



## RELATIONSHIP BETWEEN SATISFACTION WITH TRANSPORT AND THE AMOUNT OF MONEY SPENT BY CRUISE SHIP PASSENGERS

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### Abstract

Since November 2022, acceptance of international cruises, stopped due to the impact of COVID-19, has resumed in Japan. As a result, in 2023, the number of international cruise calls in Japan showed signs of recovery and initiatives for the revival of cruising are being proceeding. In 2023, cruise ships also called at Kanazawa Port 47 times, recovering the number of port calls to nearly the number before COVID-19. As a result, many foreign and Japanese tourists visited Kanazawa city. In cruise tourism, passengers visit each port of call all together, so it is expected that each call will make a significant contribution to stimulating local tourism and economic activity. Therefore, the amount spent by cruise ship passengers on sightseeing at ports of call is an important source of income for the finances of local governments. The aim of this study is to clarify the factors that influence the amount of consumption with the aim of achieving sustainable development of cruise tourism in Kanazawa City. The author's research group conducted questionnaire surveys on tourism in Kanazawa City targeting cruise ship passengers who called at Kanazawa Port. Moreover, the target cruise ship was the MSC Bellissima, a large cruise ship with a capacity of 5568 passengers. From the results of the questionnaire, the influence on the amount of money spent by cruise ship passengers sightseeing in Kanazawa was clarified, and important knowledge was obtained for the future development of cruise tourism in Kanazawa City.

*Keywords: Cruise Ship, Kanazawa City, money spent, sightseeing*

### 1 Introduction

Since November 2022, the acceptance of international cruises, stopped due to the effects of COVID-19, has resumed in Japan. As a result, the number of cruise passengers visiting Japan increased from 0 in 2022 to 356,000, and the number of cruise ship calls to Japanese ports increased to 1,854, 2.5 times the number in 2022 [1]. As shown in Figure 1, the number of cruise ship calls to Kanazawa Port also recovered to 47 in 2023, close to the number of calls before the outbreak of COVID-19 [2]. Cruise tourism is expected to make a significant contribution to stimulating local tourism and economic activity, as passengers visit each port of call at the same time. In this situation, in 2023, JAPANET HOLDINGS Co.,Ltd. fully chartered the MSC Bellissima, a large passenger ship with a capacity of 5,568 passengers, and planned a 10-day cruise around Japan, which had a great impact even on people who had not experienced cruising before [3]. The ship also called at Kanazawa Port nine times, attracting a large number of tourists. A series of similar trips are planned by JAPANET from May 2024, and it is expected to have a significant impact on the tourism and economic activities of Kanazawa City with a very large number of passengers over the course of the year.

The author’s research group conducted a questionnaire survey of the nine port calls of the MSC Bellissima to the port of Kanazawa organised by JAPANET. The results of the questionnaire survey revealed the personal attributes of people travelling to Kanazawa by cruise ship, their level of satisfaction with Kanazawa sightseeing and the amount of money they spent on sightseeing at Kanazawa City. So, the aim of this study is to clarify the factors that influence the amount of money spent with the aim of achieving sustainable development of cruise tourism in Kanazawa City.

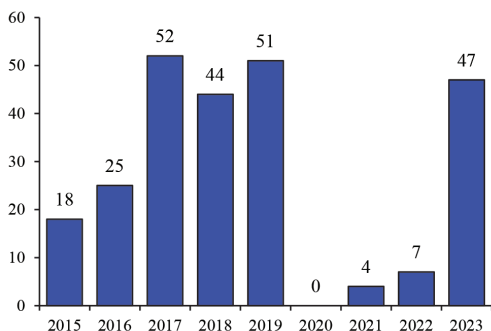


Figure 1 The number of times cruise ships call at the port of Kanazawa City

## Overview and basic results of the questionnaire survey

### 2.1 Overview of the questionnaire survey

Overview of the questionnaire survey is shown in Table 1. The questionnaire survey was conducted from May 2023 to November 2023, targeting cruise ship passengers who called at Kanazawa Port. The questionnaire survey items included personal attributes such as gender, age and annual income, as well as satisfaction with the cityscape, food, transport and tourist information in the sightseeing areas, and the intention to return to Kanazawa City and the amount of money spent on sightseeing in Kanazawa City. The ship targeted in the survey was the MSC Bellissima, chartered by JAPANET, with a total number of 1437 samples.

Table 1 Overview of the questionnaire survey

Survey date	May 2023 to November 2023
Target of the survey	MSC Bellissima
Survey method	Answered at Kanazawa Ports for passengers returning from sightseeing
Number of samples	May 20: 388
	August 29: 88
	September 3: 145
	October 3: 138
	October 12: 59
	October 21: 133
	October 30: 286
	November 8: 200
Main questions	Personal attributes Satisfaction level Amount of money spent Times of visit to Kanazawa

## 2.2 Basic results of the questionnaire survey

Table 2 shows the results of the individual attributes of the survey participants. First, the proportion of respondents in their 60s and 70s was approximately 40% each, and the small proportion of respondents in their 40s or younger indicates that the majority of cruise passengers are relatively elderly. The largest proportion of passengers with annual incomes of less than 3.5 million yen resulted in a large number of passengers with low incomes using the cruise services. The number of passengers who had visited Kanazawa City many times was very high, with 276 (approx. 23.9%) answering that it was their first time, and 418 (approx. 36.2%) having visited four or more times. The results of the basic tabulation of the passengers' attitudes towards revisiting Kanazawa City are shown in Figure-2. The degree of awareness of revisiting the city was answered on a five-point scale from "1: never to 5: definitely want to come back". A total of 39 passengers (approximately 3%) answered "1: Never" or "2: Never", and a total of 933 passengers (approximately 72%) answered "4: Want to" or "5: Definitely", indicating that a very large number of passengers want to visit Kanazawa City again. Next, Figure 3 shows the results of a five-point scale question on satisfaction with sightseeing in Kanazawa in terms of "townscape", "food", "souvenirs", "transportation" and "information". Figure 3 shows that there were few respondents who were dissatisfied with "townscape", "meals" and "souvenirs", and that many passengers were highly satisfied with their visit to Kanazawa. The result was that there were a relatively large number of dissatisfied passengers in the "Transportation" and "Information" categories, with 52 (approx. 6.2%) and 69 (approx. 7.2%) respondents respectively.

Finally, Figure 4 shows the total results for the amount of money spent. Figure 4 shows the total amount of money spent on sightseeing in Kanazawa. 165 passengers (approximately 15.3%) spent between 10,000 yen and 14,999 yen, followed by 100 passengers (approximately 9.3%) in the range of 15,000 yen to 19,999 yen. There were 439 passengers (approximately 40.7%) who spent more than 10,000 yen, giving a total spend per passenger of approximately 11,568 yen. The cruise ships targeted in this study have a capacity of over 4,000 passengers, and based on the above results, there is a possibility of significant economic effect for Kanazawa City.

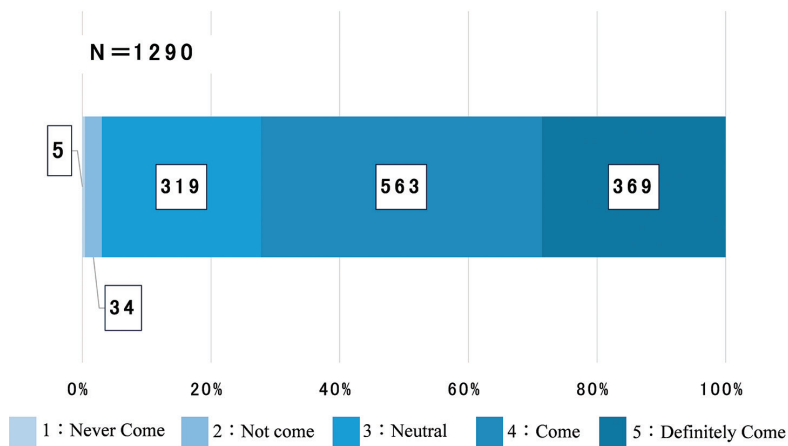
## 3 Analysis of impact factors on total amount of money spent

### 3.1 Overview of multiple regression analysis and variables used

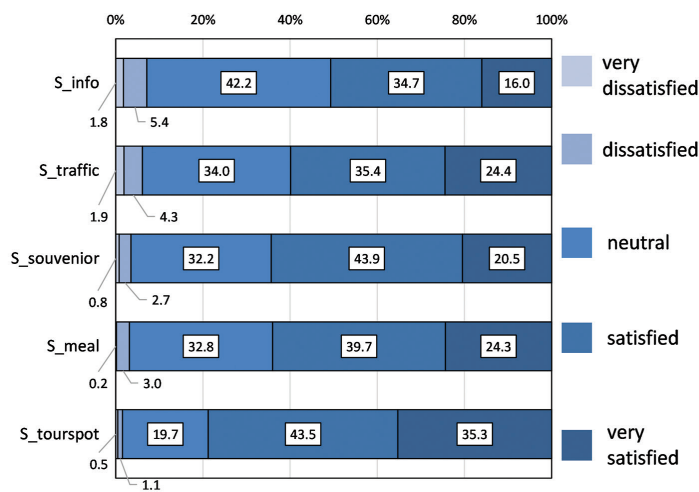
In this study, multiple regression analysis is used to clarify the factors influencing the size of the total amount of money spent by cruise ship passengers on tourism in Kanazawa, using a sample of 649 with no missing values, etc. In multiple regression analysis, the relationship between the objective variable and the explanatory variables is expressed by a multiple regression equation, enabling the calculation of predicted values and the contribution of the explanatory variables used in the relationship equation to the objective variable to be understood.

**Table 2** Basic aggregation results of the questionnaire survey

	Question	Number of answers	Percentage of answers [%]
Sex	Man	497	34.6
	Woman	939	65.4
Age	Under 39 years old	39	2.7
	40s	27	1.9
	50s	166	11.6
	60s	562	39.1
	70s	544	37.9
	80s	99	6.9



**Figure 2** Degree of awareness of revisiting Kanazawa City



**Figure 3** Satisfaction with Kanazawa tourism

The variables used in this analysis are shown in Table-3. The objective variable is the total amount of money spent on sightseeing in Kanazawa City. Based on the basic tabulation results of the questionnaire survey in Chapter 2, the explanatory variables were “age”, “number of people travelling”, “annual income”, “number of visits to Kanazawa”, “awareness of revisiting Kanazawa”, “satisfaction with places visited, meals, souvenirs, transportation and tourist information” and “tour participation or non-participation”. The annual income was defined as “In\_low” for “less than 5 million yen”, “In\_mid” for “5-10 million yen”, “In\_high” for “10 million yen or more” and “In\_pension” for “pension”.

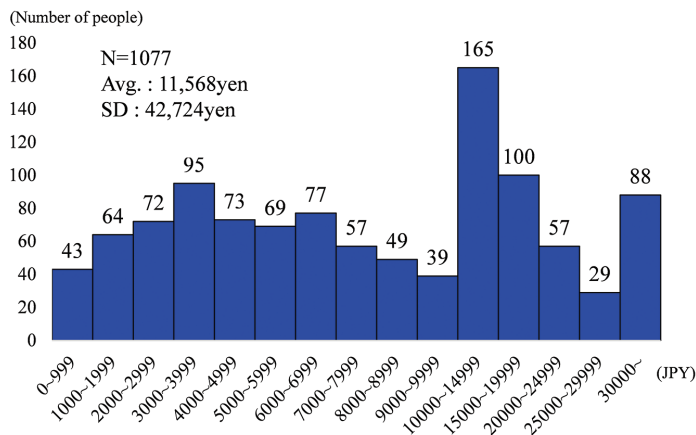


Figure 4 Amount of money spent on Kanazawa sightseeing

Table 3 Table of variables used in this analysis.

Category of variables	Variables	Example data
Explanatory variables	Age	20
	Number of passengers	3 people
	Numbers of visits to Kanazawa	2 times
	Revisiting Kanazawa	1: never come ~ 5: definitely come
	Optional tour	0: non-participation, 1: participation
	Satisfaction with visited place	
	Satisfaction with souvenir	1: very dissatisfied
	Satisfaction with transportation	~
	Satisfaction with information	5: very satisfied
	Annual income_mid	
	Annual income_low	
	Annual income_pension	0: non-applicable, 1: applicable
	Annual income_high	
Objective Variable	Total amount of money spent	2,000 JPY
Number of samples	649	

### 3.2 Results of analysis

The results obtained by multiple regression analysis are shown in Table-4. Only the variables selected by forward-backward stepwise are shown here. As a result of the large and small standardised regression coefficients, it is clear that ‘Satisfaction of transportation’ has a significant impact on the total amount of money spent. It is considered that the time restriction of cruise tours, where sightseeing takes place during the day from 8:00 to 15:00, has an influence on the total amount of money spent. It is considered that the time restriction of cruise tours, where sightseeing takes place during the day from 8:00 to 15:00, has an influence on the total amount spent. Therefore, it is considered that passengers who increase their satisfaction with transportation and shorten their travel time by using taxis, etc., have a positive impact on the total amount spent. In addition, the distance from Kanazawa Port to the centre of Kanazawa City is 9 km, and it takes more than 30 minutes by bus, so increasing passenger satisfaction with transport may increase the total amount spent.

Next, the number of visits to Kanazawa had a negative impact on the total amount spent, while the awareness of revisiting Kanazawa had a positive impact. It means that the more frequent the passengers visited Kanazawa, the lower the total amount of money spent, and the stronger the passengers’ awareness of revisiting Kanazawa, the higher the total amount of money spent. Based on the results of Chapter 3, the cruise ship passengers targeted in this study were also repeat visitors to Kanazawa City, and there were many passengers with a strong awareness of revisiting Kanazawa City.

## 4 Conclusions and future issues

In this study, a questionnaire survey was conducted on cruise ship passengers who called at Kanazawa Port on cruise trips organised by JAPANET, and the factors influencing the total amount spent were analysed. The results of the basic results showed that more than 80% of the cruise ship passengers were in their 60s or older, and that many of them were repeat visitors to Kanazawa City. Moreover, although satisfaction with Kanazawa tourism was high in all aspects, a relatively high number of passengers were dissatisfied with “transportation” and “information”. The highest number of passengers spent between 10000 yen and 14999 yen in total, with the average value exceeding 10000 yen, indicating that the cruise ship calls can be expected to have a significant economic impact on Kanazawa.

The results of multiple regression analysis suggest that in order to increase the total amount spent, it is necessary to increase the satisfaction of passengers with the transport system and ensure that repeat visitors do not become bored with it.

As a future work, it is necessary to conduct a similar survey in 2024 to conduct a more detailed analysis. It would also be possible to understand the characteristics of Kanazawa tourism in more detail by ascertaining whether similar trends in consumption are observed at other ports of call.

**Table 4** Results of analysis

<b>Variables</b>	<b>Partial regression coefficient</b>	<b>Standard error</b>	<b>Standardized partial regression coefficient</b>			
Age	281.3146	81.0582	0.1378			
Number of visits to Kanazawa	-1463.1350	470.6327	-0.1204			
Revisiting Kanazawa	2504.2754	930.1546	0.1030			
Satisfaction with meal	924.8740	538.9305	0.0680			
Satisfaction with souvenir	1367.0967	582.6281	0.0927			
Satisfaction with transportation	1722.7299	421.0075	0.1749			
Satisfaction with information	-1062.2628	485.6557	-0.0951			
Annual income_Low	-6393.1051	1725.3290	-0.1685			
Annual income_pension	-9317.1072	2194.5199	-0.1964			
Contant term	-15432.0734	6938.7355				
<i>*p &lt; 0.05, **p &lt; 0.01, R<sup>2</sup> = 0.11</i>						
<b>Variables</b>	<b>Lower Limit</b>	<b>Upper Limit</b>	<b>F value</b>	<b>I value</b>	<b>P value</b>	
Age	122.1420	440.4872	12.0446	3.4703	P < 0.001	**
Number of visits to Kanazawa	-2387.3086	-538.9615	9.6651	-3.1089	0.0020	**
Revisiting Kanazawa	677.7463	4330.8045	7.2486	2.6923	0.0073	**
Satisfaction with meal	-133.4149	1983.1628	2.9451	1.7161	0.0866	
Satisfaction with souvenir	222.9996	2511.1938	5.5057	2.3464	0.0193	*
Satisfaction with transportation	896.0045	2549.4553	16.7438	4.0919	P < 0.001	**
Satisfaction with information	-2015.9368	-108.5889	4.7842	-2.1873	0.0291	*
Annual income_Low	-9781.1049	-3005.1052	13.7303	-3.7054	P < 0.001	**
Annual income_pension	-13626.4495	-5007.7649	18.0253	-4.2456	P < 0.001	**
Contant term	29057.5530	-1806.5939	4.9464	-2.2240	0.0265	*
<i>*p &lt; 0.05, **p &lt; 0.01, R<sup>2</sup> = 0.11</i>						

## References

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