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The Perception of Split Area Residents on the Impact of Cruising Tourism in the City of Split

Abstract

Cruising tourism is a segment of the shipping industry which is growing constantly both in the number of ships and their capacity. Such trend is also evident in Port of Split, the second-largest cruise port in the Republic of Croatia. Large cruise ships produce for the recipient country lots of benefits but at the same time, they leave a negative impact on the environment. A survey was conducted on a sample of 134 residents of Split to examine their perception of cruise tourism in their city and their awareness of its positive and negative impacts. This enabled us to identify the parameters of the greatest importance to the local population and to draw conclusions on their perception of the advantages and disadvantages of the increased number of cruise ship traffic in the Port of Split.

Keywords: cruise tourism, cruise ship, residents' perception, Split

1. Introduction

Cruising tourism is a specific form of tourism that, thanks to the progress of ship technology, affordable prices for tourist arrangements and an increasing number of people who are involved in long-term tourism, has achieved the greatest growth and development compared to other forms of tourism.

When tourism comes about at certain destination, process of stratification into specific forms occurs which means tourism initially establishes itself in a particular location, followed by its development into various specialized forms or niches to cater to different interests and preferences within the tourism industry like eco-tourism, cultural tourism, luxury tourism, cruise tourism, etc. These specific forms or niches within the broader tourism industry cater to different segments of the market and contribute to the overall development and complexity of the destination's tourism sector. It was

observed that the population of that tourist destination initially reacts euphorically, with excitement, then after some time a state of apathy or indifference towards the increasing number of tourists occurs due to getting used to the new, tourism-related role of the destination. The increase in the number of tourists visiting the destination simultaneously reaches a critical level when the population increasingly begins to perceive tourism as a negative phenomenon and feels grief, anger, or aggression due to the changes that occurred with the arrival of tourism. Cruising tourism is significantly different from other forms of tourism due to the size and capacity of cruise ships that simultaneously bring thousands of new visitors, and it can be assumed that the stages of the population's reaction to this form of tourism will change faster than reactions to other forms of tourism.

The arrival of cruise ships in Split two decades ago led to changes in Split area and provided various economic benefits for the city and its citizens. This form of tourism exists in a time of increasing interest in the protection of the environment, natural resources, and sustainable development, when the discourse shifts from exclusively financial gain from tourism to the preservation and protection of those resources that enable the existence of tourism in this area. On the part of the citizens of Split, it is often possible to hear expressions of resignation and frustration due to devastation of the natural environment that occurs not only because of cruise tourism, but because of tourism in general. This paper was made with the idea of determining how much the citizens of Split care for the environment, whether they associate cruise tourism with negative impacts on an area and whether they think it is necessary to introduce changes regarding the arrival of cruise ships in the City.

The aim of the conducted research was to examine the level of satisfaction and opinions of the surveyed citizens of Split regarding the perspective of this form of tourism in relation to the city of Split, regarding the economic effects so far, and based on their answers to draw a conclusion about the current state and sustainable future of cruise tourism in Split.

2. Impact of cruise tourism on the tourist destination

Tourists participating in cruise tourism make circular tourist trips on board cruise ships. Cruise ships, some of which can accommodate thousands of passengers, have become self-sufficient tourist resorts, floating cities, which passengers do not have to leave to experience the full tourist offer and fulfill their tourist needs.

The tourist program on board cruise ships provides different options of leisure, recreation and entertainment, and the destinations where they anchor [1]. Cruising tourism is a financially and organizationally complex form of tourism which, connecting transport, tourism, and entertainment, simultaneously exerts a strong influence on port cities and the natural environment, an impact that is increasing over time, given that cruising tourism records the highest growth compared to other forms tourism [2].

The impact of cruise tourism on tourist destinations is multifaceted, and can be divided into economic, cultural, and social impact as well as impact on the environment. The mentioned forms of impact of cruise tourism on tourist destinations interact with each other, and a change in one form can result in a positive or negative change in other forms. The cruise business can become a driving force for a tourist destination if business entities and the local community adapt the entire offer to this part of the market in time [3].

The financial benefits of cruise tourism derive from the widespread network of industries and entities that are associated with this form of tourism and coordinate with each other to offer a unique tourism experience. Cruising tourism connects port cities, cruise ship companies, travel agencies and other logistics activities linked in cruise ship supply chains. Cruise ship tourists stimulate the local economy and generate revenue through spending at cruise destinations and during organized day trips to related tourist destinations. Positive effects of cruise tourism include an increase in the number of jobs, opportunities for additional income, an increase in social standards, a decrease in the level of emigration of the local population, an increase in the level of the gross domestic product, the degree of equipping ports and cities with utilities and other infrastructure and other socioeconomic values at the local and national level [2].

In addition to the negative socioeconomic phenomena observed in all forms of tourism, such as uneven development, rising prices of products, services and real estate, commodification of culture and changes in the lifestyle of the local population, the most noticeable problem is the negative impact of cruise tourism on the environment. The danger of a negative impact on the environment is that it is difficult and sometimes impossible to fully predict its consequences [4]. Daily pollution (refers to air, waste, hazardous waste, black and gray waters, ship bilges) of one cruise ship carrying 3,000 passengers in one day is equal to the daily pollution of 12,000 cars. Passengers on board cruise ships that arrive in Croatia produce more garbage and wastewater than residents of the Republic of Croatia. While the average Croat produces between 0.8 and 1 kilogram of garbage and between 110 and 150 liters of wastewater in a day, a guest on a cruise ship produces between 3.5 and 4 kilograms of garbage and up to 340 liters of wastewater [2]. Research on the analysis of the ecological costs of cruise tourism points out that it can amount to seven times more than the realized financial benefits for Croatian local communities [5].

The most popular cruising destinations in the Republic of Croatia are, respectively, Dubrovnik, Split, Korčula, Zadar and Hvar. The State Bureau of Statistics has been publishing data on cruise ship arrivals since 2002, when 82 cruise ship arrivals with 20,616 passengers were recorded in Split. In the following years, Split became a recognizable cruise tourism destination, as evidenced by statistics from 2016, when 286 cruise ships with 278,259 passengers docked in Split. As of December 31, 2022, 284 cruise ships anchored in Split, and some predictions for 2023 indicate an increase of 14.44% to 325 cruise ship calls [6]. Split's cruise port is located near the historic

city center and depending on the berth of the individual cruise ship, the distance can be between 0.5 miles (800 meters) and 0.7 miles (1000 meters).

The increase in the number of cruise ships in the port of Split raises the issue of sustainability and the planned development of cruise tourism in this city. The arrival of cruise ships in Split, a relatively small European city, brings significant financial benefits, but also pressure on the entire infrastructure.

3. Research methodology

The participants of the survey were residents of Split chosen by the method of purposive sampling. The survey included 134 adults aged 19 to 63. The questionnaires were distributed online during the winter of 2022 with a response rate of 83.75%. Research participants are guaranteed anonymity, and the scientific purpose of the research is highlighted.

The survey consists of twelve questions classified into three thematic units. The first part examines the experiences and opinions of the participants about cruise tourism and its impact on the environment. Answers were recorded on a five-point Likert scale (1 = I do not agree at all, 5 = I completely agree). In the second part of the survey, participants were given the opportunity to give a suggestion, or an open answer, about the improvement of cruising tourism in Split. The last part of the questionnaire contained sociodemographic variables.

The purpose of the conducted research was to determine how familiar the respondents are with the subject of cruise tourism and whether they notice changes in their natural and social environment caused by the increased number of cruise ships coming to their city. Great importance was placed on free expression in the form of open answers, the purpose of which was to induce the participants to express their own remarks and solutions without referring to already defined answers.

4. Research results

The structure of research participants regarding basic sociodemographic characteristics:

- Age range: out of a total of 134 participants, the majority of respondents, 105 of them, are between 19 and 29 years old, 20 respondents are between 30 and 44 years old, 7 respondents are between 45 and 59 years old, while 2 participants are 60 or older.
- Gender: out of the total number of respondents, 71 are female and 63 are male.
- Level of education: 35 survey participants completed vocational, high school or elementary education, 59 respondents completed professional or university undergraduate studies, and 40 respondents completed university graduate studies, postgraduate scientific master's or doctoral studies.

Research participants were asked the question “Have you ever been on a cruise ship?”. Out of the total number of respondents, 114 respondents, or 85.1%, answered the question negatively, and 20, or 14.9%, answered positively. A graphic presentation of the research participants’ responses is shown in Figure 1.

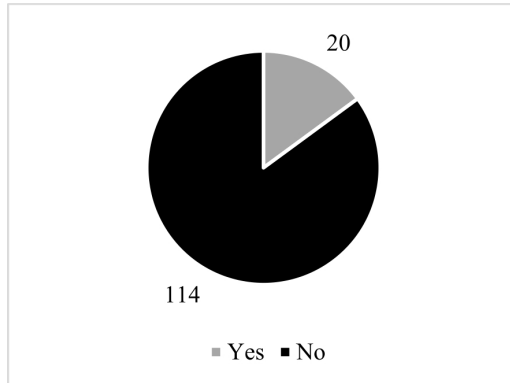


Figure 1. The answer of the research participants to the question “Have you ever been on a cruise ship?”

Research participants were asked the question “How would you rate your experience on a cruise ship?”, and it was possible to choose between the options “Excellent”, “Good”, “Average”, “Bad”, “Very bad” and “I was not on cruiser”. Figure 2 shows their answers. Following the first survey question, it is evident that the majority of respondents (114 or 85.1%) were not on a cruise ship. Out of 20 (14.9%) respondents who were on a cruise ship, 8 (6%) had an “Excellent” experience, 7 (5.2%) respondents had a “Good” experience, while 5 (3, 7%) of respondents rated their stay on a cruise ship as an “Average” experience. If from the results of the survey question only those respondents who had the experience of being on a cruise ship are isolated, 40% of the respondents had an “Excellent” experience, 35% of the respondents had a “Good” experience, and 25% of the respondents had an “Average” experience. No respondent had a “Bad” or “Very bad” experience on a cruise ship.

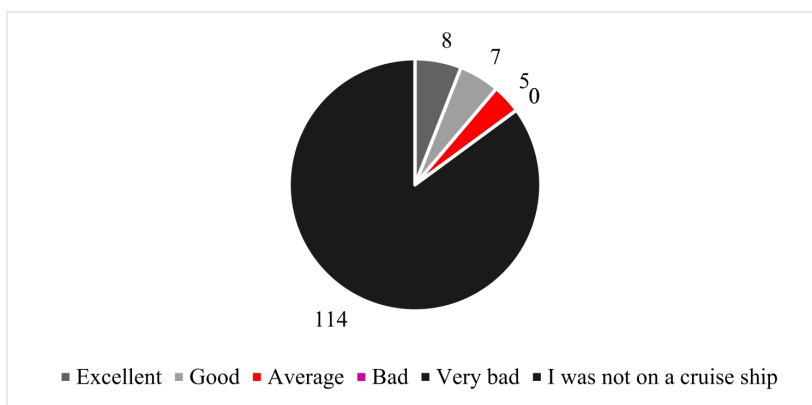


Figure 2. The answer of the research participants to the question “How would you rate your experience on a cruise ship?”

The research participants were asked the question “What are the conditions for you to decide to go on a cruise ship?”. The answers offered were “Price”, “Location”, “Experiences”, “Contents on board” and “Environmentally friendly”. It was possible to mark more than one answer. The results of the survey question, shown in Figure 3, show that the most important conditions for the participants were the price and the locations that would be included in the cruise ship trip. A total of 107 (79.9%) respondents marked the answer “Price” as a condition for going on a cruise ship, 97 (72.4%) respondents considered the answer “Location” an important condition for going on a cruise ship, and for 89 (66.4%) of respondents, “Contents on board” were the decisive condition for going on a cruise ship. The smallest number of respondents, 24 (17.9%) considered the answer “Ecological acceptability” to be influential on their decision to attend cruise tourism.

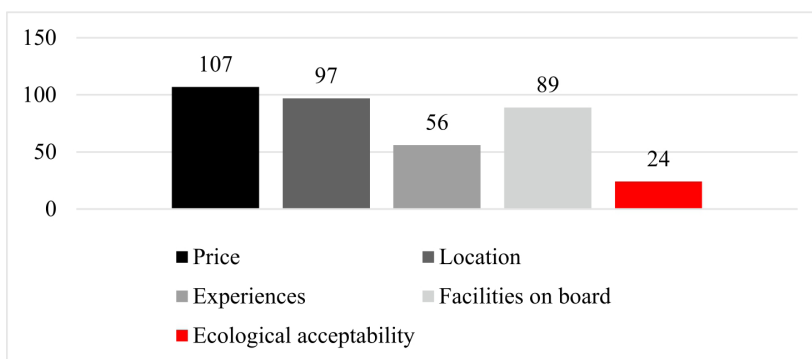


Figure 3. The answer of the research participants to the question “What are the conditions for deciding to go on a cruise ship”

Figure 4 shows the responses of research participants to the survey question “What is your level of concern for the environment?”. The answers offered were “Very concerned”, “Concerned”, “Neither” and “I am not concerned”. More than half of the respondents, or 69 (51.5%) respondents, expressed concern about the environment, and 20 (14.9%) respondents were very concerned about the environment. 32 (23.9%) respondents were indifferent to the environment, expressing neither concern nor lack of concern. The fewest respondents (13 or 9.7%) were not concerned about the environment.

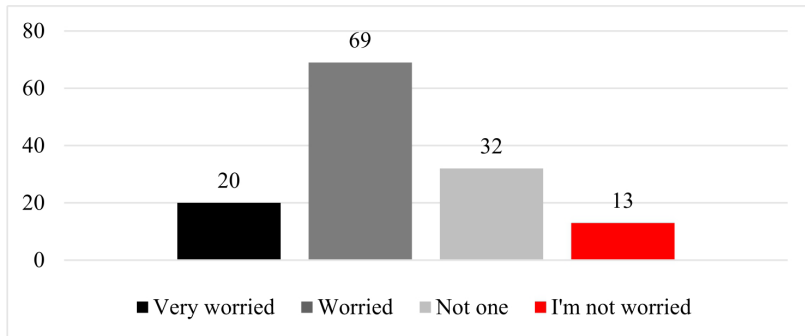


Figure 4. The answer of the research participants to the question “What is your level of concern for the environment?”

The responses of the survey participants to the question “What is your level of concern for the environment?” is shown in Table 1. This comparison is inconsistent with the general population, given that the majority of survey participants (105 out of 134) in the age range from 19 to 29 years, but the results will be discussed anyway. Among the youngest group of respondents (19-29 years old), a high level of concern for the environment (52.38%) is noticeable, but at the same time the lowest level of strong concern (8.57%) compared to older age groups, of which the age group of 30 up to the age of 44 achieves 20% concern and 20% strong concern, the age group from 45 to 59 years 14.29% concern and 85.71% strong concern and two respondents over 60 years of age, one of whom is concerned and the other very concerned. The first and second groups of respondents showed a significant percentage of apathy and indifference towards the environment, and thus 26.67% of respondents from the first group and even 60% of respondents from the second group marked the answer “Neither one nor the other”, while not a single person from the other two age groups group did not mark this answer. The first age group is the only one that chose the answer “I am not worried” to the question, and more members of this group were not worried (12.38%) than very worried (8.57%).

Table 1. Response of research participants to the question “What is your level of concern for the environment?” by age group

What is your level of concern for the environment?	19-29 (n·100/Σ)	30-44 (n·100/Σ)	45-59 (n·100/Σ)	60+ (n·100/Σ)
Very worried	9 (8,57%)	4 (20%)	6 (85,71%)	1 (50%)
Worried	55 (52,38%)	4 (20%)	1 (14,29%)	1 (50%)
Not one	28 (26,67%)	12 (60%)	0 (0%)	-
I'm not worried	13 (12,38%)	0 (0%)	0 (0%)	-
Σ	105	20	7	2

The survey participants were asked to express their degree of (dis)agreement with the statement “Today’s cruise ships are environmentally friendly.” The answers offered were “I strongly agree”, “I agree”, “Neither”, “I disagree” “ and “I do not agree at all”. The majority of respondents (60 or 44.8%) expressed disagreement with the stated statement, while 10 (7.5%) respondents reacted with strong disagreement. More than a third of respondents (48 or 35.8%) remained indifferent to the statement, 14 (10.4%) respondents expressed agreement, and the smallest number, 2 (1.5%) respondents, completely agreed. 52.24% of respondents reacted negatively to the statement, disagreeing that today’s cruise ships are environmentally friendly, and 11.94% of respondents reacted positively. The results of the survey question can be seen Figure 5.

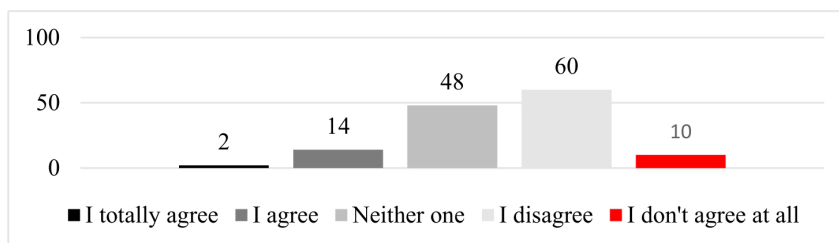


Figure 5. The reaction of research participants to the statement “Today’s cruise ships are environmentally friendly.”

Table 2 shows the respondents’ answers to the question “In which field do you think cruise ships can be improved in order to be sustainable and environmentally friendly?”. The answers offered were “Energy source system”, “Waste management system”, “Air filtration system”, “Water management system”, and the participants were able to mark several answers and write their own answer. Of the systems offered, 102 (76.1%) respondents identified waste management as a field that needs improvement, 82 (61.2%) respondents chose water management, 80 (59.7%) respondents chose energy

sources, and 48 (35.8%) respondents chose air filtration. Only one person independently answered the question by writing: “Cruisers are not acceptable in the Adriatic. They pollute by dumping garbage and sewage into the sea,” thereby expressing the opinion that cruise ships cannot become sufficiently sustainable and environmentally friendly by improving the system.

Table 2. Responses of the research participants to the statement “In which area do you think cruise ships can be improved in order to be sustainable and environmentally friendly?”

Question	Answer	N (%)
“In which area do you think cruise ships can be improved in order to be sustainable and environmentally friendly?”	Energy source system	80 (59,7%)
	Waste management system	102 (76,1%)
	Air filtration system	48 (35,8%)
	Water management system	82 (61,2%)
	“Cruisers are not acceptable in the Adriatic. They pollute by dumping garbage and sewage into the sea”	1 (0,7%)

Figure 6 shows the results of a survey question in which research participants were asked to express their level of (dis)agreement with the statement “The number of cruise ships in the Split area should be limited” on a five-point Likert scale from “I completely agree” to “I do not agree at all”. A total of 79, or 58.96% of the respondents agreed with the above statement, of which 35 (26.12%) respondents marked the answer “Completely agree”, and 44 (32.84%) respondents marked the answer “I agree”. The number of indifferent respondents who marked “Neither one nor the other” was 20 (14.93%). The total number of respondents who disagreed with the statement was 35 (26.12%), of which 5 (3.73%) respondents chose the answer “I do not agree at all”, and 30 (22.39%) respondents chose the answer “I disagree”.

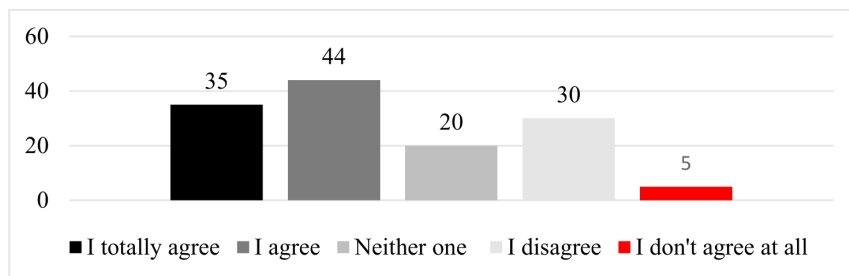


Figure 6. The reaction of research participants to the statement “The number of cruisers in the Split area should be limited.”

Table 3 shows the reactions of research participants to the statement “The number of cruisers in the Split area should be limited,” divided by level of education. Within all three groups of respondents, a positive reaction to limiting the number of cruisers prevailed. The first and second groups of respondents recorded a similar level of negative reaction to limiting the number of cruisers (28.57% and 28.81%), while in the third group (20%), not a single person expressed complete disagreement. The second group of respondents showed the least indifference to the statement (8.47%), which in the other two groups accounted for approximately one fifth of the responses (17.15% and 22.5%).

Table 3. The reaction of research participants to the statement “The number of cruisers in the Split area should be limited” according to the level of education

“The number of cruisers in the Split area should be limited”	High school, elementary (n·100/Σ)	College, (n·100/Σ)	M.Sc., Ph.D. (n·100/Σ)
I totally agree	6 (17,15%)	19 (32,2%)	10 (25%)
I agree	13 (37,14%)	18 (30,51%)	13 (32,5%)
Neither one	6 (17,15%)	5 (8,47%)	9 (22,5%)
I disagree	7 (20%)	15 (25,42%)	8 (20%)
I don’t agree at all	3 (8,57%)	2 (3,39%)	0 (0%)
Σ	35	59	40

Table 4 shows the responses of research participants to the question “Do cruise ships affect you and your family?”. The participants were asked to justify the answer if it was affirmative. The largest number of respondents believed that cruise ships do not affect them or their family (105 or 77.21%), while a smaller number of respondents answered positively (31 or 22.79%). The responses of respondents who felt the impact of cruise ships can be classified into four categories: “Work” (increase in earnings and volume of work due to the arrival of a larger number of tourists), a category chosen by 10 (7.35%) respondents, “Environment” (negative impact on natural environment, waste, destruction of the coast and ecosystems), selected by 13 (9.56%) respondents, “Society” (social changes caused by cruise tourism and cruise tourists, crowds, disturbance of peace), selected by 6 (4.41 %) respondents and “Economy” (positive effects on the local economy brought by the influx of tourists to the city), selected by 2 (1.47) respondents.

Table 4. Responses of research participants to the statement “Do cruise ships affect you and your family?”

Question	Answer	N (%)
“Do cruise ships affect you and your family? If so, how?”	No	105 (77,21%)
	Job	10 (7,35%)
	Environment	13 (9,56%)
	Society	6 (4,41%)
	Economy	2 (1,47%)

Research participants were asked the question “In what way do you think the City can influence to reduce the negative impact of cruise ships on the environment?”. This survey question was open-ended and participants were expected to write their own solutions and ideas for reducing the damage left behind by cruise ships. The research participants gave a total of 143 answers or solutions to the question posed, and they are categorized in Table 5. Their answers can be grouped into categories according to the area of change: changes on cruise ships, changes in the port, changes in regulations and the way of doing business, and social changes.

Changes on cruise ships. The largest number of people (43 or 30.28%) believed that it was necessary to limit the number of cruise ships arriving in the port of Split in order to reduce their negative impact on the environment, while a much smaller proportion of respondents believed that the arrival of cruise ships should be completely prohibited (4 or 2.82%). Three respondents (2.11%) wrote that it is necessary to bring more cruisers. A minority of research participants (2 or 1.41%) answered that it is necessary to build cruisers that will be more environmentally friendly, that is, less polluting.

Port changes. As for the port of Split itself, 3 (2.11%) respondents believed that it needed to be remodeled in order to better accommodate cruise ships, while 10 (7.04%) people expressed the need to build a new port for cruise ships that would be further away from the center of Split.

Changes in regulations and way of doing business. A fifth of the participants (28 or 19.72%) emphasized the need to establish regulations that will better follow environmental standards, and 9 (6.29%) respondents believed that the negative impact of cruise ships would be reduced if frequent controls were carried out. One part of the respondents (7 or 4.93%) proposed the introduction of a green tax with a focus on pollution or increasing the costs that cruise ships have to cover when entering the port of Split, thereby emphasizing that the City could use greater financial gains to remediate the environmental damage left by cruise ships behind him. The need to search for better ways of waste management was also highlighted, which was referred to by 7 (4.93%) persons. Two respondents (1.41%) believed that the city of Split should invest

in initiatives and projects that fight against pollution.

Social changes. One person (0.7%) referred to the need to educate society by raising public awareness of the negative impact of cruise ships on the environment, while one person (0.7%) thought that it was necessary to make changes regarding the party structure of the City.

Table 5. Responses of research participants to the statement “In what way do you think the city can influence to reduce the negative impact of cruise ships on the environment?”

Question	Response	N (%)
“In what way do you think the city can influence to reduce the negative impact of cruise ships on the environment?”	Limit the number of cruisers	43 (30,28%)
	Completely prohibit the arrival of cruise ships	4 (2,82%)
	More cruisers	3 (2,11%)
	Improve cruise ships so that they pollute less	2 (1,41%)
	Set regulations according to ecological standards	28 (19,72%)
	Make frequent checks	9 (6,29%)
	Introduce a green tax / Charge more	7 (4,93%)
	Invest in initiatives and projects that fight against pollution	2 (1,41%)
	Create a waste management plan	7 (4,93%)
	Remodel the port	3 (2,11%)
	Build a new port further from the city center	10 (7,04%)
	Raise public awareness of the negative impact of cruise ships	1 (0,7%)
	Change the government in the City	1 (0,7%)
	Not at all	1 (0,7%)
I do not know	22 (15,49%)	

5. Conclusion

After conducting the research, it was established that most of the participants who completed the survey had not been on a cruise ship, and those who had, had a positive experience. The participants mostly chose the price, locations and content on board as the deciding factors for going on a cruise. Choosing price as the main factor indicates that cruises are a significant financial expense or simply uninteresting to the population of Split.

More than half of the participants expressed a certain level of concern for the environment, a quarter of respondents were indifferent to this topic, while a tenth were not concerned. Participants aged 19 to 44 expressed higher levels of indifference than older age groups, and the youngest age group was the only one to express non-concern, which was higher than strong concern. According to these results, although concern for the environment prevailed among the surveyed citizens of Split, the high level of apathy indicates that the environment still does not occupy the attention of a significant part of the population. It is surprising that only the youngest age group was concerned about the environment, although this can be attributed to the disproportionate age structure of the respondents.

When examining opinions on the environmental acceptability of cruise ships, because a third of respondents remained indifferent, it was evident that a large number of surveyed citizens of Split did not think about the impact of cruise ships on the natural environment or were not educated on the subject. The results of this question were consistent with the previously expressed level of concern for the environment, and more than half of the participants considered cruise ships environmentally unacceptable, and a tenth considered them environmentally acceptable. When asked to select the types of ship systems that need to be improved in order to reduce pollution, the majority of participants chose waste management, followed by water management and energy sources, thus identifying visible pollution as the biggest environmental problem of cruise tourism.

Opinions were divided on the statement about limiting the number of cruisers in the Split area. More than half of the respondents believed that limiting the number of cruisers was necessary, with a third of the total respondents strongly agreeing. The participants were less indifferent than when it came to questions about the environment, and a quarter of respondents believed that the number of cruise ships should not be limited. According to the level of education, people with the highest levels of education expressed the greatest indifference towards this topic, but also the lowest level of disagreement, while a third of participants with lower levels of education were against the numerical limit of cruisers. It is important to note that only two people with the highest level of education stated that cruise ships affect them in a business sense, while the rest predominantly answered that cruise ships do not affect them, so it is possible that the measured levels of agreement and indifference in this group are related to financial independence from cruise ships. Only a third of the research participants noticed the

influence of cruises on themselves or their family, and the majority of positive responses highlighted work and the environment as areas of influence of cruises.

When the participants were given the option of an open answer on the subject of introducing changes, a third stated limiting the number of cruise ships in the Split area as a solution to the problems arising from cruise tourism. Other frequent answers related to the creation of new regulations in accordance with ecological standards, stricter control, the introduction of green tax and fines, planned waste management, redevelopment of the port or the construction of a special port for cruise ships that would be located further from the center of Split. However, even with an open answer, a fifth of respondents remained indifferent and did not make any suggestions, thus expressing that they are not interested in this topic or do not have enough knowledge about the issue to offer an opinion or solution.

The least number of survey participants felt that it was important to educate the public about the problems caused by cruise ships, which, based on the number of disinterested and indifferent responses recorded in this survey, proved necessary. Most of the residents of Split who participated in the research did not think that cruise tourism directly affects them or their environment in any way, and it is possible that for this reason a significant percentage of respondents did not think about the ecological consequences of cruise tourism or the ways in which cruise tourism can become more ecologically sustainable. It can be concluded that the surveyed citizens of Split have left the phase of euphoria caused by the emergence of a new form of tourism, and about one third of respondents have entered the phase of getting used to it, while about half to two thirds have entered the phase of concern about the changes happening in their immediate vicinity.

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