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Tourism Seasonality and Tourist Satisfaction: Evidence From a Year-Round Visitor Survey in Croatia

Abstract

This study investigates seasonal variation in tourist satisfaction in Croatia, a Mediterranean destination heavily reliant on "sun and sea" tourism and characterized by pronounced seasonality. Using data from the TOMAS Croatia 2022-2023 survey, a large-scale, nationwide visitor survey conducted by the Institute for Tourism, this research explores whether significant differences in tourist satisfaction exist between peak and off - seasons. Specifically, the study examines whether tourist satisfaction is lower during the peak season, when visitor numbers and associated pressures on destinations are highest, and identifies which destination attributes, such as transport accessibility, public transport, cultural offerings, and nightlife, are most susceptible to seasonal demand fluctuations. Descriptive statistics and one-way ANOVA were employed to analyze the data and answer the research questions.

***Keywords*:** tourist satisfaction, tourism seasonality, peak season, tourism demand, Croatia

1. Introduction

High-quality tourism experiences are key drivers of positive tourist behavior, including repeat visitation and positive word-of-mouth referrals (e.g., Chi & Qu, 2008; Dmitrović et al., 2009). High levels of tourist satisfaction are widely recognized as a key determinant of destination attractiveness (e.g., Mikulić et al., 2016) and competitiveness (e.g., Chen et al., 2011; Pavlic et al., 2011). Satisfied tourists are more likely to return, recommend the destination to others (Dmitrović et al., 2009), and contribute to a positive destination image, ultimately affecting economic benefits and sustainable tourism development (e.g., Kamakura et al., 2002). Conversely, overtourism, with its associated crowding and congestion, can undermine tourist experiences, reduce satisfaction, and diminish the overall quality of the destination visit (e.g., Sæþórsdóttir & Hall, 2021; de Oliveira et al., 2021; Ruiz et al., 2021; Papadopoulou et al., 2023). Overtourism can also lead to strained infrastructure, environmental degradation, negative impacts on local communities (e.g., Mikulić et al., 2021; 2024), and a decline in the overall tourist experience (e.g., Goodwin, 2017; Dodds & Butler, 2019).

The relationship between tourist satisfaction and destination attributes has been extensively studied in the past. Previous research has explored the influence of factors like, e.g., service quality (e.g., Wang et al., 2017), destination image (e.g., Gartner, 1994; Baloglu & McCleary, 1999; Chi & Qu, 2008), and perceived value (e.g., Pandža Bajs, 2015; Yu et al., 2023) on tourist satisfaction. However, the interplay between these factors and seasonality, particularly in destinations experiencing significant fluctuations in tourist demand, requires further investigation.

Despite the established links between tourist satisfaction, crowding, and destination competitiveness, relatively limited attention has been paid to how tourist satisfaction varies across seasons within highly seasonal destinations. While some studies have examined the impact of perceived crowding on tourist satisfaction (e.g., Albayrak et al., 2021; Zehrer & Raich, 2016), less is known about whether satisfaction systematically

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declines during periods of highest tourism demand, when destinations experience the greatest pressures on infrastructure, services, and public space. This study addresses this gap by focusing on Croatia, a country exhibiting some of the highest levels of tourism seasonality in the Mediterranean (Kožić, 2013; Kožić et al., 2013; Mikulić, 2023; Mikulić et al., 2021). Croatia's tourism sector is heavily reliant on coastal "sun and sea" tourism, leading to concentrated tourist activity during the summer months and a significant decline in visitation during the shoulder and off - seasons. This pronounced seasonality makes Croatia a particularly relevant context for examining whether tourist satisfaction varies systematically between periods of high and low tourism demand.

By comparing satisfaction levels across different seasons in Croatia, this study examines how tourist satisfaction varies with pronounced seasonal fluctuations in tourism demand. Specifically, it explores whether satisfaction with various destination attributes, such as transport, accommodation, attractions, and local services, differs significantly between peak and off-season periods. This information is relevant for destination managers seeking to address the pressures associated with peak tourism demand and to enhance the quality of the tourist experience throughout the year.

While acknowledging that tourist satisfaction is influenced by a multitude of factors that may fluctuate seasonally (e.g., expectation levels, objective quality of destination offerings, weather conditions, service availability), this exploratory study does not seek to isolate crowding as a causal mechanism. Rather, it examines whether satisfaction varies systematically across periods characterized by markedly different levels of tourism demand. Croatia's extreme tourism demand fluctuations, with intense tourism activity and substantial pressures on destinations during the summer and significantly reduced activity in the off-season, make it a compelling case study for such an analysis. The observed seasonal patterns can therefore provide insights into aspects of the tourist experience that may be particularly vulnerable during periods of peak tourism demand.

2. Literature review

2.1. Tourist satisfaction

Tourist satisfaction is a key factor influencing destination competitiveness and tourist behavior (e.g., Chen et al., 2011; Pavlic et al., 2011; Mikulić et al., 2016). It is a complex construct influenced by various factors, including perceived value (Pandža Bajs, 2015; Yu et al., 2023), destination image (Gartner, 1994; Baloglu & McCleary, 1999; Chi & Qu, 2008), and service quality (Wang et al., 2017), among others. Contemporary research emphasizes the multidimensional nature of tourist satisfaction, exploring its cognitive and affective components (del Bosque & San Martín, 2008; Palací et al., 2019). Furthermore, studies have explored the mediating role of destination image in the relationship between tourist satisfaction and destination loyalty (Akroush et al., 2016). Generally, understanding the antecedents and consequences of tourist satisfaction is essential for effective destination management and marketing (Mikulić et al., 2016). In this regard, the present study contributes to this literature by examining how specific dimensions of tourist satisfaction vary across periods of markedly different tourism demand. Additionally, the dynamic nature of satisfaction is explored by considering how evaluations change across seasonal periods and which destination attributes exhibit the greatest variation.

2.2. Seasonality in tourism

Seasonality is a pervasive feature of the tourism industry, affecting both destination supply and demand (Baum & Lundtorp, 2001; Ćorluka, 2019). It poses challenges for destination management, including fluctuating occupancy rates, resource allocation, and workforce management (Butler, 2001). Understanding the drivers

and consequences of seasonality is crucial for developing effective strategies to mitigate its negative impacts (Baum & Lundtorp, 2001; Butler, 2023). In the context of Croatia, previous studies have examined the extent and characteristics of tourism seasonality (Kožić, 2013; Kožić et al., 2013; Mikulić, 2023), providing a foundation for this study's investigation of its relationship with tourist satisfaction.

2.3. Overtourism and crowding

Overtourism, characterized by excessive tourist numbers and associated negative impacts, has become a significant concern for many destinations (Goodwin, 2017; Veríssimo et al., 2020; Barač–Miftarević, 2023). It can lead to environmental degradation, strain on local infrastructure, and diminished quality of life for residents (Ashley & Roe, 2002; Mowforth & Munt, 2015). Crowding, one of overtourism's manifestations, can negatively affect tourist experiences and satisfaction (Albayrak et al., 2021; Zehrer & Raich, 2016). Recent studies have explored the psychological determinants of tourist satisfaction in relation to perceived overcrowding and overtourism (Papadopoulou et al., 2023), highlighting the importance of managing visitor density to ensure positive experiences. Furthermore, research has examined the relationship between environmental attitudes and tourist satisfaction in overloaded natural protected areas (de Oliveira et al., 2021), emphasizing the need for sustainable tourism practices. Building on this literature, the present study examines whether tourist satisfaction differs between peak and off-season periods in Croatia, where seasonal concentration generates markedly different pressures on destinations throughout the year. Although crowding is not measured directly, the analysis can indicate whether satisfaction patterns during periods of highest tourism demand are consistent with concerns identified in the crowding and overtourism literature.

3. Methodology

3.1. Study objectives

This exploratory study investigates the relationship between seasonal tourism and tourist satisfaction in Croatia. Given the destination's pronounced seasonality and reliance on summer tourism, the research examines whether tourist experiences and perceptions vary systematically across periods of markedly different tourism demand. This study has two major objectives.

First, this study aims to examine seasonal variation in tourist satisfaction in Croatia by exploring whether visitors report different levels of satisfaction during periods of high tourism demand compared with periods of lower demand. Particular attention is given to whether satisfaction declines during the peak summer period, when visitor concentration and pressure on destination infrastructure and services are greatest.

Second, this study seeks to identify the destination attributes most susceptible to seasonal variations in tourist satisfaction. By pinpointing these vulnerable attributes, destination managers can prioritize interventions and allocate resources.

3.2. Data, population and sample

This study uses data from the TOMAS Croatia 2022-2023 survey of tourist attitudes and expenditures, a large-scale, nationwide, year-round visitor survey conducted by the Institute for Tourism for the Ministry of Tourism and Sports of the Republic of Croatia and the Croatian National Tourist Board. TOMAS is a series of longitudinal surveys of the characteristics, attitudes, and expenditures of tourists in Croatia, conducted since 1987. The 2022-2023 survey was the second national TOMAS survey, covering both Adriatic and Continental Croatia and year-round tourist demand, with data collected from June 2022 to June 2023.

The TOMAS methodology is largely based on the framework for monitoring behavioral changes through national guest surveys introduced by Mazanec and Schmidhauser (1985) and has subsequently been adapted to the specific characteristics and research needs of Croatian tourism. TOMAS Croatia 2022-2023 was conducted as a quantitative primary survey using a structured questionnaire and computer-assisted personal interviewing (CAPI). The questionnaire was available in 15 languages and covered a broad range of characteristics of tourist demand, including travel motivations and behavior, activities in the destination, satisfaction with destination offerings, and tourist expenditures. Data collection was carried out by trained interviewers, while the Institute for Tourism was responsible for the research design, questionnaire preparation, sampling design and allocation, interviewer instructions, and control of the data-collection process.

The dataset used in this study represents a subset of the complete TOMAS 2022-2023 dataset. Specifically, this research focuses on tourists' perceptions of the performance of various Croatian destination attributes and their corresponding satisfaction levels. Respondents were asked to rate the perceived performance of 29 destination attributes, as well as their overall satisfaction with their stay, using a seven-point Likert scale (ranging from 1 = very poor to 7 = excellent). These attributes cover a broad spectrum of the tourist experience, including natural and cultural attractions, infrastructure, services, hospitality, and entertainment.

The TOMAS Croatia 2022-2023 survey used a stratified random/stratified quota sampling design, with month of travel, tourism region, type of accommodation, and tourists' country of origin as stratification criteria. Given the pronounced seasonality of Croatian tourism and the uneven regional distribution of tourist demand, the sample was deliberately not allocated proportionally to realized tourist traffic across regions and seasons. Within individual regions and seasons, however, the sample was allocated proportionally to tourist overnights by country of origin and type of accommodation, while ensuring a minimum number of respondents within each stratum. The total realized sample comprised 14,632 tourists surveyed between June 2022 and June 2023 in 148 destinations across Croatia, including 98 in Adriatic Croatia and 50 in Continental Croatia. The analyses reported in this study are based on the unweighted survey data. Table 1 presents the monthly distribution of the realized sample used in the analysis.

Table 1
Sample size of the TOMAS 2022/2023 survey by month of surveying

Month	Sample size (n)	Proportion
June 2022	724	4.95%
July 2022	2,670	18.25%
August 2022	3,312	22.64%
September 2022	1,499	10.24%
October 2022	1,136	7.76%
November 2022	589	4.03%
December 2022	535	3.66%
January 2023	419	2.86%
February 2023	391	2.67%
March 2023	514	3.51%
April 2023	1,080	7.38%
May 2023	1,094	7.48%
June 2023	669	4.57%
Total	14,632	100.00%

3.3. Limitations of the methodology

While the sample is large and geographically comprehensive, several limitations should be acknowledged. First, the analyses rely on unweighted survey data, even though the original TOMAS sampling design

deliberately used disproportionate allocation across regions and seasons. Consequently, the results should primarily be interpreted as patterns within the realized survey sample rather than as precise population estimates for all tourists visiting Croatia. Second, the response rate and potential non-response bias are not directly assessed in this study, which may affect generalizability. Finally, other seasonal factors, such as weather conditions, regional differences, visitor composition, and service availability, may also have influenced satisfaction ratings.

4. Analysis and results

This section presents the results of the analysis of the relationship between tourism seasonality and tourist satisfaction in Croatia. The analysis compares satisfaction levels across seasons and identifies the destination attributes most affected by seasonal variations in demand.

4.1. Descriptive analysis of satisfaction levels by season

Table 2 presents descriptive statistics, specifically the arithmetic means, for tourist satisfaction with 29 destination attributes and overall satisfaction, categorized by season. Seasons were defined as winter (January – March), spring (April – June), summer (July – September), and fall (October – December). The summer months, representing the peak tourist season, were further disaggregated into individual months (July, August, September) to provide a more granular view of satisfaction variations during this critical period. This disaggregation acknowledges the concentration of tourist activity within these months and allows for a more nuanced assessment of satisfaction during the period of highest tourism demand. For the descriptive comparison, Table 2 focuses on the complete 12-month cycle from July 2022 through June 2023; the initial June 2022 observations are therefore not included in this table.

The analysis of Table 2 reveals several key trends. A consistent pattern shows that the lowest satisfaction levels occur predominantly during the peak summer months of July and August. This trend is evident across a wide range of destination attributes, indicating that multiple aspects of the tourist experience are evaluated less favorably during the period of highest tourism demand. While some minor variations exist, with a few attributes reaching their lowest point in other periods, the general pattern of lower satisfaction during the peak summer months is clear. For instance, while the "Beauty of the destination" attribute reached its lowest level in the spring, the vast majority of other attributes, including those related to transport, accessibility, hospitality, culture, and entertainment, show the lowest satisfaction in July and August. Conversely, the highest satisfaction levels are generally recorded during the shoulder seasons (spring and fall) and the winter season. This pattern may reflect, among other factors, lower visitor pressure and potentially more personalized service during these periods. Overall, tourists visiting during these periods tend to evaluate the destination and its offerings more favorably.

To highlight the magnitude of seasonal variation in satisfaction, the range between the highest and lowest mean ratings across the analyzed periods was calculated for each attribute. The largest seasonal ranges (0.25 points or more) were observed for transport accessibility of the destination, pedestrian friendliness, accessibility for people with special needs, local public transport, traffic conditions, hospitality of the local population, culture and art, entertainment/nightlife, and free Internet at the destination. Importantly, a large seasonal range does not necessarily imply deterioration during the peak summer period, as illustrated by free Internet, whose lowest rating was recorded in fall. Nevertheless, for several attributes related particularly to mobility, accessibility, and traffic, the lowest evaluations occur in July or August, indicating that these aspects of the destination experience are especially vulnerable during periods of highest tourism demand.

Table 2
Comparison of satisfaction levels (arithmetic means) by season

	Winter	Spring	7/2022	8/2022	9/2022	Fall	Seasonal range (max-min)
1. Beauty of nature and landscape	6.65	6.63	*6.62*^{L}	6.67	6.69	*6.70*^{H}	0.08
2. Beauty of the destination	6.64	*6.61*^{L}	6.62	6.65	6.64	*6.69*^{H}	0.08
3. Extent to which destination is cared for and maintained	6.52	6.45	*6.40*^{L}	6.44	6.54	*6.56*^{H}	0.16
4. Atmosphere, mood	*6.71*^{H}	6.62	*6.58*^{L}	6.60	6.62	*6.71*^{H}	0.13
5. Ecological preservation of the place	6.52	*6.47*^{L}	6.48	6.50	6.54	*6.60*^{H}	0.13
6. Personal safety	6.76	6.68	*6.59*^{L}	6.65	6.68	*6.78*^{H}	0.19
7. Transport accessibility of the destination	*6.60*^{H}	6.48	*6.26*^{L}	*6.26*^{L}	6.40	6.55	0.34
8. Destination suitable for children	6.58	6.46	*6.38*^{L}	6.46	6.50	*6.61*^{H}	0.23
9. Destination is pedestrian friendly	*6.62*^{H}	6.49	*6.36*^{L}	6.42	6.52	6.61	0.26
10. Destination adapted to people with special needs	*6.49*^{H}	6.31	6.21	*6.19*^{L}	6.30	6.45	0.30
11. Local public transport	6.07	6.13	6.00	*5.99*^{L}	6.12	*6.23*^{H}	0.24
12. Traffic in destination (traffic flow, parking spaces)	6.11	5.98	5.92	*5.87*^{L}	6.07	*6.18*^{H}	0.31
13. Hospitality of the local population	*6.73*^{H}	6.60	*6.48*^{L}	6.56	6.60	6.70	0.25
14. Accommodation facility	*6.58*^{H}	6.57	*6.46*^{L}	6.52	6.50	*6.58*^{H}	0.12
15. Beach cleanliness	6.53	6.51	*6.43*^{L}	6.45	6.52	*6.57*^{H}	0.14
16. Beach equipment/how fixed up	*6.44*^{H}	6.35	6.30	*6.25*^{L}	6.33	6.39	0.19
17. Cycling routes and paths	6.18	6.16	6.14	*6.10*^{L}	6.23	*6.26*^{H}	0.16
18. Walking paths	*6.45*^{H}	6.38	*6.31*^{L}	6.33	6.36	6.43	0.14
19. Marked heritage sites	*6.47*^{H}	6.41	*6.29*^{L}	*6.29*^{L}	6.35	*6.47*^{H}	0.18
20. Information available in the destination	*6.53*^{H}	6.43	*6.32*^{L}	6.35	6.39	6.41	0.21
21. Information/education in protected nature areas	*6.42*^{H}	6.33	6.26	*6.23*^{L}	6.27	6.33	0.19
22. Culture and art	*6.54*^{H}	6.48	*6.28*^{L}	6.32	6.45	*6.54*^{H}	0.26
23. Events	*6.30*^{H}	6.21	*6.10*^{L}	6.17	6.13	6.27	0.20
24. Entertainment/nightlife	6.20	*6.22*^{H}	6.15	5.98	*5.97*^{L}	6.02	0.25
25 Gastronomic offer in destination	6.54	6.48	*6.43*^{L}	6.44	6.49	*6.57*^{H}	0.14
26. Sports facilities	*6.34*^{H}	6.31	*6.11*^{L}	6.16	6.19	6.23	0.23
27. Offer of organized trips/excursions to surrounding area	*6.11*^{L}	*6.28*^{H}	6.18	6.21	6.21	6.12	0.17
28. Shopping options	6.19	6.24	6.12	*6.10*^{L}	6.19	*6.27*^{H}	0.17
29. Free Internet in destination	*6.42*^{H}	6.38	6.29	6.23	6.14	*6.04*^{L}	0.38
30. Overall stay	*6.65*^{H}	6.58	*6.57*^{L}	6.58	6.62	*6.65*^{H}	0.08

Note. H = highest mean; L = lowest mean across the analyzed periods.

4.2. Statistical analysis of seasonal differences

In addition to the descriptive analysis, a one-way analysis of variance (ANOVA) was conducted to test for temporal differences in satisfaction levels over the full survey period from June 2022 to June 2023. The analysis therefore included seven temporal groups, with the initial June 2022 observations retained as a separate group, along with July 2022, August 2022, September 2022, fall, winter, and spring. As shown in Table 3, statistically significant differences ($p < .01$) were found for all 29 destination attributes and for overall satisfaction. Given the large sample size, however, statistical significance should not, in itself, be interpreted as evidence of substantively large differences.

The ANOVA thus provides evidence of temporal variation in tourist satisfaction across the full survey period, while the descriptive results in Table 2 illustrate the magnitude and pattern of variation across the complete July 2022–June 2023 annual cycle. Further analysis, including appropriate post hoc comparisons, could identify which specific temporal groups differ from one another. For the purposes of this exploratory study, the present analyses provide a useful basis for identifying aspects of the tourist experience that appear particularly sensitive to seasonal variation in tourism demand.

Table 3
Significance testing of group differences (ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
1 * season	13.983	6	2.330	5.670	0.000
2 * season	8.954	6	1.492	3.401	0.002
3 * season	54.989	6	9.165	15.414	0.000
4 * season	36.936	6	6.156	14.144	0.000
5 * season	41.985	6	6.997	12.513	0.000
6 * season	53.847	6	8.974	24.309	0.000
7 * season	239.522	6	39.920	56.704	0.000
8 * season	89.203	6	14.867	23.235	0.000
9 * season	131.486	6	21.914	35.453	0.000
10 * season	162.435	6	27.073	28.022	0.000
11 * season	127.028	6	21.171	16.008	0.000
12 * season	158.434	6	26.406	22.173	0.000
13 * season	90.887	6	15.148	31.517	0.000
14 * season	38.558	6	6.426	10.734	0.000
15 * season	20.572	6	3.429	6.212	0.000
16 * season	28.576	6	4.763	6.572	0.000
17 * season	49.924	6	8.321	8.026	0.000
18 * season	44.155	6	7.359	10.435	0.000
19 * season	73.230	6	12.205	17.972	0.000
20 * season	51.664	6	8.611	12.767	0.000
21 * season	40.603	6	6.767	8.755	0.000
22 * season	169.720	6	28.287	39.954	0.000
23 * season	48.306	6	8.051	7.659	0.000
24 * season	107.629	6	17.938	12.525	0.000
25 * season	50.199	6	8.367	12.069	0.000
26 * season	81.992	6	13.665	15.472	0.000
27 * season	40.346	6	6.724	7.433	0.000
28 * season	67.523	6	11.254	10.422	0.000
29 * season	187.592	6	31.265	19.648	0.000
30 * season	25.458	6	4.243	10.140	0.000

Note. The ANOVA includes the full survey period, with June 2022 retained as a separate temporal group; hence, seven groups are compared (df = 6).

5. Discussion

This study reveals a clear seasonal pattern in tourist satisfaction in Croatia, with satisfaction generally lower during the peak summer months of July and August, when tourism activity is at its highest. This pattern is consistent with previous research showing that crowding and associated pressures on destination resources and infrastructure can negatively affect the tourist experience (e.g., Papadopoulou et al., 2023; Ruiz et al., 2021). While the present study does not directly measure crowding, the concentration of lower satisfaction ratings during the peak-demand period suggests that pressures associated with high visitor volumes may contribute to the observed seasonal differences. Lower satisfaction during the peak season extends across a range of destination attributes, particularly those related to transport accessibility, pedestrian friendliness, accessibility for special needs, local public transport, traffic, hospitality, culture and art, and entertainment/nightlife. These findings underscore the challenges of managing tourism in destinations with extreme seasonality and highlight the need for monitoring and targeted interventions.

The observed seasonal differences in satisfaction have important implications for destination management. First, the results suggest that Croatia's current tourism model, heavily reliant on summer mass tourism, may be undermining the overall quality of the tourist experience, particularly in July and August, when satisfaction with many destination attributes is lower than in the shoulder and off-season periods. This could have long-term consequences for destination loyalty and word-of-mouth referrals (Chi & Qu, 2008; Dmitrović et al., 2009). Second, the study identifies specific areas for improvement. Lower satisfaction with transport, traffic, and accessibility during the peak season suggests that infrastructure and transportation management should receive particular attention. Furthermore, the lower evaluation of local hospitality during the peak season warrants attention. This may reflect increased strain on local resources and service providers, highlighting the need for strategies to support the local community and ensure positive interactions with tourists.

The study also has implications for tourism marketing and product development. Destinations should consider diversifying their tourism offerings and promoting off-season travel. This could involve developing tourism products that cater to specific interests, such as cultural, nature-based, or wellness tourism. By attracting tourists during the shoulder seasons, destinations can reduce crowding, improve the quality of the tourist experience, and distribute the economic benefits of tourism more evenly throughout the year. Moreover, the findings emphasize the importance of managing visitor expectations. Tourists visiting during peak season should be aware of the potential for crowding and its impact on their experience. Destinations can use communication strategies to inform tourists about the realities of peak season travel and encourage them to consider visiting during less crowded periods.

Finally, this study contributes to the broader literature on tourist satisfaction, seasonality, and overtourism. By examining the relationship between these factors in a specific destination context, the study provides valuable empirical evidence in these areas of study. The findings highlight the need for integrated destination management strategies that consider the complex interplay of these factors. Future research could explore the mediating role of perceived crowding in the relationship between seasonality and tourist satisfaction. Additionally, comparative studies across different destinations with varying levels of seasonality could provide further insights into the potential generalizability of the findings.

6. Conclusions

This exploratory study focused on the complex relationship between seasonal tourism and tourist satisfaction in Croatia, a Mediterranean destination characterized by pronounced seasonality and a dominant "sun and sea" tourism product. The research sought to determine whether significant differences exist in tourist satisfaction levels between peak and off - seasons, examine whether satisfaction declines during periods of peak tourism demand, and identify the destination attributes most susceptible to seasonal demand fluctuations. The findings reveal a systematic seasonal pattern in tourist satisfaction in Croatia, with notably lower satisfaction reported for many destination attributes during the peak summer months of July and August. This decline in satisfaction during the busiest period suggests that the influx of tourists and the resulting crowding might strain destination resources and negatively impact the overall quality of the tourist experience. Specifically, several destination attributes, including transport accessibility, pedestrian friendliness, accessibility for people with special needs, local public transport, traffic conditions, hospitality of the local population, culture and art offerings, and entertainment/nightlife, received particularly low evaluations during the peak summer period. The generally lower evaluations observed during the peak summer period, contrasted with more favorable evaluations during several shoulder and off-season periods, underscore the relevance of seasonal visitor dispersion. These results underscore the challenges faced by destinations with extreme seasonality and highlight the need for management strategies

that address the pressures associated with concentrated peak-season demand and support a high-quality visitor experience throughout the year.

While this study offers valuable insights into the dynamics of seasonal tourism and tourist satisfaction in Croatia, it also acknowledges certain limitations. First, the study used calendar seasons rather than meteorological seasons, which could influence the results. However, consistently low ratings in July and August, regardless of the seasonal definition, suggest a robust trend. Additionally, the study did not directly assess non-response rates, and external factors such as weather or region-specific service quality may have influenced tourist evaluations. Second, while the observed seasonal pattern aligns with a crowding-based explanation, the study did not directly measure perceived crowding. Future research could incorporate measures of perceived crowding to more explicitly examine its role in the relationship between seasonality and satisfaction. Third, this study focused on a single destination, Croatia. While Croatia's extreme seasonality makes it a valuable case study, comparative research across destinations with varying degrees of seasonality would deepen understanding of these dynamics and identify best practices for destination management.

Building on these findings, several avenues for future research emerge. A valuable next step would be to directly measure perceived crowding and investigate its mediating role in the relationship between seasonality and tourist satisfaction. This could involve incorporating survey items that assess tourists' perceptions of crowding levels and their impact on their overall experience. Furthermore, future studies could explore the specific mechanisms through which crowding affects satisfaction. For instance, does crowding impact satisfaction primarily through increased waiting times, reduced access to attractions, or a general sense of discomfort and frustration? Understanding these mechanisms would allow destinations to develop more targeted interventions.

Another interesting area for future research lies in exploring the long-term impacts of seasonal variations in satisfaction on destination loyalty and repeat visitation. Do tourists who experience lower satisfaction during peak season still return to the destination in subsequent years? Or are they more likely to choose alternative destinations? Investigating these questions would provide valuable insights for destination marketing and planning.

Moreover, future research could explore local residents' perspectives on seasonal tourism and its impact on their quality of life. Understanding residents' perceptions of tourism seasonality and crowding is crucial for developing sustainable tourism strategies that benefit both visitors and the host community. This could involve conducting surveys or focus groups with residents to gather their perspectives on tourism's positive and negative impacts and their suggestions for improving destination management.

Finally, comparative studies across different destinations with varying levels of seasonality would be valuable. Such studies could identify common challenges and best practices for managing seasonal tourism and provide a broader understanding of the interplay between seasonality, crowding, and tourist satisfaction. These comparative insights would be particularly useful for developing tailored strategies for destinations with different tourism profiles.

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Declaration of Competing Interests

The authors declare that they have no known competing interests that could have appeared to influence the work reported in this paper.

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