaction of the local community is considered to be the main contribution of this study. Moreover, it provides a profile of the influence of different extrinsic factors and intrinsic factors on the three types of perceived tourism impacts (economic, sociocultural, and environmental), which contributes to the current knowledge and understanding of residents' perceptions toward tourism development, especially in developing, Arab and Muslim countries. Moreover, the authors hope to inspire other investigators to understand the

impact of tourism in similar areas so that a more comprehensive theory of tourism may be formulated. The findings of this study include several significant results, although they are not supported by the theoretical background of the study (see Table 3).

Regarding the groups of perceptions, the social-culture domain was clear to the respondents (it scored the highest VE among other domains; see Table 2). This explains the importance of the sociocultural aspect to the residents, as they are strongly associated with their cultural norms and traditions. The case study of Sare'in and Masooleh, Iran, emphasizes this conclusion [19]. Moreover, Dogan [98] confirmed that tourism influences the sociocultural aspect of the host, pointing to the location's traditions.

Moreover, it was found that positive economic perceptions are highly evident among the respondents (it scored the highest R^2 among other domains; see Table 3). This might explain the importance of the economic impacts to residents, as they expect to gain economic benefits from tourism. Harrill [66] demonstrated that residents can recognize both negative and positive impacts of economic dependency on tourism. Moreover, several studies have found the economic aspect to be very important to the respondents [55,99]. The negative perceptions toward economic impacts in the Petra region may be affected by the limited opportunities to economically benefit from tourism. Farajat [91] and Al Haija [90] pointed out that there is an unequal distribution of tourism's economic benefits among residents. Residents may feel that tourism's benefits reach them unequally. Likewise, individuals with social strength receive benefits from tourism, while other residents do not, and this disparity is considered a critical negative impact of tourism [100]. Besides the decline in economic growth in Jordan [101], the residents, especially those near the tourist site, have experienced critical changes, such as increased living costs and some fraud issues, as mentioned by Jordanian Anti-Corruption Commission (JIACC). Antonakakis et al. [102] pointed out that tourism can create such problems.

5.1. Community Attachment

Some authors have used the length of stay to measure the level of attachment to a community. In this study, the authors used three items with a 5-point Likert scale, which helped to increase the reliability of the scale. However, in terms of perceived impacts, community attachment was found to positively affect the perceived positive socio-culture, positive environment, and negative economic impacts. These findings are consistent with those of Látková and Vogt [3], Rasoolimanesh et al. [103], and Luo and Xiao [104]. They concluded that residents with a high level of community attachment are more optimistic about the perceived positive sociocultural and environmental impacts of tourism than those who are less attached. Moreover, the findings are in line with the results [57,58], although they indicated that negative economic perceived impacts are influenced positively by the level of attachment. In the case of the Petra region, residents are characterized by their attachment to their community and place of residence [90,91,105]. The authors consider this to be sensitive to factors that often confound correlational studies. Accordingly, we recommend an experimental research study to measure this relationship; such studies were also advised by Fong et al. [106]. Moreover, Morales et al. [107] found that community attachment is positively correlated with support for sustainable tourism development. Gursoy et al. [57] found that more attached residents are more supportive of tourism development. Thus, local management should consider this in their future planning for sustainability.

5.2. Distance from Tourist Zone

The findings indicate that distance from tourist sites influences the residents' perceptions, and this is consistent with SET only in terms of positive domains. For instance, Khoshkam et al. [64] found a significant positive effect of distance on the perceived positive economic impacts in Anzali, Iran. Moreover, Haley et al. [38] found that residents living far from a tourist site have a greater sense of tourism's impacts, and similar results were found in a study by Jurowski and Gursoy [14]. Residents who live at a greater distance from the Petra site may expect greater benefits from tourism because their towns are in the early stage of tourism development. In terms of negative environmental impacts, the

results contradict SET; however, they are in line with the results of Faulkner and Tideswell [108]. In the case of Petra, this might be explained by the landscape topology of the region, which is characterized by mountains with steep declines, along with a lack of development of the tourist area. Tourism causes traffic and litter, especially in the downtown of Wadi Musa, where local public and private services are located. Residents who live near tourism sites may feel that tourism increases the use of natural resources, especially water, in a dry region, such as Petra, and they are aware of changes in the life they used to live [14]. Moreover, this result can be explained by the lack of development and tourism services in Taybeh, Rajif, and Dlaghah, as the residents expect to gain benefits from tourism. In the stages of establishing the PDTRA, residents of all six communities decided to join the region in light of the government's promises that their towns would be developed and that the residents would gain more from the tourism industry. Local management should pay more attention to the infrastructure and ensure equal distribution of the benefits of tourism to gain residents' support for future sustainable tourism development, which is an important cause. Residents' support will help to protect historical sites and tourist attractions.

5.3. Gender and Membership in Local Organization

The variation in perceptions between women and men was strongly statistically significant in terms of perceived positive economic impacts. Women were found to be less favorable than men regarding potential economic benefits, and this result is consistent with the findings of Harrill and Potts [56], Mason and Cheyne [67], and Rasoolimanesh et al. [103]. For instance, Harrill and Potts [56] found that women in Charleston are more concerned about economic benefits than men are. However, this finding has been contradicted by other study results, such as the findings of McGehee and Andereck [36], Wang and Pfister [41], and Mason and Cheyne [67]. In terms of negative domains, it was found that women perceive fewer socio-environment impacts than men. This is in contrast to most of the literature. Despite that, the results here confirm the findings of Harrill and Potts [56]. Being part of a local organization was found to be indicative of perceiving economic tourism impacts. The results are in line with other studies (e.g., [18,69]). This explains the motivation of those residents who are part of a local association to find better economic solutions, as there are very few work opportunities in the region [76,105,109].

Descriptive statistics indicate that women participate in local organizations more often than men; however, women in the Petra region may tend to be part of the tourism industry and supportive of tourism development through their participation in local associations. Sinclair-Maragh [110] reported such findings in Jamaica. However, Mason and Cheyne [67] noted that women recognize tourism development's positive impacts, such as acquired economic benefits. The reason for this observation is thought to relate to the cultural limitations that women face in Jordan, especially in the tourism sector. Such concerns were also raised in a report by the European Training Foundation [92] and several local organizations in Jordan, such as Tadamun. It is possible that women in the region participate in local associations because they are appropriate jobs according to cultural roles, similar to that observed in Turkey in the case study by Çiçek et al. [111]. Is this a transformation period for women involved in the tourism sector in the Petra region? However, the community boundaries surrounding women who work in the tourism sector have been pointed out by several works (e.g., [112,113]). Moreover, Jafari and Scott [114] pointed out the influence of religion on tourism activities in Islamic countries. This is what Scott [113] found in the Turkish Cypriot region. Nowadays, women in the Petra region are collaborating with the tourism industry through jobs in local associations related to the food preparation and handicraft industry. Therefore, local management should ensure that benefits from tourism are distributed equally among residents, especially between men and women. Gender equality is important to the sustainable development of local tourism [83]. The participation of women in tourism-related employment in Petra will likely increase in the coming years.

5.4. Age

The findings indicate that older residents in the region perceive positive environmental impacts to a higher degree than younger residents. The result is in line with Bujosa and Rosselló's [100] study of the determinants of environmental attitudes in the Balearic Islands. Moreover, Nunkoo and Ramkissoon [80] found that the older residents of Port Louis are more positive toward social terms than younger residents. More importantly, a study by Mustafa and Tayeh [112] in the Petra region indicates that tourism helps to increase environmental awareness among residents in the Petra region. Moreover, the relation between age and positive economic perception was found to be significant, but it is not consistent with the literature. The greater extent of negative perspectives among young residents might be due to the lack of job opportunities when they expected to gain economic benefits from tourism. Thus, the management of the region should emphasize the investment opportunity to provide more jobs in the region while also ensuring that these opportunities are distributed among all six communities.

5.5. Employment in the Tourism Sector

The results indicate that residents who have tourism-related jobs do not have favorable perceptions toward tourism impacts, but this is not what SET suggests nor what is reported in most of the reviewed literature. However, it is in line with the results of Teye et al. [18] and Mustafa and Tayeh [112]. In the region, this can be explained by three points: The low wages of tourism-related jobs, seasonal unemployment, and the early stage of tourism development [115].

5.6. Level of Education

Education level was found to be a discriminator of residents' perceptions in the region. In terms of positive sociocultural impacts, the results agree with those of Almeida-García et al. [69] in their study in Benalmadina, Spain. In addition, the study by Látková and Vogt [3] in rural communities reported consistent findings. Also, in terms of the NSEn and NE domains, the results here are in line with those of [10,13,61,103,109]. In the Petra region, the positive view of tourism's sociocultural impacts can be explained by the awareness of tourism benefits favoring those with higher education. According to the negative economic views, as mentioned before, the lack of job opportunities and inability to work can increase these negative perceptions.

5.7. Satisfaction with Local Management

Previous studies have not addressed this relation; however, the overall satisfaction of the residents is found to have a significant relationship with perceived tourism impacts, similar to the findings of [17,20,34]. For instance, Ko and Stewart [10] found that perceived positive tourism impacts are positively related to overall satisfaction. Cottrell et al. [81], in a study carried out in China, examined the influence of sustainable tourism dimensions (institutional dimension and social-culture) on residents' satisfaction. The former was found to have the strongest dimensions. In spite of the insignificant results for the negative domains, other studies have found a negative relationship between overall satisfaction and negative perceptions (e.g., [10,16,17]). Authors have argued that the disregard of residents' perception in the Petra region by tourism leaders [108] and the lack of residents' involvement in tourism planning may increase their negative feelings toward tourism management. The involvement of the residents in planning and making decisions about the development of their own area helps to increase their satisfaction with local management [55]. An important conclusion of this study is the confirmation that positive perceived tourism impacts and residents' satisfaction should be considered in sustainable tourism development in the Petra region. Besides the findings in this paper, it has been previously indicated that the satisfaction of the local community is an important factor for tourism development [17], and seeking support for tourism development has been suggested [6].

In spite of what this study contributes to the literature and to sustainable tourism research, its limitations should be recognized. The literature related to host–guest interactions are few in Jordan. The theoretical background of this study is based on research in other countries that have different characteristics. This issue was identified by Almeida et al. [68], who argued that local residents perceive the impacts of tourism on the basis of their characteristics and the conditions (e.g., heritage, culture, history) of their place of residence.

This study is valuable for what it can provide to management in the Petra region regarding the management and control of the impacts of tourism to achieve sustainability in the region. Finally, the findings of the study suggest that the local administration should pay more attention to the residents' perceptions, involve women in the industry, and involve residents in tourism planning. Future research should investigate support for sustainable tourism development and the community's involvement in decision making.

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