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## Does Tourism Cut the Branch it is Sitting On? – Local Residents' Perspective

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### ABSTRACT

*Purpose:* As a result of the industrialization and urbanization tourism development is transforming into the mass, unplanned, uncontrolled and unsustainable form. Besides the importance of nature and environment as the main reason for visiting tourism destination, researching the relationship between local residents and travellers is vital for sustainable tourism development. Therefore this paper discusses the level of consciousness of local residents towards environmental tourism impacts. The main purpose of this paper is to determine local residents' perceptions regarding environmental degradation caused by tourism development. *Hypothesis:* Local residents show an inadequate level of consciousness concerning environmental degradation. *Methodology:* In order to achieve the main aim, empirical research was carried out on the convenience sample of 1.339 local residents in a period from May the 1st 2015 to May the 1st 2016 in the City of Dubrovnik (The Republic of Croatia). The data was analyzed using ordinal logistic regression. *Results:* The results indicate the existence of differences in local residents' perceptions regarding environmental degradation according to their socio-demographics, temporal and spatial variables. Partially statistically significant variables are age, education, personal monthly income, the area of living, length of residence, the period of research and socio-cultural tourism impacts. *Conclusion:* The lack of ecological consciousness among residents has been determined. That implicates the necessity for additional ecological education in order to raise their awareness and enable long term sustainable tourism development.

## INTRODUCTION

Dubrovnik-Neretva County is the southernmost county of the Republic of Croatia that is territorially organized into 22 units of local government and self-government (17 municipalities and five cities). The area of this paper's research is the city of Dubrovnik that has corporate status as well as local government and covers 17 settlements. It is situated on the Croatian southern coast of the Adriatic Sea, is the centre of Dubrovnik-Neretva County and has 42615 inhabitants (Croatian Bureau of Statistics, 2018). Tourism is the leading factor in Dubrovnik's economy. It is estimated that tourism provides approximately four-fifths of Dubrovnik's gross domestic product, jobs and government revenues. In 2017 the number of tourists and visitors from cruise ships exceeded 1,9 million that results with about 1-45 resident-traveller ratio (Croatian Bureau of Statistics, 2018; Dubrovnik Port Authority, 2018). The city of Dubrovnik has been chosen for this research because it is a mature coastal destination with unsustainable, uncontrolled and unplanned tourism development. In 2017, it has generated more than 8% of total tourists' arrivals and 4,85% of total tourists' overnights in the Republic of Croatia and was on the first place in the whole country in tourists' overnights and in tourists' arrivals (Croatian Bureau of Statistics, 2018). "Excellent" tourism results impose the question of natural resources and environment capability to handle and carry out that pressure of tourism development without negative consequences in the years coming.

Due to the uncontrolled and unplanned tourism development natural resources in the city of Dubrovnik are becoming increasingly threatened. Therefore, the necessity of their protection from the perspective of environmental sustainability should be a development priority. Human alienation, on the other side, causes an increase in natural attractions' motivated travels. Namely, travellers by going back to nature want to be re-socialized again and to "*reboot their energy*". Back in 1972 Plog has concluded that tourism "*creates the seeds of its own destruction*" (as cited in Liu, Sheldon and Var, 1987). Protection and preservation of natural resources, that are key contributors and main attractors to tourism destination, is the base for sustainable tourism development. Tourism, more than any other industry, relies on natural resources (Liu et al., 1987). Besides the importance of those resources, analysing the connection between local residents and travellers is crucial to achieve planned and controlled tourism development as well as to minimize antagonism of local community towards travellers and to help local authority in creating sustainable tourism policy. The main goal of this paper is to determine local residents' perceptions of environmental degradation caused by mass and uncontrolled tourism development.

## 1. LITERATURE REVIEW

### 1.1 Residents' Attitudes towards Tourism Impacts

Since tourism development does not have only positive effects but also negative ones, as well as increasingly jeopardises local residents' way of life, the concept "impacts of tourism" has been gathering great attention in the scientists' literature. Residents' attitudes toward tourism impacts have been a topic of research for more than 40 years, so analysing all the studies in their entirety would be a difficult task if not impossible (Sharpley, 2014). In the beginning, due to the economic dimension of tourism, only positive impacts of tourism development have been pointed out and later the attention was drawn on investigating local residents' attitudes on various impacts of tourism (Pavlic, Portolan and Puh, 2017). The results of studies have indicated that tourism influences local residents through three segments, namely environmental, economic and socio-cultural (Gursoy, Jurowski and Uysal, 2002). Most studies have identified these impacts in two possible aspects, namely positive and negative (Almeida, Balbuena and Cortés, 2015).

**Table 1** Studies in relation to the residents' attitudes towards environmental tourism impacts

TYPE OF IMPACTS	ASPECTS OF IMPACTS	AUTHORS
Environmental impacts	Positive: Preservation, protection and recovery of natural resources and environment, environmental consciousness etc.	Davis, Allen and Cosenza, 1988; Puczko and Rátz, 2000; Teye, Sirakaya and Sónmez, 2002; Andereck et al., 2005; Amuquandoh, 2010; Ryan et al., 2011; Andereck and Nyaupane, 2011; Kim, Uysal and Sirgy, 2013; Nejati et al., 2014; Almeida et al., 2015; Sinclair, Gursoy and Vieregge, 2015; Almeida, Peláez, Balbuena and Cortés, 2016; Bagri and Kala, 2016; Chen and Qiu, 2017; Wang and Luo, 2017.
	Negative: air, water, soil and noise pollution, deforestation, overcrowding and congestion, increase of water and energy consumption as well as waste production, wildlife destruction etc.	Liu et al., 1987; Davis et al., 1988; Lankford and Howard, 1994; Johnson, Snepenger and Akis, 1994; Puczko and Rátz, 2000; Teye et al., 2002; McGehee and Andereck, 2004; Andereck et al., 2005; Kuvan and Akan, 2005; Bujosa and Roselló, 2007; Ryan et al., 2011; Kim et al., 2013; Nejati et al., 2014; Wang and Xu, 2015; Almeida et al., 2016; Bagri and Kala, 2016; Chen and Qiu, 2017; Wang and Luo, 2017;

Source: Authors

Tourism development causes significant environmental damage because it is often developed in an attractive but sensitive environment (Andereck et al., 2005). Although economic and socio-cultural tourism impacts are important, researching environmental once in nowadays mass tourism development has become fundamental due to the facts that local residents prefer to support tourism development putting its advantages ahead of natural sources and environmental damage (Almeida et al., 2015). In addition, local development policy becomes focused on meeting the needs of travellers, often without regards to the natural resources and environment (Andereck et al., 2005). *“The respondents regard the protection of the environment as being more important than the economic benefits of tourism but are not willing to lower their high standard of living to achieve this goal”* (Liu and Var, 1986, p. 212). Gursoy et al. (2018) researched the multidimensional nature of residents' attitudes towards tourism impacts and their influence on the residents' support to tourism development. They found out that local residents pay much less attention to environmental impacts since they haven't found a significant relationship between environmental impacts and support of local residents to tourism. Lee and Jan (2019) found out that residents' perceptions change through different development stages. Generally, it can be concluded that natural resources and environment are not significant enough to the local community to be ready to decrease their living standards and quality of life. Back in 1982, Krippendorf has expressed concern whether environmental and social costs of tourism development will outweigh economic benefits (Krippendorf, 1982). Tourism and environment can achieve symbiosis when both sides benefit from that relationship (Kosic, Demirovic and Dragin, 2017).

## 1.2 Variables Influencing Local Residents Attitudes

In measuring local residents' attitudes of positive and negative tourism impacts numerous influencing variables have been used. Mostly, the literature has been focused on finding and evaluating variables that may influence the way tourism impacts are perceived (Bimonte & Faralla, 2016). Considering Butlers' "TALC" model, Doxey's "Irridex" model and social exchange theory (SET) described by Ap, Faulkner and Tideswell (1997) have identified two groups of variables influencing residents' attitude towards tourism impacts, namely extrinsic and intrinsic variables. According to their opinion, extrinsic variables are related to the location characteristics with respect

to its role as a tourist destination, and intrinsic variables to characteristics of members of the host community. The major extrinsic variables linked with local residents' attitudes found in the literature are degree or stage of the host destination's tourism development (Liu et al., 1987; Johnson et al., 1994; Yoon, Gursoy and Chen, 1999; Kim et al., 2013), type of tourists/travellers' characteristics (Sheldon and Var, 1984) and seasonality (Pavlic et al., 2018). Intrinsic variables that have been usually tested by numerous researchers are the distance that residents live from tourist zones (Belisle and Hoy, 1980; Sheldon and Var, 1984; Jurovski and Gursoy, 2004; Chen and Qiu, 2017), length of residence (Sheldon and Var, 1984; Liu and Var, 1986; Lankford and Howard, 1994; McGehee and Andereck, 2004; Bujosa and Rosello, 2007; Almeida et al., 2016), economic and/or employment dependency of tourism (Liu and Var, 1986; Milman and Pizam, 1988; Lankford and Howard, 1994; Teye et al., 2002; Kuvan and Akan, 2005; Bujosa and Roselló, 2007; Almeida et al., 2016) and socio-demographic characteristics (Mason and Cheyne, 2000; Sheldon and Abenoya, 2001; McGehee and Andereck, 2004; Kuvan and Akan, 2005; Bujosa and Roselló, 2007; Amuquandoh, 2010; Almeida et al., 2016; Bagri and Kala, 2016; Chen and Qiu, 2017). Generally, a positive perception of tourism is associated with gender (female), employment, level of income, level of education and the place where people live (Sharma and Gursoy, 2015). According to the above-mentioned theoretically accepted knowledge, it is assumed that local residents perceive positive but also negative environmental tourism impacts. This assumption will be researched using the following hypotheses: Local residents show an inadequate level of consciousness concerning environmental degradation caused by tourism development.

## 2. DATA AND METHODOLOGY

To determine local residents' perceptions towards environmental degradation caused by tourism development empirical research was made on a convenience (purposive sample) from 1500 local residents in Dubrovnik. The research was carried out from May the 1<sup>st</sup> 2015 to May the 1<sup>st</sup> 2016. In total, 1339 questionnaires were administered personally to the respondents and the data was analysed using ordinal logistic regression.

A high structure questionnaire, which was a part of the wider research, has been used, and questions were based on literature review (Liu and Var, 1986; Kuvan and Akan, 2005; Gursoy et al., 2002; Bujosa and Roselló, 2007; Amuquandoh, 2010). Dependent variable, environmental degradation caused by tourism (ED) was measured using 5 points Likert scale where respondents had to express the level of their agreement with the statements "Tourism impacts air pollution", "Tourism impacts sea pollution", "Tourism impacts the increase of waste volume", "Tourism destroys local ecosystem" and "Tourism causes the uncontrolled use of natural resources" (1-totally disagree, 5- totally agree). The value of Cronbach's alpha coefficient was 0.817 suggesting satisfactory internal consistency and reliability of the scale. For the purpose of interpretation of ordinal regression, these statements were merged and recoded into 3 degrees (values from 1 to 2.49 into code 3, from 2.5 to 3.49 into code 2 and from 3.5 to 5 into code 1).

Independent variables, namely socio-demographic (gender, age, education, personal monthly income) as an intrinsic variable, temporal (length of residence as intrinsic and type of season as an extrinsic variable) and spatial (distance from the centre of tourism activities) as intrinsic variables were coded (see Table 1). Economic tourism impacts (12 statements) as well as socio-cultural tourism impacts (8 statements) as independent variables were measured on a 5 point Likert scale (1-totally disagree, 5- totally agree) and were merged and coded (1 - agree, 2 - nor disagree no agree, 3 - do not agree).

The ordinal logistic model is as follows:

$$\ln(\theta_j) = \alpha + (-\beta_1 X_1 - \beta_2 X_2 - \beta_3 X_3 - \beta_4 X_4 - \beta_5 X_5 - \beta_6 X_6 - \beta_7 X_7 - \beta_8 X_8 - \beta_9 X_9)$$

where:

$X_1$  - age

- X<sub>2</sub> – gender
- X<sub>3</sub> – education
- X<sub>4</sub> – personal monthly income
- X<sub>5</sub> – an area of living
- X<sub>6</sub> – the length of residence
- X<sub>7</sub> – a period of research
- X<sub>8</sub> – economic tourism impacts
- X<sub>9</sub> – socio-cultural tourism impacts
- α<sub>j</sub> – evaluated parameters (intercept term)
- β<sub>j</sub> – estimated coefficients for predictor variables

Ordinal logistic regression examines the odds that the dependent variable (ED) is going to get values  $j$  or less regarding the values greater than  $j$ , respectively:

$$\theta_j = \frac{P(Y \leq j)}{P(Y > j)}$$

### 3. RESULTS

The frequencies of all variables used in the model are shown in Table 2.

**Table 2.** Variables in the model

<i>Dependent variable</i>		
Variable name	Variable code	Frequencies (%)
Environmental degradation by tourism (ED)	1 - agree	6.5
	2 - no disagree nor agree	24.3
	3 - do not agree	69.2
<i>Independent variables</i>		
Age	1 - 65+	4.6
	2 - 50 - 64	18.0
	3 - 35 - 49	25.6
	4 - 18 - 34	51.7
Gender	1 - female	57.1
	2 - male	42.9
Education	1 - Postgraduate	10.4
	2 - Graduate and Undergraduate	47.4
	3 - Secondary	38.7
	4 - Elementary school	3.5
Personal monthly income (in HRK*)	1 - >10000	2.2
	2 - 8001-10000	4.3
	3 - 6001-8000	12.6
	4 - 4001-6000	24.5
	5 - 3000-4000	16.0
	6 - < 3000	40.4
Area of living	1 - In the Old Town	12.9
	2 - Near the Old Town	44.7
	3 - Far from the Old Town	42.4
Length of residence (in years)	1 more than 41	19.4
	2 - 31-40	22.3
	3 - 21-30	37.4
	4 - 11-20	3.8
	5 - 0-10	17.1
Period of research	1 - Out of season (I-III)	19.5
	2 - Low season 1 (IV, V)	22.5

	3 - High season (VI-IX)	32.0
	4 - Low season 2 (X-XII)	25.9
Positive economic tourism impacts	1 - agree	79.7
	2 - no disagree nor agree	19.8
	3 - do not agree	0.5
Positive socio-cultural tourism impacts	1 - agree	78.3
	2 - no disagree nor agree	21.1
	3 - do not agree	0.6

\*1HRK=0.14 €

Source: Authors research

Before proceeding to the examination of the partial coefficients, the reliability and the validity of the model were tested. The indicators in Table 2 present model-fitting information. The difference between the two log likelihoods – the chi-square – has an observed significance level of less than 5%. This means that the null hypothesis, that the model without predictors is as good as the model with predictors, can be rejected.

**Table 3.** Model – fitting information

<i>Model Fitting Information</i>				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1793.682			
Final	1697.734	95.947	25	0.000
Link function: Logit.				

Source: Authors research

**Table 4.** Test of parallel lines

Test of Parallel Lines	-2 Log Likelihood	Chi-Square	df	Sig.
Model	1697.734	19.170	25	0.789
Null Hypothesis	1678.564			

Source: Authors research

Table 5 presents goodness-of-fit-statistics. Both goodness-of-fit measures are not statistically significant, therefore it shows that the model fits. Significance greater than 5% means that there is no statistically significant difference between the observed and the expected frequencies.

**Table 5.** Goodness-of-fit statistics

	Chi-Square	df	Sig.
Pearson	1824.319	1741	0.381
Deviance	1534.223	1741	0.865

Source: Authors research

Since the model satisfies all adequacy tests, coefficients for predictor variables have been estimated (Table 6).

**Table 6.** Parameters estimates for the model

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Level	
							Lower Bound	Upper Bound
Trsh.	ED - 1	15.977	.782	417.386	1	.000	14.445	17.510
	ED - 2	17.932	.784	523.194	1	.000	16.395	19.468
Location	<b>Age -1</b>	-.174	.317	.299	1	<b>.084*</b>	-.796	.449
	Age -2	-.118	.192	.377	1	.139	-.494	.258
	Age -3	.129	.165	.610	1	.435	-.195	.453
	Age - 4	0	.	.	0	.	.	.
	Gender - 1	-.173	.123	1.978	1	.160	-.414	.068
	Gender - 2	0	.	.	0	.	.	.
	<b>Education -1</b>	-.423	.398	1.129	1	<b>.088*</b>	-1.203	.357
	<b>Education -2</b>	-.178	.351	.258	1	<b>.062*</b>	-.865	.509
	Education -3	.224	.341	.431	1	.512	-.445	.892
	Education - 4	0	.	.	0	.	.	.
	<b>Personal monthly income -1</b>	-.378	.456	.687	1	<b>.047**</b>	-1.270	.515
	Personal monthly income -2	.499	.308	2.629	1	.105	-.104	1.102
	Personal monthly income -3	-.008	.215	.002	1	.969	-.430	.413
	Personal monthly income -4	-.112	.167	.450	1	.502	-.440	.216
	Personal monthly income -5	.132	.179	.545	1	.460	-.219	.483
	Personal monthly income -6	0	.	.	0	.	.	.
	<b>Area of living -1</b>	-.086	.194	.196	1	<b>.058*</b>	-.465	.294
	Area of living -2	-.155	.133	1.358	1	.244	-.414	.105
	Area of living -3	0	.	.	0	.	.	.
	<b>Length of residence -1</b>	-.081	.262	.097	1	<b>.006**</b>	-.432	.594
	Length of residence -2	-.197	.334	.347	1	.556	-.852	.459
	Length of residence -3	.108	.262	.171	1	.680	-.406	.623
	<b>Length of residence - 4</b>	-.361	.162	4.989	1	<b>.026**</b>	.044	.678
	Length of residence -5	0	.	.	0	.	.	.
	Period of research -1	-.001	.189	.000	1	.994	-.372	.370
	<b>Period of research -2</b>	-.369	.173	4.513	1	<b>.034**</b>	.029	.709
	<b>Period of research -3</b>	-.245	.166	2.187	1	<b>.019**</b>	-.080	.570
	Period of research -4	0	.	.	0	.	.	.
	Positive economic tourism impacts -1	-1.008	.727	1.925	1	.653	-2.432	.416
	Positive economic tourism impacts -2	-.486	.727	.447	1	.504	-1.912	.939
Positive economic tourism impacts -3	0	.	.	0	.	.	.	
<b>Positive socio-cultural tourism impacts -1</b>	15.876	.147	11651.448	1	<b>.000**</b>	15.588	16.164	
Positive socio-cultural tourism impacts -2	16.564	.000	.	1	.	16.564	16.564	
Positive socio-cultural tourism impacts -3	0	.	.	0	.	.	.	

\*\*p<0,05

\*p<0,1

Source: Authors research

The estimated coefficients which were found statistically significant are considered for the interpretation. If the estimated coefficient is positive, that variable is associated with the higher cat-

egory of the dependent variable and vice versa. In this case, the higher category of dependent variable ED means that the respondent does not agree that tourism influences environmental degradation in the destination. In this model, the following variables are found to be partially statistically significant: *age, education, personal monthly income, the area of living, length of residence, the period of research and socio-cultural tourism impacts.*

#### 4. DISCUSSION

This study examined the effects of the main socio-demographic characteristics of residents, together with variables distance from the tourism activities, length of residence, type of season and socio-cultural tourism impacts, on their attitudes regarding environmental degradation caused by tourism.

In accordance to the previous studies (Davis et al., 1988; Amuquandoh, 2010; Almeida et al., 2016) this study found no effects of gender on residents' attitudes towards tourism environmental impacts.

For the variable *age*, reference category includes the youngest local residents aged between 18 and 34. Estimated coefficients for the oldest local residents (aged 65+) is found to be significant ( $p < 0,1$ ) and negative. A negative coefficient means that the oldest local residents in compare to the youngest residents agree that tourism influences environmental degradation of destination. The results are not consistent with Rosello (2007) and Almeida et. al. (2016) because their research has resulted with the conclusion that older individuals are less concerned about the environment. Their opinion is that younger residents have received more in-depth environmental education and that older residents value economic issues more than environmental issues. It can be assumed that older residents have been exposed to tourism impacts longer than younger ones so there are more capable to distinguish the differences in environmental impacts nowadays and in the past.

Reference category for the variable *education* is local residents with the lowest degree of education, e.g. those with elementary school. In Table 5, it can be seen that estimated coefficients for the category of postgraduate and graduate local residents are statistically significant and negative. This means that highly educated local residents, these with postgraduate and graduate level of education, compared to the residents with the lowest degree of educations agree that tourism influences environmental degradation of destination. These results are not similar to those in the studies of Kuvan and Akan (2005), Amuquandoh (2010) and Almeida et al. (2016) whose results have indicated that residents with higher education levels perceived environmental impacts more positively than residents with lower education level, but are in accordance with Chen and Qiu (2017).

Also, for the variable *personal monthly income* estimated coefficient for the residents with the highest personal monthly income ( $> 10.000$  HRK) is found to be significant and negative. So, residents with the highest monthly income in comparison to those with the lowest personal monthly income ( $< 3.000$  HRK), which is the referent category, agree that tourism influences environmental degradation of destination. These results are consistent with those of Kuvan and Akan (2005), and Chen and Qiu (2017) in which respondents with higher household income are more concerned about negative environmental tourism impacts, and are not in accordance with Amuquandoh (2010) whose analysis resulted with conclusion that residents with higher incomes express more doubts whether tourism results with environmental costs.

Reference category for the variable *area of living* includes residents that live far from the Old town (far from the tourism activities centre). The estimated coefficient for the local residents living in the Old town has been found significant and negative. A negative coefficient means that local residents living in the Old town compared to those living far from the centre of tourism activities agree that tourism influences environmental degradation of destination. These results are incon-



sistent with Jurovski and Gursoy (2004) who have agreed that residents sensitive to environmental issues who lived closest to the tourism activities centre appear to be more likely to support tourism development compared to those lived far, as well as with Chen and Qiu (2017) who agreed that respondents living in remote places are more environmentally conscious. Amuquandoh (2010) has not found significant statistical differences in the residents' attitudes towards environmental tourism impacts with regard to the district of residence. These results could be explained by the fact that residents who live in the centre of tourism activities are more exposed to tourism pressure in comparison to those living far.

For the variable *length of residence*, the referent category is local residents who live 0 to 10 years in Dubrovnik. Estimated coefficients for the length of residence -1 and length of residence -4 have been found statistically significant. This means that residents who live in Dubrovnik more than 41 years and those living from 11 to 20 years in comparison to those living there from 0 to 10 years agree that tourism influences environmental degradation of destination. These results support Sheldon and Var (1984), Lankford and Howard (1994), Bujosa and Rosello (2007) and Almeida et al. (2016) conclusions that individuals who live longer in municipality will have worse view of the environmental repercussions of tourism, and do not support Yoon et al. (1999) findings suggested that residents who had not lived in the area long enough to experience extensive tourism development were inclined to be concerned about the issues of environmental deterioration.

The *period of research* as a variable has reference category low season 2 (X-XII). Estimated coefficients for this variable have been found statistically significant for low season 1 (IV and V month) and for high season (VI-IX month) and are negative. This shows that local residents who fulfilled the questionnaire in low season 1 and in high season in comparison to residents who fulfilled questionnaire in low season 2 agree that tourism influences environmental degradation of destination. These results can be explained by the fact that in low season 1 tourist arrivals and overnights start to grow which implicates the rise of environmental degradation perceived by local residents in compare to low season 2 when these numbers are starting to fall. This also implies for high season when the number of tourist arrivals and overnights is at the highest level.

For the variable *socio-cultural tourism impacts* the referent category is those local residents who do not agree that tourism has positive socio-cultural impacts on the destination. For this variable estimated coefficient has been found to be significant and negative for socio-cultural tourism impacts-1. This means that residents who agree that tourism has positive socio-cultural impacts in the destination in comparison to those who do not agree with the same statement are 15,876 times likely to disagree that tourism influences environmental degradation of destination. It looks like that for the residents of Dubrovnik preservation and protection of cultural tradition, pride and cultural identity increase, enrichment of locals' cultural and entertainment life and quality of live improvement are more important than destruction and degradation of natural resources and environment.

Generally, it can be determined that local residents in the city of Dubrovnik are environmental unconscious what is opposite to the Kuvan (2005) results and conclusion. Namely, by investigating local residents' attitudes toward environmental tourism impact, he has concluded that mass tourism activities characterized by large tourism facilities on the forest lands have resulted in serious environmental problems and deforestation and that residents are well aware of those problems. Perhaps residents in the city of Dubrovnik are environmentally unconscious because they benefit from tourism what is, from their perspective, more important than environmental degradation and necessity of its protection and conservation.

## CONCLUSION

The findings indicate the existence of differences in local residents' attitudes regarding environmental degradation caused by tourism according to their socio-demographics, temporal and

spatial variables. Variables that are found to be partially statistically significant are age, education, personal monthly income, the area of living, length of residence, the period of research and socio-cultural tourism impacts. Namely, oldest local residents in compare to the youngest residents; highly educated compared to the residents with the lowest degree of education; residents with highest monthly income in compare to those with the lowest personal monthly income; local residents who fulfilled the questionnaire in low season one and in high season in compare to residents who fulfilled questionnaire in low season two, and local residents living in the Old town compared to those living far from the centre of tourism activities, have attitude that tourism influences environmental degradation of destination. Also, residents who live in Dubrovnik more than 41 years and those living from 11 to 20 years in comparison to those living there from 0 to 10 years and residents who agree that tourism has positive socio-cultural impacts in destination do not agree that tourism influences environmental degradation of destination. Considering certain characteristics it can be concluded that there is a lack of environmental consciousness among residents which implicates the necessity for additional education by local authorities in order to raise their awareness and enable long-term sustainable tourism development.

If the community support mass, unplanned and unsustainable tourism development strong consequences could arise. Involving residents in decisions related to sustainable tourism development and preservation, protection and recovery of natural resources and environment and in tourism destination management would help them to understand the importance of those resources better as well as inspire them to respect environment more. Otherwise, further environmental degradation of natural resources will continue which will influence the destination attractiveness and at the end will lead to “*cutting the branch tourism is sitting on.*”

The main limitation of this paper is the fact that this study was a part of broader research so questions about sustainability and environmental tourism impacts were limited. Further, this study could be comparable with researches of tourism destinations that have similar characteristics but taking into account that the results, due to the use of convenience sampling, are not generalizable. Also, this research pointed out residents' attitudes on environmental degradation caused by tourism but not reasons why they have such attitudes. So, future research should use in-depth interviews to provide justification for estimated attitudes. As the results of this research indicate that most local residents are environmentally unconscious, future research should focus on exploring their attitudes towards different types of reduction in tourism (virgin material and energy input, waste and emissions, value leaks and losses, water etc.).

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