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Visitor Perceptions of Tourism Infrastructure and Superstructure as Factors in the Development of Sports Tourism: A Case Study of the Pčinja District

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Received 12.09.2024. · Accepted for publication 21.10.2024. · Published 18.02.2025.

Keywords:

Sports tourism Recreation Pčinja district Serbia

Abstract

This research focuses on analyzing the interaction between sports activities and tourism in the Pčinja District of Serbia. Considering the growing importance of sports tourism as a form of recreational travel, the aim of the study is to analyze visitors' perceptions of sports and recreational facilities in this region as a potential factor in the development of sports tourism. Through empirical research conduct-ed via a survey, the authors explore the advantages and disadvantages of tourism infrastructure and sports and recreational elements in the Pčinja District. This research aims to provide insights into tourist satisfaction with sports and recrea-tional activities and infrastructure, to utilize information about tourists' needs to improve sports tourism in the region. Through statistical data analysis, the author will examine the hypothesis regarding the diversity of tourist activities in the Pčinja District and its impact on the development of sports tourism. This study provides a basis for further research on the interaction between sports activities and tourism, with the goal of maximizing tourism benefits and promoting sustain-able sports tourism in the region.

1. Introduction

In the context of tourism, sport stands out as a significant area of growth, providing a basis for further research on the interaction between sports activities and tourism (González-García et al., 2022). The interaction of tour-ism and sports is defined as a type of travel that relies on sports activities and uses them to provide tourists with recreational and cultural experiences. Sports tourism denotes travel outside one's usual residence over a specific period, where sport is characterized by specific rules and competition involving physical ability and play (Anđelković et al., 2023).

Prominent determinants of sports tourism as a form of recreational travel provide a starting point for analyz-ing the impact of sports activities on tourism and their interaction with local and global communities. It is im-portant to

recognize that additional tourist activities within sports tourism will play a significant role not only in advancing research in this segment but also in maximizing tourism benefits and opportunities, as well as promoting sustainable sports tourism (Ito et al., 2020). Sustainable sports tourism will play a key role in achiev-ing the goal of developing responsible tourists, which ultimately depends on tourist satisfaction with the offer-ings and equipment of the destination's sports and recreational elements (Anđelković et al., 2023).

To become recognizable in the tourism market, a tourist destination must develop a high-quality tourism product to meet the diverse needs of tourists. This approach would make it a successful and competitive desti-nation, largely dependent on the level of tourist satisfaction (Bašan, Kapeš &

Kamenečki, 2021; Pansiri, 2014; Krous, 2011). Numerous studies have shown that the connection between destination attractiveness and satis-faction is a key indicator for assessing the quality of a destination's attractions, improving poor performance, and enhancing the destination brand's image in comparison to competitors (Raimkulov et al., 2021; Ahn et al., 2020; Chi et al., 2020; Ahn et al., 2018).

Tourist satisfaction is a crucial factor for the future development of a tourist destination, as confirmed by the research of Golob and colleagues (2014). Kozak emphasizes that tourist satisfaction directly affects the profita-bility of the tourism industry, as it shapes the choice of destination, the consumption of products and services, and the return of tourists (Kozak, 2000). Therefore, it is important to align the tourism offer with the expecta-tions of potential tourists to avoid a mismatch between expectations and experiences, which could lead to their dissatisfaction and reduce the chances of revisiting the destination (Golob et al., 2014). Modern tourists are no longer satisfied with just basic needs; they seek new adventures and experiences, necessitating constant improvement of the tourism offer and tracking contemporary technological innovations.

The main goal of this research is to analyze perceptions of sports and recreational facilities in the Pčinja Dis-trict as a potential factor in the development of sports tourism.

Through empirical research, the authors will explore the advantages and disadvantages of the studied area, considering the perceptions and satisfaction of tourists related to the tourism infrastructure and sports and recreational elements in the Pčinja District.

2. Study area

The research focuses on the Pčinja District, which covers an area of 3,520 km² (representing 3.98% of the terri-tory of the Republic of Serbia) (Fig. 1). This district is located in southern Serbia, stretching between the Grdel-ica Gorge and the mountain slopes of Kukavica and Čemernik to the north, the state border with the Republic of North Macedonia to the south, the state border with the Republic of Bulgaria to the east, and to Kosovsko-Pomoravlje (Autonomous Province of Kosovo and Metohija) to the west. In the north, the Pčinja District bor-ders the Jablanica District through the municipalities of Leskovac and Crna Trava, while to the west, it neigh-bors the Kosovsko-Pomoravski District through the municipalities of Gnjilane and Kosovska Kamenica. The administrative center of the Pčinja District is the city of Vranje, which includes the municipality of the same name and the municipality of Vranjska Banja. In addition, the Pčinja District includes the municipalities of Vladičin Han, Surdulica, Bujanovac, Bosilegrad, Trgovište, and Preševo (Marić Stanković, 2022).

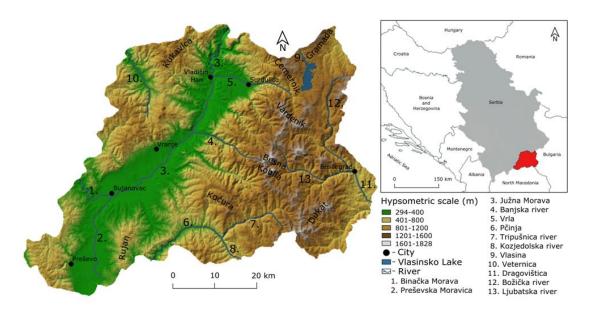


Figure 1. The position of the Pčinja District in relation to Serbia, highlighting natural attractions for the development of sports tourism

Source: author

3. Materials and methods

Sports and recreational facilities are a key factor in shaping a destination's tourism offer, providing visitors with a satisfying experience and meeting their needs (dissertation). In the Pčinja District, as a mountainous region, there is a lack of developed ski resorts. Most mountain centers in this region are still in the initial stages of recognition. Besna Kobila Mountain has tourism potential for winter and sports-recreational tourism, but the lack of adequate infrastructure, such as ski lifts and groomed trails, prevents its full development. There are smaller ski slopes on Besna Kobila Mountain and Vlasina lake, but these options are far from optimal (disserta-tion).

Additionally, the Pčinja District has sports centers with various sports fields, such as Vladičin Han, which has the "Kunjak" Sports Center with a stadium, pool, various sports fields, and running tracks. In Vranje, the Sports Hall offers a wide range of facilities, including a gym, stadium, tennis and football fields, and an outdoor pool (dissertation). There are also smaller sports centers in other towns in the district, such as Surdulica, Bu-janovac, and Bosilegrad, which have local significance (dissertation).

The Pčinja District is traversed by two European mountain hiking trails, E7-20 and E7-18, which have exceptional sports and recreational significance in the Western Balkans (dissertation). Serbia is a member of the Eu-roVelo cycling network, which presents excellent potential for the development of cycling tourism in the Pčinja District.

The development of automobile and motorcycle racing in the Pčinja District, as well as mountain biking, is relatively recent. The tracks used are also mountainous, unpaved, and still unmarked. However, it is evident that this specific type of tourism is slowly gaining importance through events like the "Jeep Rally" in Trgovište and within the "Vlasina Summer" in Surdulica. In this regard, due to the specific mountainous terrains of the Pčinja District and the increasing number of extreme sports enthusiasts, this type of tourism has great prospects for the future.

The study examines visitors' perceptions of sports and recreational elements in the Pčinja District to contrib-ute to the development of sports tourism in that area. A questionnaire survey in Serbian was used for the re-search, formed according to similar studies (Stamenković, 2017; Dalimunthe et al., 2020). The questionnaire was designed to cover all relevant sports and recreational elements in the district, aligned with the ecological, social, and economic characteristics of the area, including the tourism offer and satisfaction

with sports and recreational infrastructure and superstructure.

Structured into three parts, the questionnaire collects socio-demographic data, information on dominant ac-tivities during the visit to the Pčinja District, and satisfaction ratings of ten elements of sports and recreational infrastructure and superstructure. The first part gathers socio-demographic data of respondents such as gender, age, education, and country of origin. The second part pertains to examining dominant activities during the visit to the Pčinja District. The third part includes satisfaction ratings of ten elements of sports and recreational infrastructure and superstructure, where respondents used a 5-point Likert scale (Blešić et al., 2014) to rate their satisfaction, with a score of 1 indicating "completely dissatisfied" and a score of 5 indicating "completely satis-fied."

The survey was conducted from July 1 to December 31, 2023, through the distribution of written question-naires among tourists/visitors via random sampling, and the collected data were analyzed using IBM SPSS Sta-tistical Package for Social Sciences 20, with a significance threshold of p≤0.05. A total of 526 respond-ents/visitors were collected and analyzed.

The obtained data were processed using IBM SPSS (first applying a descriptive analysis of socio-demographic data to determine which structure has the most significant impact on grouping tourists and forming the tourism offer in the Pčinja District).

Based on the set main goal, the author defined a hypothesis to be confirmed or refuted by applying an additional statistical test and quantitative methodology:

H1: The diversity of activities for which tourists visit the Pčinja District differs statistically significantly in relation to the possibilities for the development of sports tourism. To test this hypothesis, the Chi-square test (χ 2) was applied (Table 2).

This methodology aims to provide deeper insight into the characteristics of tourists and their satisfaction with sports and recreational elements that influence the development of sports tourism in the Pčinja District.

4. Results

From the first part of the questionnaire, the socio-demographic characteristics of the respondents were analyzed. Of the 526 respondents, the majority were female (71.8%). Most respondents (93.6%) were aged between 19 and 49, primarily tourists visiting the destination with family for relaxation

during day trips or weekend geta-ways. Only 5.7% of respondents were over 50 years old, with most visiting the destination during spring and summer when the natural environment is suitable for walking and recreation. Regarding educational status, most respondents (44.6%) had higher education. In terms of nationality, 87% of the respondents were Serbian, with the presence of foreign tourists mainly from Bulgaria (5%), North Macedonia (4%), Bosnia and Herzegovina (2%), Croatia (0.3%), and Hungary (0.2%). This research confirms that southern Serbia attracts mostly domes-

However, there are also some activities that are less chosen as reasons for visiting the Pčinja District, such as mountain biking and sports activities. Mountain biking can be challenging in this region due to the specific mountain terrain but requires additional promotion to attract more enthusiasts of this sport. Regarding sports activities, although they can be attractive, there is a lack of infrastructure and opportunities for their implementation in the Pčinja District, which may affect their popularity among visitors.

From the third part of the questionnaire, ratings collected

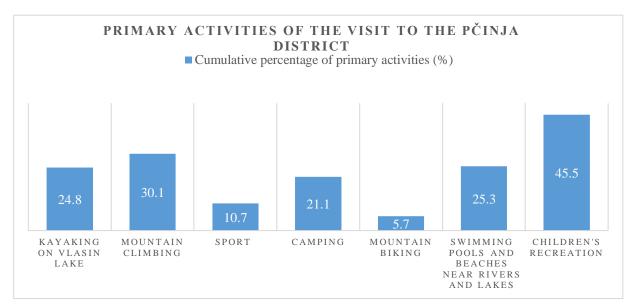


Figure 2. Primary activities of a visit to the Pčinja Discrit

Source: author's processing according to SPSS data

tic tourists and those from neighboring countries, which is expected given that it is a border area.

From the second part of the questionnaire, tourists were asked to highlight the primary activities that brought them to the Pčinja District (Figure 2).

During the research, tourists/respondents highlighted activities that attracted them to the Pčinja District, such as children's recreation, hiking, swimming, and kayaking on Vlasina lake. This suggests that the Pčinja District is becoming recognized as an interesting destination with diverse sports and recreational activities throughout the year. Recreation and hiking attract nature and adventure enthusiasts who enjoy exploring mountain trails and appreciating beautiful landscapes. Camping is popular among visitors seeking an authentic nature experience and wanting to connect with the environment in a deeper way. Kayaking on Lake Vlasina appeals to water sports enthusiasts who enjoy a unique experience on the calm waters of the lake.

using the Likert scale are presented through the mean (M) and standard deviation (σ), providing overall mean ratings for the analyzed selected elements of tour-ist infrastructure and superstructure that function in the development of sports tourism. This allows for the assessment of tourist satisfaction with these elements during their visit to the Pčinja District, highlighting the quality of the examined sports and recreational elements.

Based on the data from Table 1, tourists/respondents express partial dissatisfaction with the 10 selected ele-ments of tourism infrastructure and superstructure for the development of sports tourism during their visit to the Pčinja Discrit This is evident from the relatively low mean values of the analyzed elements, ranging from M≥3.01 to M≤3.34. All analyzed elements show standard deviation values greater than 1 (σ>1), indicating sig-nificant fluctuations in response structure during the survey.

Table 1. Tourists' Satisfaction with Tourist Infrastructure and Superstructure in the Pčinja District as a Sports and Rec-reational Tourist Destination

Tourism infrastructure and superstructure elements	Total number of respondents (N)	Mean value (M)	Standard devi- ation (σ)
Tourist signage	526	3,34	1,27
Ski resorts	526	3,06	1,21
Swimming areas and beaches along rivers and lakes	526	3,09	1,35
Thematic and amusement parks	526	3,01	1,32
Recreational trails (fitness trails, health trails, cycling trails, etc.)	526	3,34	1,26
Facilities for observing natural attractions	526	3,31	1,33
Recreation facilities	526	3,32	1,21
Recreational facilities for children	526	3,24	1,27
Tennis courts, small football fields, basketball courts, etc.	526	3,21	1,22
Sports equipment facilities	526	3,10	1,23
Overall potential for developing sports tourism in the Pčinja Discrit	526	3,69	1,37

Source: Author's data processing in SPSS 20 program

Although high satisfaction is not expressed, tourists/respondents gave the highest ratings to the elements of "tourist signage" and "recreational trails," with mean scores (M=3.34) and "recreation facilities" (3.32). Alt-hough the highest mean score is for the element "tourist signage," this does not highlight encouraging results, considering the transit and border character of the area. The lack of adequate "tourist signage" indicates a lack of tourist organizations and centers whose work would improve this segment. The lack of tourist signage on roads particularly affects newly built recreational facilities that tourists want to visit but do not know

how to reach. The lowest level of satisfaction is expressed when assessing the elements of "thematic and amusement parks" (M=3.01), "ski resorts" (M=3.06), and "swimming areas and beaches along rivers and lakes" (M=3.09).

Extreme tourist dissatisfaction with the "ski resorts" element is expected since there are no developed ski re-sorts in the Pčinja Discrit, despite the terrain and snow being favorable for winter sports. Dissatisfaction ex-pressed with the element "swimming areas and beaches along rivers and lakes" highlights the poor access to lakes (Vlasina, Lisine, Prvonek, Jovac lakes, Aleksandrovac), dominated by grass and muddy

Table 2. Results of the Chi-square test for testing the first hypothesis (H1)

	"The possibility of developing sports tourism" Likert scale from 1 ("extremely high possibility") to 5 ("extremely low possibility")						
Variety of activities	1	2	3	4	5	χ2	Asymp. Sig 2-sided
Hiking	17	23	10	41	70	71,88	0,000
Sports	5	9	8	14	21	13,79	0,000
Swimming areas and beaches along rivers and lakes	21	49	20	86	113	115,96	0,000
Camping	14	15	10	29	44	35,23	0,000
Recreation for children	20	34	18	52	78	62,06	0,000
Tennis courts, small football fields, basketball courts, etc.	8	15	8	40	59	74,00	0,000
Kayaking on Vlasina lake	13	11	17	28	59	61,22	0,000
Skiing	4	4	1	6	11	10,54	0,032
Mountain biking	2	5	4	8	12	9,806	0,044

Source: Author's data processing in SPSS 20 program

reeds, which re-duces the pleasure of swimming and walking along the shore.

Overall, the Pčinja Discrit area has exceptional potential for family relaxation, recreation, and leisure. How-ever, the average ratings for the elements of "recreational facilities for children" (M=3.24) and "recreation facili-ties" (M=3.32) show that tourists are partially satisfied with these amenities. This is not surprising, considering that apart from Sports Centers in Vranje, Surdulica, and Vladičin Han, there are no larger and more developed recreation centers, nor a developed ski resort like Besna Kobila Mountain. The possibilities for recreation are further reduced by the lack of maintenance of swimming and excursion sites, as is the case with Jovac, Vlasina, and Aleksandrovac lakes. By modernizing facilities, grounds, and children's activity areas, and eliminating mi-nor deficiencies, the development of sports tourism could be stimulated.

Regarding the question of whether "it is possible to develop sports tourism" with an average rating of M=3.69, it can be noted that tourists see the potential of the Pčinja Discrit for the development of this type of tourism, but it is necessary to organize facilities for its valorization.

To determine whether the diversity of activities for which tourists visit the Pčinja Discrit significantly differs concerning excursion choice possibilities, as one of the research hypotheses, the analysis of the Hi-square test was applied. The application of the Hi-square test (Table 2) involves crossing independent samples obtained in response to the open question: "What activities would you visit the Pčinja Discrit?" with the sample responses "It is possible to develop sports tourism in the Pčinja Discrit" measured on the Likert scale as extremely im-portant or unimportant elements for structuring the tourist offer of the Pčinja Discrit. Tourists/respondents had the opportunity to choose more than one answer from the offered 9 tourist activities, which are: "Hiking", "Sports", "Swimming areas and beaches along rivers and lakes," "Camping", "Recreation for children", "Tennis courts, small football fields, basketball courts, etc.", "Kayaking on Vlasina lake", "Skiing", and "Mountain bik-ing".

The results of the application of the Hi-square statistical analysis (Table 2) show significant statistical differ-ences in all examined relationships between the "Diversity of activities" and the "Possibility of developing sports tourism" in the Pčinja Discrit, considering the obtained values at the significance level in the column for $p \le 0.05$, confirming hypothesis H1 (+). However, although the values have shown statistically significant differ-ences, different results appeared at the given significance level for $p \le 0.05$. In other words, the

diversity of activ-ities influenced the possibility of developing sports tourism. Activities such as "Hiking", "Sports", "Swimming areas and beaches along rivers and lakes", "Camping", "Recreation for children", "Tennis courts, small football fields, basketball courts, etc.", and "Kayaking on Vlasina lake" have p-values of 0.000, while the statistical significance for activities such as "Skiing" has a p-value of 0.032 and "Mountain biking" has a p-value of 0.044. In other words, skiing and mountain biking are less represented in the choice of visiting the Pčinja Discrit com-pared to other examined activities. This suggests that these activities have fewer opportunities for forming sports content in the researched area and the possibility of structuring sports tourism offerings. This aligns with the previously highlighted facts about the unstable material basis and the lack of tourist infrastructure for mod-ern skiing and biking, as mentioned earlier in the text. Tourists/respondents had the opportunity to choose more than one activity for which they visited or would visit the Pčinja Discrit, and looking at the ratings on the Lik-ert scale, it is noticeable that the majority of tourists/respondents emphasized "extremely high importance" (113) and "partially high importance" (86) of the activity "Swimming areas and beaches along rivers and lakes" when choosing excursions during their visit to this destination. Additionally, tourists/respondents chose activities such as "Recreation for children" (78) and "Hiking" (70) to also have "extremely high importance" when choosing a visit and forming sports tourism content. Tourist attractions such as "Kayaking on Vlasina lake" (59) and "Kayaking on Vlasina lake" (59) are "extremely important" when choosing to visit the Pčinja Discrit, but also important to become part of the formation of sports tourism programs.

5. Discussion and conclusion

The research results on selected elements of tourist infrastructure for creating sports tourism in the Pčinja Dis-crit demonstrate a wide range of activities that attract tourists to this destination. Based on comprehensive re-sults, there is a strong argument for the development of sports and recreational facilities, especially those di-rected towards children. The majority of respondents (93.6%) were between the ages of 19 and 49, indicating a significant presence of young families among tourists visiting the destination for relaxation during day trips or weekend getaways. This emphasizes the need for creating sports activities and recreational facilities that are attractive and tailored to children to meet the needs of these visitors and enable their quality stay at the destination.

The analysis of tourist infrastructure elements for sports and recreational activities shows that there is a cer-tain dissatisfaction among tourists regarding existing facilities. The lack of adequate tourist signage and the lack of maintenance in some locations such as beaches along lakes may diminish visitors' experiences. Additionally, the absence of developed ski resorts in mountainous areas, despite favorable conditions for winter sports, poses a limiting factor for tourism development in the winter months.

The Hi-square test confirms a statistically significant difference between the diversity of activities preferred by tourists and the possibility of developing sports tourism in the Pčinja Discrit. Activities such as hiking, camping, and kayaking are very important to tourists when choosing a destination, while activities such as ski-ing and mountain biking are less represented in the choice.

Through modernization and the establishment of recreational activities, the rural areas of the Pčinja Discrit would attract more tourists. Mountainous landscapes such as Vlasina and Besna Kobila are suitable for sports and recreation for both adults and children, altitude training, and more.

The review of sports recreation facilities in the Pčinja Discrit (sports halls and centers with football, basket-ball, handball fields, etc.) serves more for the local population's sports and recreation, requiring certain invest-ments in the material basis of sports fields and indoor recreational facilities. Through sports events, competitions, fishing tourism, and horseback riding, the Pčinja Discrit would form a unique tourist offer with rich content, thus establishing a recognizable tourism brand for sports and recreation in the future.

To enrich the recreational tourist offer of the Pčinja Discrit, it is very important to organize the beaches of Vlasina lake, Prvonek lake near Vranjska Spa, Aleksandrovac lake near city of Vranje, Jovac lakes near Vladičin Han, cycling and hiking trails.

In their monograph, Pavlović et al. (2022) outlined guidelines for the development of cycling tourism in the Vlasina plateau area, including:

- Building quality cycling trails with accompanying signage,
 - Creating maps of cycling routes,
- Opening facilities for bicycle rental and sales, cycling equipment, and spare parts,
 - Arranging bicycle parking spaces, etc.

However, the highlighted suggestions can be accepted and applied to the entire territory of the Pčinja Discrit, not

just to one part. The exceptional potential of the Pčinja Discrit for the development of mountain and winter sports and recreational tourism must not remain untapped and neglected. Therefore, it is necessary to build modern cable cars, ski slopes that would accommodate several skiers simultaneously, ski lifts, and snowmaking machines on Besna Kobila, Mountains around Vlasina lake, Dukat, and Crnook (mountains of the Bosilegrad region). However, considering the obtained overall average satisfaction rating for ski resorts in the Pčinja Discrit (M=3.06) according to tourists' perception (Table 1), this form of tourism is not activated anywhere near its potential. The main cause of this situation is the complete absence of tourist infrastructure and superstructure for valorizing mountainous terrains. For this reason, it is necessary to develop planning documents aimed at highlighting the advantages and disadvantages to address deficiencies in the field and in practice.

Acknowledgments

This work was supported by the Faculty of Sciences and Mathematics, University of Niš, Republic of Serbia and by the Agreements 451-03-66/2024-03/200124 of the Ministry of Science, Technological Development and In-novation of the Republic of Serbia.

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