# THE RESIDENTS' ATTITUDES ABOUT THE DEVELOPMENT OF HUNTING TOURISM IN VOJVODINA (SERBIA)

Milosava Matejević<sup>1</sup>, Tamara Jovanović<sup>2</sup>, Igor Ponjiger<sup>3</sup>, Zoran Ristić<sup>4</sup>, Vladimir Marković<sup>5</sup>, Milutin Kovačević<sup>6</sup>

\*Corresponding author E-mail: igor.ponjiger@dgt.uns.ac.rs

#### ARTICLEINFO

**Original Article** 

#### ABSTRACT

Received: 24 November 2021 Accepted: 24 February 2022 doi:10.5937/ekoPolj2203681M

UDC 316.644:[338.48-52:799.2(497.113)

#### Keywords:

hunting, revitalization of hunting tourism, attitudes, Vojvodina (Serbia)

**JEL**: *L*83, *Z*32

Successful development of hunting tourism requires the support of a local community and positive attitudes of residents. This research aims to explore the population in the Vojvodina region (Serbia) which was well known hunting tourism destination in Europe during the '70s and '80s. The survey included a final sample of 206 respondents. This study showed that residents mostly approve of and support hunting tourism revitalization. However, they find that it needs to be implemented sustainably, according to the law, without threatening the habitat and game funds. This study also explored different predictors that shape attitudes towards hunting tourism. Results show that being a hunter, having a higher level of education, frequently having outdoor activities in nature, being interested in the topic of hunting and hunting tourism, and having a dominant meat diet lead to a more positive attitude towards hunting tourism.

- 1 Milosava Matejević, associate professor, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: milosava@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0001-5345-774X)
- 2 Tamara Jovanović, associate professor, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: milosava@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0002-2899-9544)
- 3 Igor Ponjiger, teaching assistant, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: igor. ponjiger@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0001-9426-5250)
- 4 Zoran Ristić, full professor, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: zoran. ristic@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0001-7273-1177)
- 5 Vladimir Marković, full professor, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: vladimir. marković@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0002-6545-5263)
- 6 Milutin Kovačević, assistant professor, DGTH, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, Phone: +381214852845, E-mail: milutin.kovacevic@dgt.uns.ac.rs, ORCID ID (https://orcid.org/0000-0002-7260-6066)

## Introduction

Hunting tourism is often defined as a type of consumptive activity within the broader definition of wildlife tourism. It represents the trip and other activities conducted by tourists whose main motive for that trip is hunting. Hunting and hunting management is an important part of cultural heritage and can be seen as a form of sustainable wildlife use. Hunting tourism, similar to other forms of tourism, should be developed following the principles of ecological, economic, and social sustainability in tourism. From an ecological point of view, well-planned and organized hunting and hunting tourism can be sustainable and beneficial for nature protection. However, hunting tourism can be a form of sustainable use of wildlife resources only if it is based on scientific assessments of population numbers with defined hunting quotas. Also, it needs to be competently regulated and incorruptible – without poaching. Studies also show that hunting tourists are less destructive to the natural environment than other types of tourists, as they use fewer services and infrastructure (Baker, 1997; Di Minin et al., 2016).

During the second half of the last century, Serbia was considered a notable hunting tourism destination in this region (Ristić et al., 2009), and hunting tourism activities were mostly taking place in Vojvodina, the northern province of Serbia. The favorable geographical position, rich wildlife funds and diversity of wildlife, hunting tradition, and hospitality contributed to the massive development of hunting tourism in Vojvodina with an average of 3-4 thousand foreign hunters per year, mostly coming from Western and Central Europe and Russia (Dragin, 2006; Marković et al., 2017). After the deterioration of the political stability in the country, in the mid-1990s, the number of hunting tourists dropped drastically (Dragin, 2006). Even though there are no official data on the numbers and revenues from annual hunting tourism in the Vojvodina region, foreign hunters are starting to return and the number of organized hunts is steadily increasing.

All of the above indicates that hunting tourism was historically significant to the economy of the Vojvodina Region and could make a significant economic impact on the community in the future. Therefore, this paper aims to explore the attitudes of the local community (hunters and non-hunters) towards the revitalization of hunting tourism in Vojvodina. Hunting and hunting tourism is generally considered to be a controversial topic and activity throughout the world. Consequently, the goal is to explore the population in the Vojvodina region which had significant economic benefits from this type of tourist activity during the end of the last century. Considering all this, the main research question is whether the local community supports this type of tourism and its revitalization.

# Literature review

As a selective form of tourism, hunting tourism can be seen as an additional opportunity for the development of marginal rural areas where there are no other types of tourism present (Baker, 1997; Gunnardotter, 2006; Lindsey et al., 2006; Ruralia Institute, 2007; Samuelsson et al., 2007; Willebrand, 2009). Many authors point out the positive effects

that hunting and hunting tourism have on the local community (Bauer & Herr, 2004; Chardonnet et al., 2002; Mbaiwa & Stronza, 2010; Naidoo et al., 2016; Samuelsson et al., 2007; Sharp & Wollscheid, 2009). Also, both provide significant economic benefits (Barnes, 2001; Bauer & Herr, 2004; Hull et al., 2007). Chardonnet and colleagues (2002) point out that the socio-economic impact of hunting on the local community since the end of the 20<sup>th</sup> century in the EU is significant.

Hunting tourism arrangements are considered to be much more costly compared to the other types of tourism, and a large part of the income remains for the local community (Baker, 1997; Di Minin et al., 2016). Pinet (1995) pointed out that in the EU, the hunting-related industry generated a financial turnover of 9.88 billion euros and around 100,000 jobs. In the United States and Canada, proceeds from hunting licenses generate hundreds of millions of dollars annually that are further used for management and habitat protection (Leader-Williams et al., 1996; Naidoo et al., 2016).

Socially sustainable tourism development implies cultural sustainability, equal distribution of benefits and burdens between stakeholders, and the opportunity to participate in decisions affecting all groups (Nygard & Uthardt, 2011; Puhakka et al., 2009; Rannikko, 1999). For the development of tourism, it is of great importance to be supported by the local community (Gursoy & Rutherford, 2004). Study in Spain has shown that residents' support of tourism development will be higher if they have benefits from it (Oviedo-Garcia et al., 2008).

Willebrand (2009) points out that the development of hunting tourism today is mostly affected by the residents' ethical values on using wildlife for consumption of wildlife, but also by the attitudes of local hunters towards hunting tourists. Some studies have shown that local hunters have a positive attitude towards the development of hunting tourism as possible means of revitalizing rural areas (Ruralia Institute, 2010; Rutanen et al., 2007). However, local hunters also have certain fears because they believe that it would bring them increased hunting fees, and limit the possibility of hunting activities in favor of hunting tourists (Ruralia Institute, 2007; Nygard & Uthardt, 2011; Watts & Hunter, 2010; Willebrand, 2009). It is very important to understand the attitudes of hunters, as a key element of the social sustainability of hunting tourism development (MacKay & Campbell, 2004), considering they "constitute a central stakeholder group" (Nygard & Uthardt, 2011). Coetzer & Van Niekerk (2012) point out that negative attitudes toward hunting and hunting tourism are often due to misconceptions.

Nygard & Uthardt (2011) have shown that attitudes towards the development of hunting tourism depend on hunting experience, hunting preferences, wildlife management activities, socio-economic position, and one's activity as a hunter and/or wildlife manager. The attitudes of the local community on recreational and tourist hunting are significantly influenced by the respondents' age and place of residence however gender is not a significant predictor of attitudes (Ljung et al., 2012). However, Byrd and colleagues (2017), in their North American study, state that women are less supportive than men of hunting. Also, they point out that women view animals differently from

men since women are concerned more with animal welfare. Gamborg & Jensen (2017) have shown that there is no significant effect of gender. In addition, the age of the respondents has been singled out in many studies as a factor of great influence on hunting attitudes (Peterson et al., 2009). Younger respondents tend to have a more negative attitude towards hunting (Byrd et al., 2017; Gamborg & Jensen, 2017; Ljung et al., 2012). Heberlein & Ericsson (2005) indicate that rural residents in Sweden were more positive toward hunting and wildlife than urban residents, but also, found that urban residents with the highest level of contact with rural areas shared the same attitudes as rural residents. Similar results have also been found in surveys carried out in Denmark which have shown that living in urban communities has increased negative attitudes towards hunting (Gamborg & Jensen, 2017). Peterson and colleagues (2009) found differences in attitudes between students that are hunters and non-hunters where hunters had a more positive and supportive attitude. Interestingly, among the inhabitants of Sweden, non-hunters mostly expressed positive attitudes towards hunting and hunters, and support for hunting increased from 72% in 1980 to 84% in 2012 (Ljung et al., 2012). A positive attitude towards hunting and hunting tourism is more present among people who have a hunter as a friend or a family member (Byrd et al., 2017; Gamborg & Jensen, 2017; Ljung et al., 2012; Stedman & Heberlein, 2009). Dietary habits can also lead to different attitudes towards hunting and hunting tourism. Research by Ljung and colleagues (2012) showed that the frequency of game-meat consumption affects positively attitudes toward hunting. As for the effect of education, those with lower educational levels are more supportive of hunting and hunting tourism (MacKay & Campbell, 2004; Teel et al., 2002). Similarly, Donnelly and Vaske (1995) showed that those with less education and income have a higher level of support for hunting activities. Even though there is no previous research on the effect of the frequency of outdoor recreation on attitudes towards hunting tourism, there are studies that show that those with fewer contacts with nature have a more negative attitude towards hunting activities (Heberlein & Ericsson, 2005). People who spend time in nature are more likely to see the effects of hunting management and therefore have a more positive attitude. Finally, Stedman and Decker (1996) state that interested parties and those that have greater familiarity with the hunting itself would have a more positive outlook on hunting activities.

Even though most of the previous studies explore attitudes towards hunting, we believe that their findings can be applied to the context of hunting tourism as well, since the base of hunting tourism is hunting itself. Therefore, the following hypotheses were formulated:

*H1: Hunters will have a more positive attitude towards hunting tourism and its development in their local community than non-hunters.* 

H2: Having a personal relationship with a hunter (as stated in descending order by the categories "hunter as a member of the family", "hunter as a close friend", "hunter as an acquaintance", "hunter as a person that you know of") will result in a more positive attitude towards hunting tourism.

H3: Older respondents will have a more positive attitude towards hunting tourism and its development than younger.

*H4: Male respondents will have a more positive attitude towards hunting tourism than females.* 

H5: Respondents with lower levels of education will result in a more positive attitude toward hunting tourism than those with higher levels of education.

*H6: Respondents with lower incomes will have a more positive attitude towards hunting tourism.* 

*H7a:* Respondents who grew up in rural areas will have a more positive attitude towards hunting tourism than those who grew up in urban areas.

H7b: Respondents who currently live in rural areas will have a more positive attitude towards hunting tourism than those who currently live in urban areas.

H8: Respondents who spend more time doing outdoor activities in nature will have a more positive attitude towards hunting tourism.

H9a: Respondents who believe they are familiar with the topic of hunting and hunting tourism will have a more positive attitude towards hunting tourism.

H9b: Respondents who state that they are interested in the topic of hunting and hunting tourism will have a more positive attitude towards hunting tourism.

H10: Respondents with less meat consumption will have a more negative attitude towards hunting tourism.

## Methodology

#### Study sample

The final study sample consists of 206 respondents residing in the Autonomous Province of Vojvodina, Serbia. There are slightly more female (64.1%) than male (35.9%) respondents in the sample, while the average age of the sample is 26.08 (18-60 years, Std=7.551). The majority of respondents have a secondary school degree (48.5%), following a high number of master's degree holders (23.3%). The income of the respondents is cited as lower than average (61.7%). When asked about childhood residence, most of the respondents cited a village (36.4%) and a small city (34.5%). In terms of their current residence, respondents mostly answered that they live in a big city (54.4%). The main socio-demographic characteristics and hunting-related topics of respondents can be seen in Table 1.

Gender:	1	Hunter:	
Male	35.9	Yes	17.0
Female	64.1	No	83.0
Education:		Association with hunters:	
Secondary school	48.5	Family member	25.2
Higher school/Bachelor	28.2	Close friend	23.2
Master's degree	23.3	Acquaintance	25.8
-		Don't know them personally but I have heard of	15.5
Income:		them	9.7
Lower than average	61.7	No	9.1
Somewhat average	27.2	Outdoor activities in nature:	
Higher than average	11.2	Once a month or often	59.7
Childhood residence:	1	4-6 times a year	24.8
Village	36.4	1-3 times a year	15.5
Suburb	10.7	Familiar with hunting and hunting tourism-	
Small city	34.5	related subjects:	
Big city	18.4	Strongly disagree	16.5
Current residence:	1	Somewhat disagree	14.1
Village	15.0	Somewhat agree	46.1
Suburb	11.2	Strongly agree	23.3
Small city	19.4	Interested in hunting and hunting tourism-	
Big city	54.4	related subjects:	
	1	Strongly disagree	29.1
Hunting tourism is:		Somewhat disagree	15.5
Sale of valuable hunting trophies	15.5	Somewhat agree	30.6
Travel for the sake of hunting	43.2	Strongly agree	24.8
Outdoor recreation	21.8	Diet:	
Wildlife photography	3.9	Mostly meat	23.3
Wildlife watching	11.7	Balanced meat/vegetable	73.3
Other	3.9	Vegetarian	3.4

Table 1. Socio-demographic characteristics and hunting-related topics of respondents in %
(N=206)

Source: Author's calculations

It is also important to mention that most of the respondents are non-hunters (83%). Personal association with hunters was mostly evenly balanced with a similar number of respondents citing having a hunter within the family (25.2%), as a close friend (23.8%), or as an acquaintance (25.7%). Respondents somewhat agree (46.1%) or strongly agree (23.3%) to be familiar with hunting and hunting tourism-related subjects. Concerning the claim that hunting and hunting tourism is interesting to them, most of the respondents somewhat agree (30.6%) and strongly disagree (29.1%). Most of the examined sample cited having outdoor activities once a month or more (59.7%). The majority of the sample claims to have a balanced diet – meat, and vegetables equally (73.3%).

#### Instruments

The questionnaire consisted of two parts. The first part included socio-demographic characteristics of respondents (gender, age, education, income, place of childhood and

place of current residence, frequency of outdoor activities in nature, dietary habits) and hunting and hunting tourism-related variables (participation in hunting activities, relationship with hunters, prior knowledge and interest in hunting, definition of hunting tourism). The second part consisted of a series of statements where respondents were asked to state their opinions and attitudes about hunting tourism. Statements ranged from different types of opinions about the development of hunting tourism, economic benefits, ecological impact, etc. In this part of the questionnaire, respondents were asked to express their level of agreement/disagreement on a 4-point Likert scale (1 - I totally disagree, 2 - I somewhat disagree, 3 - I somewhat agree, 4 - I totally agree) with the offered statements. This scale of attitudes was made by authors and was inspired by the research of Byrd and colleagues (2017) and Gamborg & Søndergaard Jensen (2017). Also, some of the statements represent previously experienced opinions and misconceptions that the authors have encountered.

## Procedure

The survey was conducted from the second half of December 2018 till the first half of January 2019. The sample was gathered by trained students of the University of Novi Sad as part of the course requirement. The respondents were informed that the survey is anonymous and that their participation is voluntary.

### Results

Before statistical analyses, data cleaning was conducted. The initial sample size was 223 respondents. The original sample was reduced to 10 respondents that responded with the same answer for all statements about hunting tourism attitudes. Seven other respondents were excluded from the sample due to their atypical responses. This resulted in the final sample of 206 respondents.

Exploratory factor analysis (EFA) was conducted using SPSS 17.0. The principal component exploratory factor analysis was performed. Representativeness was good (*KMO* = .932) and Bartlett's sphericity test was significant ( $\chi^2(136) = 2325.99$ , p < .000), which confirmed that the data is suitable for the analysis. Statement number 8 was excluded due to the low communality. Scree plot and Eigenvalue suggested that a one-factor solution would best fit the data. Therefore, the unidimensional structure was extracted with 50.61 % of variance explained (see Table 2). Varimax rotation was applied. Seven items (1, 5, 9, 10, 11, 13, 15) were recoded since their factor loadings were negative. The reliability of the scale is high with the value of Cronbach's alpha .936. Mean values are represented in Table 2 in a non-recoded form to show the respondents' level of agreement with all attitudes.

Statements	Factor Loadings	Mean (unreversed values, M=2.5)	Std. Deviation
I wouldn't oppose hunting tourism development in my area. (S16)	.902	2.69	1.156
I approve of hunting tourism as one of the contributors to the local community development. (S17)	.890	2.76	1.113
Hunting tourism is an industry that should be invested in. (S3)	.884	2.70	1.085
Hunting tourism is contributing to the promotion of Serbia as a tourist destination. (S4)	.810	2.91	1.025
If hunting tourism would provide new job opportunities and economic progress in my area, I would have a more positive attitude toward hunting and hunting tourism. (S18)	.768	2.83	1.084
Hunting tourism leads to plant and animal destruction. (S1r)	.766	2.0485	.98653
Revenue generated through hunting tourism is being used to protect hunting grounds and wildlife. (S7)	.759	2.59	.932
Hunting tourism development leads to the economic prosperity of the local community. (S14)	.736	2.77	.922
I believe that hunting trophy exhibitions are an inappropriate way of treating wild animals. (S10r)	.704	2.4320	1.16566
Hunting tourism helps the economic development of rural areas, otherwise not suitable for other use. (S12)	.699	2.92	.957
Hunting tourists often have a disrespectful attitude toward nature and the local community. (S5r)	.662	2.2476	.96871
Hunting tourism influences the increase of employment in the local community. (S2)	.611	2.67	.967
Hunting tourism is linked to smuggling wild animals. (S11r)	.589	2.3689	1.03113
An increase in the number of hunting tourists leads to a significant decrease in funds of game in hunting grounds. (S9r)	.580	2.4078	.97217
Hunting tourism generates bigger revenue compared to traditional types of tourism. (S6)	.543	2.51	1.011
Hunting tourism development increases the level of corruption. (S13r)	.506	2.1942	.93243
Hunting tourists are allowed to hunt over the planned cull to gain greater profit. (S15r)	.486	2.2476	1.03210
Extraction Method: Principal Component Analysis. (a r beside item designation stands for recoded	a. 1 compone	ent extracted.)	

Table 2. Component matrix of the proposed model (N=206)

Source: Author's calculations

## **Results of the path model**

To test the hypotheses, path model analysis was conducted in EQS 6.1 software. Given that the value of multivariate kurtosis was over 7, the robust method was used (Bentler, 2006). Following fit indices were used: Sattora–Bentler  $\chi^2$  (S-B $\chi^2$ ), which should not be statistically significant, and ratio  $\chi^2/df$ , which should be less than 2 (Hoelter, 1983), or

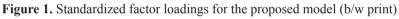
less than 3 (Kline, 2015); the square root of the mean squared errors of approximation (RMSEA) and the standardized square root of the average of the square residuals (SRMR) which should be less than .08; Bentler Comparative Fit Index (CFI) and Tucker Lewis Index (TLI), which should be higher than .90 for adequate model fit (Hu &Bentler, 1999).

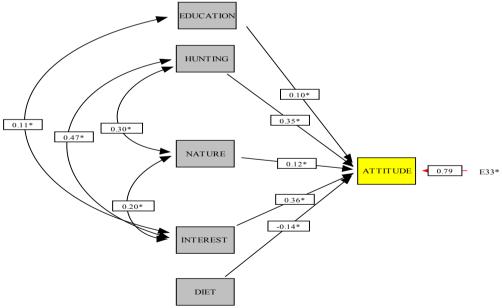
Model	$S-B\chi^2$	f	$^{2}/df$	RMSEA (90% CI)	SRMR	CFI	TLI
1	406.21	66	6.15	.158 (.143 – .173)	.178	.242	.311
2	15.90	7	2.27	.077 (.023 – .129)	.070	.953	.873
3	12.72	6	2.12	.073 (.000 –.130)	.063	.964	.909

**Table 3.** Model fit indices of the proposed model (N = 206)

Note: Values of *S*- $B\chi^2$  in Model 3 are not significant at p>.01.

All predictors were included in the first model which showed unsatisfactory fit indices (see Model 1, Table 3). Wald test suggested exclusion of gender, age, monthly income, place of current and place of childhood residence, relationship with a hunter, and familiarity with hunting and hunting tourism. Also, the LM index suggested including correlations between remaining socio-demographic variables: 1. hunter (yes/no) and frequency of outdoor activities in nature, 2. hunter and interest in hunting and hunting tourism, 3. frequency of outdoor activities in nature and interest in hunting and hunting tourism. This resulted in a much better fit (see Model 2, Table 3). The final model suggested a correlation between the level of education and interest in hunting and hunting tourism (see Figure 1 and Model 3, Table 3).





Legend: EDUCATION – level of respondents' education, HUNTING – is respondent a hunter or not, NATURE – frequency of outdoor activities, INTEREST – respondent having an interest in the hunting and hunting tourism topic, DIET – the respondents' type of diet

#### Discussion

To examine the attitudes of residents, the authors created an 18 items attitudes scale inspired by the authors' previous experiences and the research of Byrd and colleagues (2017) and Gamborg & Jensen (2017). The scale shows good metric characteristics, with a reliability above .90 and a unidimensional structure. Results show generally favorable attitudes towards hunting tourism and its revitalization in the Vojvodina region. Residents believe that hunting tourism could contribute to the promotion of Serbia as a tourist destination. They seem ready to offer support to the revitalization of hunting tourism in Vojvodina especially if that would lead to new job opportunities and economic prosperity. Most of the respondents wouldn't oppose hunting tourism development in their area and believe it should be invested in since revenue generated through hunting tourism could be used to protect hunting grounds and wildlife.

Earlier published results showed that communities have a more positive attitude towards the development of hunting as it is seen as a possible means for revitalizing rural areas (Campbell & Mackay, 2003; Matilainen & Keskinarkaus, 2010; Rutanen et al., 2007), but that sometimes residents don't approve hunting as a sport and recreational activity (Campbell & Mackay, 2003). In this study, there are also certain fears and uncertainties concerning the revitalization of hunting tourism. A third of respondents believe that hunting tourism leads to plant and animal destruction and that hunting tourism development increases the level of corruption. Almost half agree that it leads to a significant decrease in funds of game in hunting grounds and that hunting tourism is connected to smuggling wild animals. The statement that caused the most variations in answers was the one concerning hunting trophy exhibitions seen as an inappropriate way of treating wild animals. Respondents generally believe that trophy exhibitions are ethically disrespectful. However, 52% of respondents are probably accustomed to it since they approve it. This might bedue to the fact that it is deeply rooted in hunting tradition.

Besides examining the attitudes toward hunting tourism and its revitalization, the authors also aimed to explore different predictors that could shape these attitudes. Those predictors are either respondents' characteristics (gender, age, education, income, place of childhood and place of current residence, frequency of outdoor activities in nature, dietary habits) or hunting and hunting tourism-related variables (participation in hunting activities, relationship with hunters, prior knowledge and interest in hunting, definition of hunting tourism). According to the path analysis, variables that significantly shape attitudes about hunting tourism in the Vojvodina region are being a hunter (H1), education (H5), the frequency of outdoor activities in nature (H8), interest in the topic of hunting and hunting tourism (H9b) and dietary habits (H10). One of the starting hypotheses, based on previous research, was that hunters have a more positive attitude towards hunting tourism and its development in their local community than non-hunters (Peterson et al., 2009). Results of this study substantiate it. Also, respondents that are more often actively spending time in nature have a more positive attitude towards hunting tourism which is following our initial assumption. Respondents with less meat consumption will have a more negative attitude which confirms our hypothesis. Finally, we assumed interest in the topic of hunting and hunting tourism leads to a more positive attitude. Despite our expectations, a higher level of education leads to a more positive attitude towards hunting tourism and its revitalization. However, previous research indicates that negative attitudes toward hunting and hunting tourism are often based on a misconception of these activities (Coetzer & van Niekerk, 2012), which could explain this result. Higher educated respondents might be more aware of the possible positive effects of developing hunting tourism in their local community.

Previous research indicates that gender, age, place of childhood/current residence, income, personal relationship with a hunter, and familiarity with the topic affect attitudes towards hunting and hunting tourism (Byrd et al., 2017; Gamborg & Jensen, 2017; Heberlein & Ericsson, 2005; Ljung et al., 2012; Peterson et al., 2009; Stedman & Decker, 1996). In our study, these predictors did not show a significant influence on attitudes. Despite our initial assumptions, results about gender and income coincide with the studies of Gamborg and Jensen (2017) and Ljung and colleagues (2012) while the place of childhood/current residence results coincides with the study of Heberlein and Ericsson (2005). The effects of these sample characteristics vary in different studies which might be due to cultural specificities and future research should explore this further. Even though previous research shows that having a personal relationship with a hunter will result in a more positive attitude towards hunting tourism (Byrd et al., 2017; Gamborg & Jensen, 2017; Ljung et al., 2012; Stedman & Heberlein, 2009), it did not significantly predict positive attitudes in this research (H2). This could be explained by the fact that there were only 9.7% of the respondents did not have any personal relationship with a hunter while most had close personal interactions (74.8%). There was also a small variance of responses for the variable familiarity with the topic of hunting and hunting tourism since 70% of respondents claim to be familiar with this topic. Finally, our respondents were mostly young people which might be the reason why there was no effect of age on attitudes towards hunting tourism and its revitalization. While the idea was to have a more diverse age-group sample most of our respondents ended up being younger. However, this is not a limitation to the study since we find them to be an important stakeholder group that possibly could have an important role in the future development of hunting tourism. Also, they stand to have the most benefits in hunting tourism development. Since their attitudes were mostly positive, we assume that they are aware of all this.

#### Conclusion

The goal of this paper was to determine the attitudes of the local population towards hunting tourism and its revitalization in Vojvodina (Serbia). This region is historically a renowned hunting tourism destination and was intensely developed in the second half of the 20<sup>th</sup> century with economic benefits for the local community. Therefore, one of the main reasons to conduct research in this region was to examine the current attitudes of residents towards this form of tourism. Public opinion over topics of hunting and hunting tourism tends to become more unfavorable. This is one of the main reasons

why potentially attractive hunting tourism destinations need to have sufficient support from the local community for the development of this type of tourism.

As with every study, there are certain limitations. Our sampling procedure was convenient and a more diverse sample would be preferable. Future research could potentially include neighboring countries with developed hunting tourism. Also, data concerning the number of hunting tourists and revenue generated by hunting tourism in Vojvodina is very scarce. Even though this is a limitation, it leads to the conclusion that hunting tourism is currently poorly organized and underdeveloped in the Vojvodina region which makes the findings of this research valuable. Knowing that people are open to the idea of hunting tourism revitalization in their surroundings can help and motivate all the stakeholders to take action in this field.

This study showed that residents in Vojvodina mostly approve and support hunting tourism revitalization and find that it needs to be implemented sustainably, according to the law, without threatening the habitat and game funds. Hunting tourism managers and hunting tourism employees should intensify the promotion of hunting tourism and, above all, educate the general population about the benefits of proper hunting management and hunting tourism. This study also explored different predictors that shape attitudes towards hunting tourism. Socio-demographic characteristics strongly affected the attitudes. This shows the significance of the upbringing and cultural values of the region in forming the attitudes towards hunting. Results show that being a hunter, having a higher level of education, frequently having outdoor activities in nature, being interested in the topic of hunting and hunting tourism, and having a dominant meat diet lead to a more positive attitude towards hunting tourism.

## **Conflict of interests**

The authors declare no conflict of interest.

## References

- Baker, J. E. (1997). Trophy Hunting as a Sustainable Use of Wildlife Resources in Southern and Eastern Africa. *Journal of Sustainable Tourism*, 5(4), 306–321. https://doi.org/10.1080/09669589708667294
- 2. Barnes, J. I. (2001). Economic returns and allocation of resources in the wildlife sector of Botswana. *South African Journal of Wildlife Research*, *31*(3–4), 141–153.
- 3. Bentler, P. M. (2006). EQS 6 Structural Equations Program Manual. Encino, California.
- 4. Byrd, E., Lee, J., Widmar, N. (2017). Perceptions of Hunting and Hunters by U.S. Respondents. *Animals*, 7(12), 83. https://doi.org/10.3390/ani7110083
- Campbell, J. M., Mackay, K. (2003). Attitudinal and Normative Influences on Support for Hunting as a Wildlife Management Strategy. *Human Dimensions of Wildlife*, 8(3), 181–198. https://doi.org/10.1080/10871200304308
- 6. Chardonnet, P., Des Clers, B., Fischer, J., Gerhold, R., Jori, F., Lamarque, F. (2002). The value of wildlife. *Rev Sci Tech*, (21), 15–51.

- Coetzer, W. C., van Niekerk, P. D. P. (2012). An investigation into factors influencing attitudes towards hunting amongst the economically active public in Port Elizabeth. *Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie*, 31(1), 9. https://doi.org/10.4102/satnt.v31i1.38
- Di Minin, E., Leader-Williams, N., Bradshaw, C. J. A. (2016). Banning Trophy Hunting Will Exacerbate Biodiversity Loss. *Trends in Ecology & Evolution*, *31*(2), 99–102. https://doi.org/10.1016/J.TREE.2015.12.006
- Donnelly, M. P., Vaske, J. J. (1995). Predicting attitudes toward a proposed moose hunt. *Society & Natural Resources*, 8(4), 307–319. https://doi. org/10.1080/08941929509380924
- Dragin, A. (2006). Hunting tourism resources of Bačka region condition, sustainable development and use. University of Novi Sad, Department of Geography, Tourism and Hotel Management, Novi Sad. [in Serbian: Dragin, A. (2006). Lovno-turistički resursi Bačke - Stanje, održivi razvoj i korišćenje. Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo, Novi Sad].
- 11. Gamborg, C., Jensen, F. S. (2017). Attitudes towards recreational hunting: A quantitative survey of the general public in Denmark. *Journal of Outdoor Recreation and Tourism*, *17*, 20–28. https://doi.org/10.1016/j.jort.2016.12.002
- 12. Gunnardotter, Y. (2006). Hunting tourism as ecotourism: Conflicts and opportunities. Gössling, S. & Hultman.
- 13. Gursoy, D., Rutherford, D. G. (2004). Host attitudes toward tourism: An Improved Structural Model. *Annals of Tourism Research*, *31*(3), 495–516. https://doi. org/10.1016/J.ANNALS.2003.08.008
- 14. Heberlein, T. A., Ericsson, G. (2005). Ties to the Countryside: Accounting for Urbanites Attitudes toward Hunting, Wolves, and Wildlife. *Human Dimensions of Wildlife*, *10*(3), 213–227. https://doi.org/10.1080/10871200591003454
- Hoelter, J. W. (1983). The Analysis of Covariance Structures: Goodness-of-Fit Indices. Sociological Methods & Research, 11(3), 325–344. https://doi. org/10.1177/0049124183011003003
- Hu, L., Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. https://doi. org/10.1080/10705519909540118
- Hull, J., Patterson, C., Davidson, G. (2007). Overview of the big game outfitting industry in Newfoundland and Labrador, Canada. In *Sustainable hunting tourism: Business opportunity in Northern areas?* (pp. 9–30). Seinajoki, Finland: Ruralia Institute.
- 18. Kline, R. (2015). *Principles and Practice of Structural Equation Modeling: Fourth Edition*. The Guilford Press.

- 19. Leader-Williams, N., Kayera, J. A., Overton, G. L. (Series Ed.). (1996). *Tourist Hunting in Tanzania* (No. 14). IUCN -The World Conservation Union.
- Lindsey, P. A., Alexander, R., Frank, L. G., Mathieson, A., Romanach, S. S. (2006). Potential of trophy hunting to create incentives for wildlife conservation in Africa where alternative wildlife-based land uses may not be viable. *Animal Conservation*, 9(3), 283–291. https://doi.org/10.1111/j.1469-1795.2006.00034.x
- Ljung, P. E., Riley, S. J., Heberlein, T. A., Ericsson, G. (2012). Eat prey and love: Game-meat consumption and attitudes toward hunting. *Wildlife Society Bulletin*, 36(4), 669–675. https://doi.org/10.1002/wsb.208
- MacKay, K. J., Campbell, J. M. (2004). An examination of residents' support for hunting as a tourism product. *Tourism Management*, 25(4), 443–452. https://doi. org/10.1016/S0261-5177(03)00127-4
- Marković, V., Vasliljević, D. A., Jovanović, T., Lukić, T., Vujičić, M. D., Kovačević, M., Sakulski, D. (2017). The effect of natural and human-induced habitat conditions on number of roe deer: Case study of Vojvodina, Serbia. *Acta Geographica Slovenica*, 57(2). https://doi.org/10.3986/AGS.903
- 24. Matilainen, A. (Series Ed.) (2007). Sustainable Hunting Tourism-Business Opportunity in Northern Areas? (No. 19). University of Helsinki, Ruralia Institute.
- 25. Matilainen, A., Keskinarkaus, S. (Series Ed.). (2010). *The Social Sustainability* of *Hunting Tourism in Northern Europe* (No. 59). University of Helsinki, Ruralia Institute.
- Mbaiwa, J. E., Stronza, A. L. (2010). The effects of tourism development on rural livelihoods in the Okavango Delta, Botswana. *Journal of Sustainable Tourism*, 18(5), 635–656. https://doi.org/10.1080/09669581003653500
- Naidoo, R., Weaver, L. C., Diggle, R. W., Matongo, G., Stuart-Hill, G., Thouless, C. (2016). Complementary benefits of tourism and hunting to communal conservancies in Namibia. *Conservation Biology*, 30(3), 628–638. https://doi. org/10.1111/cobi.12643
- Nygard, M., Uthardt, L. (2011). Opportunity or threat? Finnish hunters' attitudes to hunting tourism. *Journal of Sustainable Tourism*, 19(3), 383–401. https://doi.or g/10.1080/09669582.2010.524701
- 29. Oviedo-Garcia, M. A., Castellanos-Verdugo, M., Martin-Ruiz, D. (2008). Gaining residents' support for tourism and planning. *International Journal of Tourism Research*, 10(2), 95–109. https://doi.org/10.1002/jtr.644
- Peterson, M. N., Deperno, C. S., Moorman, C. E., Cunningham, K. A., Milrad, J. P., Riddle, J. D., Steelman, T. A. (2009). Hunting and Non-hunting College Student's Perceptions of Wildlife and Each Other. *Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies*, 63, 47–53.
- 31. Pinet, J. M. (1995). Quel chasseur en Europe? In *L'importance Socioéconomique de La Chasse: Vol.VIII. Manuel de la chasse en Europe* (pp. 1–14). FACE.

- Puhakka, R., Sarkki, S., Cottrell, S. P., Siikamäki, P. (2009). Local discourses and international initiatives: Sociocultural sustainability of tourism in Oulanka National Park, Finland. *Journal of Sustainable Tourism*, 17(5), 529–549. https:// doi.org/10.1080/09669580802713457
- Rannikko, P. (1999). Combining Social and Ecological Sustainability in the Nordic Forest Periphery. *Sociologia Ruralis*, 39(3), 394–410. https://doi.org/10.1111/1467-9523.00115
- 34. Ristić, Z. A., Marković, V., Dević, M. (2009). *Development of hunting tourism in Vojvodina*. Geographica pannonica (13), 105–113.
- 35. Rutanen, J., Matilainen, A., Muuttola, M., Tittonen, K. (2007). Hunting and hunting tourism in Finland: Country review. Sustainable Hunting Tourism Business Opportunity in Northern Areas? : Overview of Hunting and Hunting Tourism in Four Northern Countries: Finland, Sweden, Iceland and Canada / Anne Matilainen (Ed.), 9–29.
- 36. Samuelsson, E., Stage, J., Stage, J. (2007). The size and distribution of the economic impacts of Namibian hunting tourism. *South African Journal of Wildlife Research*, *37*(1), 41–52.
- Sharp, R., Wollscheid, K. U. (2009). Recreational hunting in North America, Europe and Australia. In *Recreational Hunting, Conservation and rural Livelihoods: Science and Practice* (pp. 25–38). Wiley Blackwell: Oxford, UK.
- 38. Stedman, R. C., Decker, D. J. (1996). Illuminating an overlooked hunting stakeholder group: Non-hunters and their interest in hunting. *Human Dimensions of Wildlife*, *1*(3), 29–41.
- 39. Stedman, R. C., Heberlein, T. A. (2001). Hunting and Rural Socialization: Contingent Effects of the Rural Setting on Hunting Participation. *Rural Sociology*, *66*(4), 599–617. https://doi.org/10.1111/j.1549-0831.2001.tb00086.x
- 40. Teel, T. L., Krannich, R. S., Schmidt, R. H. (2002). Utah Stakeholders' Attitudes toward Selected Cougar and Black Bear Management Practices. *Wildlife Society Bulletin (1973-2006)*, *30*(1), 2–15.
- 41. Watts, D., Hunter, C. J. (2010). Cross-country comparison of social sustainability findings. In *The social sustainability of hunting tourism in northern Europe* (p. 9). Ruralia Institute, University of Helsinki.
- 42. Willebrand, T. (2009). Promoting hunting tourism in north Sweden: Opinions of local hunters. *European Journal of Wildlife Research*, 55(3), 209–216. https://doi. org/10.1007/s10344-008-0235-2.