



The Relationship between Socio-Demographic Characteristics and Snorkeling Satisfaction in Pulau Payar Marine Park, Kedah

¹Nurbaidura Salim, Badaruddin Mohamed

Sustainable Tourism Research Cluster

11800 Universiti Sains Malaysia, Penang, Malaysia.

¹Email: baidura88@gmail.com

History:

Received: 19 August 2014

Accepted: 10 October 2014

Available Online: 30 October 2014

Keywords:

Socio-demographic characteristics, snorkeling, visitor satisfaction, Marine Park

ABSTRACT

Due to its popularity and lucrative business opportunity, snorkeling has become the predominant activity in many marine parks. Continuous growth in the number of tourists and mass tourism has resulted in uncontrolled number of tourists, sometimes to pass over the carrying capacity of the site. Due to the lack of control and enforcement, many tour boat operators are seen bringing snorkelers to small fragile sites at the same timeframe. Such situation has resulted in reduced quality of tourist experience and satisfaction level as they need to cram in with others at the designated snorkeling areas. This study analyzes the influence of tourist demographic profile on the satisfaction level with snorkeling experience in the Pulau Payar Marine Park, a small coral island in Malaysia. A total of 259 snorkelers answered the survey that forms the basis of this paper. The results tested using t-tests and ANOVA, show significant differences between satisfaction level and respondents' socio-demographic characteristics. Findings of the study indicated that only origin and education level positively associated with visitor satisfaction. Several issues, such as limiting the numbers of boats to be allowed at the site and facilities management such as toilets, changing rooms and solid waste management were among issues need to be considered by the Marine Park Department, in order to protect the island and its sustainability. This study highlights the importance of site management, in environmentally sensitive areas, for marine park managers and tour operators toward developing strategic marketing mixes for the different market segments.

1. Introduction

Malaysia had recorded a remarkable achievement in tourism when the sector performed above expectations in 2013, with tourist receipts of RM65.44 billion exceeding the initial target of RM65 billion. Meanwhile, tourist arrivals grew by 2.7% to 25.7 million arrivals compared to 25.0 million arrivals in 2012 (Abd. Rahim & Ramli, 2014). Apart from other tourism attractions in Malaysia, Malaysia is indeed blessed with idyllic islands that shelter various marine lives and coral reefs. Realizing these natural resources may contribute to the economic potential, Malaysian government initiates in promoting marine tourism activities such as snorkeling and diving during Malaysia Domestic Tourism Fair 2009. The lucrative and profit-making business derived from the snorkeling has led the activity to be highly promoted among the tourists to the Malaysia's marine parks. Research done by Hasnan and Ibrahim (2012) in Pulau Payar revealed that snorkeling is the most participated activity at the park (79.2 %).

Tourism, however has a double sword effect. Concerted efforts and promotions to visit Marine Parks in Malaysia had boost tourism economic and recreational activities (such as diving and snorkeling) in island destinations. However, as the popularity of snorkeling and diving increases, it becomes even more important to maintain a balance between the use and conservation of marine resources. In addition, the level of tourism development at the marine parks is very encouraging.

As marine parks in Malaysia do not restrict the number of tourist arrivals to the parks, such regarded values such as interaction with the nature are threaten and resulted in the environmental impacts. For instance, much of the corals in Pulau Payar deteriorate due to the overwhelming presence of tourists, as the travel operators allowed between 600 and 700 tourists on the island at one time (Kaur, n.d). Such situation reduces the quality of Marine Park's ecosystem and thus, affecting visitor satisfaction.

In managing a tourism destination, maximizing tourist satisfaction is crucial to encourage repeat visitation. Understanding visitor satisfaction allows managers and service providers to provide facilities and services that match with visitor expectations while at the same time, ensuring that visitors are satisfied with the experience they perceived. In the context of national parks and marine park settings, visitors are oftentimes looking for recreational opportunities and experience that suit their preferences. Thus, a sound understanding of the factors influencing visitor satisfaction would assist marine park managers to develop useful strategies to maximize both profitability and visitor satisfaction. The concept of satisfaction has been the focus in a number of studies in the national parks and marine parks (Hanim, Salleh, & Othman, 2010; Moscardo, 2001; Njeri, 2013; Tonge & Moore, 2007). Research conducted by Topelko (2007) in Koh Chang National Park, Thailand revealed that snorkelers were dissatisfied with some

environmental aspects include variety of fish and corals, service conditions (number of boats and snorkelers, safety information, variety of snorkeling trips available). Only 23 % were satisfied with the overall snorkeling trip at the park. A research carried out by Salleh et al., (2012) on Tioman Island Marine Park indicate that although tourists were satisfied with all environmental service quality offered at the marine park, their satisfaction level were relatively low due to their high expectation as compared to what they had experience during their earlier visits.

Based on the previous empirical studies, major influencing factors that related to the satisfaction with snorkeling experience include quality of natural environment (Coghlan, 2012; Moscardo, 2001), abundance of reef fish (Lim, 1997; Moscardo, 2001), size of coral (Moscardo, 2001; Moscardo & Saltzer, 2005; Topelko, 2007), interaction with wildlife (Banyai, 2012), quality of service and staffs (Coghlan, 2012), information on marine environment (Lim, 1997), weather (Moscardo, 2001) and finally, socio-demographic characteristics such as origin (Shahrivar, 2012; Spinks, Lawley, & Richins, 2005), education level, gender and age (Shahrivar, 2012). Of these influencing factors, visitor characteristics are commonly used as a basis for segmenting the market and developing marketing strategies. It is crucial for tourism managers to understand the relationship between socio-demographic characteristics and satisfaction. There is a wide range of socio-demographic variables and other factors that produce a significant and consistent relationship with visitor satisfaction (Perovic, Stanovic, Moric, & Pekovic, 2012; Weiler & Ham, 2004). This study analyzes the influence of socio-demographic characteristics and satisfaction with snorkeling experience. This paper adds to the body of knowledge on visitor satisfaction with snorkeling experience by reviewing the previous research on satisfaction with marine experience in marine park setting.

2. Individual Visitor Characteristics

Among other factors influencing satisfaction, variables of individual visitor characteristics have been found to influence visitor satisfaction in a destination. According to Weiler and Ham (2004), past travel experience and socio-demographic profiles such as nationality, age, gender, income and education level are highly associated indifference with satisfaction levels. Huh (2002) on the other hand, argued that significant difference only occurred between satisfaction and gender, by explaining that females expressed higher satisfaction level than males. There was no significance difference of satisfaction with age, nationality, education level and total household income. Despite of such arguments, many studies (Nowacki, 2013; Perovic et al., 2012; Spinks et al., 2005; Yu & Goulden, 2006) have proven these characteristics do influence visitor satisfaction in tourist destination. The concept between different cultural background or nationality and its influence on satisfaction is quite simple. For instance, visitors from Middle East might have different expectations compared to those from Australia. Different cultural background leads to different expectations and satisfaction levels. Spinks et al., (2005) in his findings also explained significant differences between visitor characteristics (age, gender and country of origin) and visitor satisfaction. Although these variables seem unimportant, slight changes on the variables might affect tourist satisfaction level. Based on the literature review, some theoretical rationales have been formed to predict which socio-demographic characteristics associate with visitor satisfaction in relation to this paper. The primary variables of visitor socio-demographic characteristics are age, gender, past travel experience, country of origin, tourist's wage and education level. We proposed the six following hypotheses:

2.1 Age and Gender

Njeri (2013) revealed that there is a significant difference between age group and visitor satisfaction to Ol Pejeta Conservancy (OPC) in Laikipia, Kenya. He indicated that age group between 18-25 years old recorded the least satisfaction level than other age groups. Results on satisfaction level vary accordingly to the type of study conducted by the researchers. In a study of visitor satisfaction to the Sunshine Coast attraction, female respondents perceived higher satisfaction level compared to male respondents (Spinks et al., 2005). As suggested by Perovic et al., (2012), visitor satisfaction does not influence by gender. Likewise, findings by Weiler and Ham (2004) revealed that age, gender and income do not vary significantly with visitor satisfaction. On the basis of the previous findings, this paper hypothesizes that visitor satisfaction with snorkeling experience does not vary significantly by gender.

Hypothesis 1: There will be a significant difference in satisfaction level between male and female visitors.

Hypothesis 2: There will be a significant difference in satisfaction level between visitors of different age groups.

2.2 Past travel experience

Previous travel experience is a pervasive individual attribute that can influence tourist's consumption process including post-purchase evaluation of satisfaction. The concept is relatively simple. For instance, the way visitors store their memories of the past experiences (visits) and perceptions, and integrate these responses with the current situation indicates that the satisfaction would be influenced by the cognition of previous experiences. Visitors may learn to expect a certain standard of performance of the said product, which if not fulfill or receive, might result in a disconfirmation and dissatisfaction (Ryan, 1995). Previous study by Pierce and Moscardo (1998) revealed that satisfied tourists tend to be repeat visitors, indicating that previous experience of an attraction led to increased visitor satisfaction. Contradict to the research by Moscardo (2001) revealed that visitors who have visited Great Barrier Reef before reported lower satisfaction level. Thus, a hypothesis is proposed to examine the relationship between these two variables.

Hypothesis 3: There will be a difference in satisfaction level between visitors based on the number of visits to Pulau Payar Marine Park (PPMP) as satisfaction level increasing with the number of visits to the park.

2.3 Origin

Most of the studies have attempted to analyze differences in destination images derived from the cultural factors. Differences in cultural background, social class, attitudes and behavior may influence tourist perception and satisfaction. A study conducted by Yu and Goulden (2006) identified that there is no significant different in overall satisfaction in terms of country of origin. However, their findings contradicted with the findings by Spinks et al., (2005) which recorded positive relationship between visitor satisfaction and origin. Another research by Topelko on visitor satisfaction with snorkeling environment and experience in Koh Chang Marine Park, Thailand indicated that Non-Thai snorkelers are more satisfied compared to Thai snorkelers. Thus, a hypothesis is proposed to examine the relationship between these two variables.

Hypothesis 4: There is a difference in satisfaction level between visitors of different origins, with local visitor experience more satisfaction than foreign visitor.

2.4 Wage

Different social class of an individual can also influence his or her expectations and perceptions. For example, tourists with higher income level and from higher socio-economic groups are likely to have higher expectations while visiting a tourist destination (Kozak & Rimmington, 2000). They might consider their vacation to be luxury consumption, thus, the service or quality that they expected should be worth with the amount they paid. Perovic et al., (2012) found positive and significant relationship between the level of income and tourist satisfaction in Montenegro. However, Weiler and Ham (2004) reported no significant relationship between income and satisfaction level among visitors to Panama Canal Watershed. Based on this argument, a hypothesis is formulated to examine its relationship in this paper.

Hypothesis 5: The tourist's wage is positively associated with visitor satisfaction

2.5 Education level

Despite social class, education level is also important to tourist satisfaction. As an individual has higher education level, he or she might have higher expectations of the purchased products. For example, a degree holder who has knowledge about marine lives might have a different expectation from those who does not have insight of marine lives. According to Kozak and Rimmington (2000), different education background influence tourist expectations and satisfaction level. Thus, this study proposed a hypothesis as below:

Hypothesis 6: There is a significant difference between the level of education and visitor satisfaction with snorkeling experience

3. Methodology

3.1 Sample Size

This study is a quantitative research involving snorkelers to Pulau Payar Marine Park (PPMP) as the targeted respondents. Sampling technique of this study uses convenience sampling and sampling size is determined based on tourist arrivals to Pulau Payar in year 2012. Based on simplified formula for the proportion formulated by Yamane in Israel (2009), to calculate the sample size, this study employs the formula as below:

$$n = \frac{N}{1 + N(e)^2}$$

n : sample size; N : population size. Population size is based on tourist arrivals to PPMP in year 2012 (refer to Table 1), e : 5% margin of error (0.05), where e is the range in which the true value of the population estimated to be.

Table 1: Tourist Arrivals to Pulau Payar Marine Park (PPMP) 2012

Year	Category of tourist		Total
	Local	International	
2012	38, 294 (32%)	80, 402 (68%)	118, 696

By assuming a 95% confidence of level and $P=0.5$, the number of respondents are 400.

3.2 Data Collection Technique

We used a self-administered questionnaire for this study and questionnaire was adapted from Moscardo and Saltzer (2005), Topelko (2007) and Yeh (2008). The survey instrument consists of socio-demographic profiles (gender, age, country of origin), visit characteristics, importance of and satisfaction level of their snorkeling experience, using closed questions. Open-ended questions were used to examine the most and least enjoyable experience. For both importance and satisfaction segments, 7-Likert scales are used ranged from 'not important at all' to 'extremely important' and 'strongly disagree' to 'strongly agree'. A pilot study on 30 respondents was conducted on October 2013, to test and to refine the questions before proper survey was conducted. According to Pallant (2005), the most ideal Cronbach alpha coefficient of a scale should be above 0.7. In the current study, Cronbach alpha coefficient was 0.912, thus, reliable for the sample size.

The real survey was conducted on December 2013. Since the trip to Pulau Payar is a one-day trip and no visitor is allowed to stay overnight at the island, three enumerators were appointed to help the researcher to conduct the survey. Enumerators were chosen among tourism students who are pursuing Master degree and they were given a simple briefing on how to conduct the survey. The survey started during or after lunch hour to give ample time for the potential respondents first to enjoy their snorkeling activity. The enumerators (including researcher) were placed into three different areas; (1) Coral Pontoon area, (2) the Marine Park Centre area and (3) the beach area, to avoid surveying the same respondents.

For the real survey, the questionnaire forms were prepared in Malay, English and Mandarin version. The questionnaires were distributed on-site to the snorkelers encountered in the Marine Park. Respondents were approached via face-to-face and being asked if they would like to participate in the questionnaire survey. The participation of the survey was on voluntarily basis and objectives of the study were explained before a set of questionnaire was handed to them. Although there were several questionnaire sets in Mandarin version, there were some Chinese that have difficulties to understand the language since it is different from their native language. To overcome this matter, the researcher asked for a local tour guide to distribute and explain each of the questions to the respondents. The duration to answer all questions in the questionnaire took about 10-15 minutes, and enumerators are required to be close to the respondents if they needed assistance in answering any of the questions.

3.3 Data Analysis Technique

An evaluation of the relationship between socio-demographic characteristics and snorkeling satisfaction is done on the following elements:

- *Respondents' profile*
- *T-test.* Independent samples t-test is employed to compare the mean scores between gender and satisfaction. This test is conducted to test if there is a significant difference in the mean score of satisfaction for both male and female.
- *ANOVA.* One-way analysis of variance (ANOVA) is also employed in this research to compare the mean scores of more than two groups which in this study would be age group, origin, income, education level and past travel experience

4. Results

Out of 400 questionnaires distributed, only 259 questionnaires were completed with 67 % response rate. Looking at the frequency of visits to the marine park, the majority of the respondents are first-timers (81.1 %) while 49 respondents had visited the park twice (9.7 %) and more than three times (9.3 %). Visitors to Pulau Payar Marine Park were divided by gender with male made up 58.6 % (142 respondents) while female contributed 43.2 % (112 respondents) of the total respondents. The range of age of the respondents was from 20 years old until 64 years old. Snorkelers aged between 20-29 years old made up 48.6 % of the total respondents while the oldest age group recorded the lowest percentage (7.7 %) of the total respondents. The remaining respondents (112 respondents) were snorkelers aged between 30 years old until 49 years old with 43.6 %. With regards to individual wage, the majority of the respondents have modest incomes which lower than RM 5,000 (45.2 %). Those who received income between 'RM 5,001-RM 10,000' and 'RM 10,001-RM 25,000' constitute 13.1 % (34 respondents) and 10.4 % (27 respondents) respectively. Only ten respondents (3.9 %) generated more than RM 25,000 per month.

Table 1: Socio-demographic profile of respondents

Respondents	Profile	Frequency	Percentage (%)
Gender	Male	147	56.8
	Female	112	43.2
Age	20-29	126	48.6
	30-39	76	29.3
	40-49	37	14.3
	50 and above	20	7.7
Past travel experience	Yes (first-time visitor)	210	81.1
	2 times	25	9.7
	> 3 times	24	9.3
Income	< RM 3,000	60	23.2
	RM 3,000 -5,000	57	22.0
	RM 5,001-10,000	34	13.1
	RM 10,001-25,000	27	10.4
	> RM 25,000	10	3.9
Origin	Malaysia	146	56.4
	Asia	66	25.5
	Europe	15	5.8
	North America	9	3.5
	Australia	23	8.9
Education level	High school	55	21.2
	Certificate/diploma	55	21.2
	Degree holder	131	50.6
	Others	18	6.9

Local visitors made up the highest respondents engaging in snorkeling activity in Pulau Payar Marine Park (56.4 % or 146 respondents) while the other 43.7 % (113 respondents) are international visitors from Asia (25.5%), Europe (5.8%), North America (3.5%) and Australia (8.9%). Generally, 71.8 % or 185 respondents of the respondents are highly

educated and received tertiary education.

4.1 The Relationship between Socio-Demographic Characteristics and Visitor Satisfaction

(a) Age

Hypothesis 1: There will be a difference in satisfaction level between visitors of different age groups.

Table 2 Mean satisfaction for age group

Age group	N	Mean	Std. Deviation
20-29	126	4.94	1.530
30-39	76	4.80	1.395
40-49	37	5.03	1.500
50 and above	20	4.50	1.732
Total	259	4.88	1.501

Table 3 ANOVA test for difference between different age group and satisfaction with snorkelling experience

	Sum of Squares	Mean Square	F	Sig.
Between Groups	4.691	1.564	.691	.558
Within Groups	574.584	2.262		
Total	579.275			

As shown in Table 2, the most satisfied age group were '40-49' who also had the lowest standard deviation (mean = 5.03, SD = 1.5) while the oldest age group recorded the least mean satisfaction and with a slightly higher standard deviation than other age groups (mean = 4.5, SD = 1.73). Age group 20-29 became the largest surveyed group since most of them visit the marine park with their friends and colleagues.

A one-way between-groups analysis of variance was conducted to identify the influence of age on visitor satisfaction with snorkeling experience. Respondents were divided into four groups according to their age (Group 1: 20-29; Group 2: 30-39; Group 3: 40-49; Group 4: 50 and above).

The result appears to be similar a study carried out by Musa (2002) on diver satisfaction indicating that age groups do not positively associated with visitor satisfaction. The result of a one-way ANOVA in Table 3 partially did not support the propose hypothesis as there is no significance difference in satisfaction between visitors of different age groups. The actual difference in mean scores between the groups was quite small. The effect size, calculated using eta squared was 0.008, which in Cohen's (1988) term would be considered as a small effect.

(b) Gender

Hypothesis 2: There will be a significant difference in satisfaction level between male and female visitors.

Table 4 T-test for difference in satisfaction between gender

Gender	N	* Mean	Standard deviation
Male	147	4.99	1.404
Female	112	4.74	1.616

t = 1.314 (Sig. = 0.071, p > 0.05) Sig. (2-tailed) = 0.190.

Mean scores are based on a 1-7 scale, with categories 1= strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5= somewhat agree, 6= agree and 7= strongly agree. Answers given in response to the statement "On a scale of 1-7, I feel satisfied with the whole snorkeling trip".

Table 4 shows that the result does not support hypothesis 3. A t-test indicated that the value of sig.(2-tailed) is higher than 0.05. Thus, there is not a statistically significant difference in satisfaction level between males and females snorkelers. Contrary to the other studies (Musa, 2002; Spinks et al., 2005; Yeh, 2008) that have reported higher satisfaction level for different gender, no such differences emerged in this study.

(c) Past travel experience

Hypothesis 3: There will be a difference in satisfaction level between visitors based on the number of visits to Pulau Payar Marine Park (PPMP) as satisfaction level increasing with the number of visits to the park.

Table 5 Mean satisfaction for number of visit to PPMP

Number of visit	N	Mean	Std. Deviation
First visit	210	4.89	1.521
Second visit	25	5.00	1.581
> 3 times	24	4.71	1.268
Total	259	4.88	1.501

Table 6 ANOVA test for difference between number of visits and snorkeling satisfaction

	Sum of Squares	Mean Square	F	Sig.
Between Groups	1.073	.536	.237	.790
Within Groups	578.202	2.267		
Total	579.275			

Based on Table 5, most of the respondents were first-time visitors with mean satisfaction of. 4.89. However, those who visited the Marine Park for the second time appeared to be most satisfied with highest mean satisfaction (mean = 5.00). A one way ANOVA revealed no significant difference in mean satisfaction based on the number of visits to Pulau Payar Marine Park, thus, indicating that previous experience did not significantly change the level of snorkeling satisfaction. Satisfaction was high, regardless of the number of visits, as indicated in Table 5. However, satisfaction appears to decrease after the third visit. Result of this hypothesis is similar to the findings by Musa (2002) and Spinks et al. (2005).

(d) Origin

Hypothesis 4: There is a difference in satisfaction level between visitors of different origins.

Table 7 Mean satisfaction for different origin groups

Type of origin	N	Mean	Std. Deviation
Malaysia	146	5.01	1.441
Asia	66	4.83	1.527
Europe	15	5.20	1.082
North America	9	5.11	1.364
Australia	23	3.91	1.807
Total	259	4.88	1.501

*Mean scores are based on a 1-7 scale, with the categories 1= 'strongly disagree', 2 = 'disagree', 3 = 'somewhat disagree', 4 = 'neither agree nor disagree', 5 = 'somewhat agree', 6 = 'agree' and 7= strongly agree'. Answers given in response to the statement "I feel satisfied with the whole snorkeling trip"

Table 8 ANOVA test for difference between visitors of different origin and satisfaction with snorkeling experience

	Sum of Squares	Mean Square	F	Sig.
Between Groups	26.029	6.507	2.976	.020
Within Groups	553.247	2.187		
Total	579.275			

Based on Table 7, mean satisfaction for visitors from Europe is the highest than other origin groups and had the lowest standard deviation (mean = 5.20, SD = 1.082), followed by North America with 5.11 mean score and 1.364 standard deviation. The largest group surveyed was visitors from Malaysia with slightly higher mean satisfaction which is 5.01. Australians constituted the lowest mean score but highest standard deviation with 3.91 and 1.807 respectively. A one-way ANOVA was conducted to examine whether the different of visitor origin significantly associated with the level of snorkeling satisfaction. As indicated in Table 3, the result supports hypothesis 4 that different types of visitor origin influence their satisfaction level. An analysis of one-way ANOVA indicated that Sig. value is less than .05 (p < .05; p = .020), then there is a significant difference between visitors of different origin and their satisfaction with snorkeling experience. This study is similar to what had been done by Moscardo (2001) and Spinks et.al (2005) indicating that visitor's origin positively associated with satisfaction level. Each visitor with different cultural background has their own expectations and satisfaction level. Despite reaching statistical significance, actual difference in mean scores between the groups was a small effect. Based on the eta squared, the effect size was .04. Post-hoc comparisons using Tukey test indicated that the mean score for visitors from Malaysia (mean = 5.01, SD = 1.44) was significantly different from visitors from Australia (mean = 3.91, SD = 1.807).

(e) *Wage*

Hypothesis 5: The tourist's wage is positively associated with visitor satisfaction

Table 9 Mean satisfaction for different income group

Income group	N	Mean	Std. Deviation
< RM 3,000	60	5.03	1.518
RM 3,000 - RM 5,000	57	5.00	1.323
RM 5,001 - RM 10,000	34	4.53	1.522
RM 10,001 - RM 25,000	27	4.62	1.359
> RM 25,000	10	4.10	1.912
Total	187 *	4.82	1.472

Table 10 ANOVA test for difference between different income group and satisfaction with snorkeling experience

	Sum of Squares	Mean Square	F	Sig.
Between Groups	13.719	3.430	1.603	.175
Within Groups	389.458	2.140		
Total	403.176			

Table 10 shows that the results does not support hypothesis 5 that tourist's income is not statistically associated with snorkeling satisfaction. An analysis of one-way ANOVA revealed that Sig. value is more than .05 ($p < .05$; $p = .175$), indicating no significant difference between income of tourist and visitor satisfaction with snorkeling experience.

(f) *Education level*

Hypothesis 6: There is a significant difference between the level of education and visitor satisfaction with snorkeling experience

Table 11 Mean satisfaction for the level of education

Education level	N	Mean	Std. Deviation
Secondary	55	5.27	1.407
Certificate/ diploma	55	5.05	1.283
Degree	131	4.76	1.559
Others	18	4.00	1.609
Total	259	4.88	1.501

Based on Table 11, mean satisfaction is the highest at 'Secondary' group (mean =5.34, SD = 1.386) while 'Others' group indicated the lowest mean satisfaction with mean= 4.00 and SD = 1.609. Others were those pursue higher degree level such Master and Doctorate. Results from Table 12 indicate that hypothesis 5 is accepted where there is a

significant difference between education level and visitor satisfaction with snorkeling experience ($p < .05$; $p = .009$). The actual difference between the groups showed a medium effect as the effect size, as calculated using eta squared, was 0.05. Post-hoc comparisons using Tukey test indicated that the mean scores for Group 2: Secondary (mean = 5.27, SD = 1.407) was significant different from Group 5: Others (mean = 4.00, SD = 1.609).

Table 12 ANOVA test for difference between level of education and satisfaction with snorkeling experience

	Sum of Squares	Mean Square	F	Sig.
Between Groups	25.922	8.641	3.966	.009
Within Groups	533.353	2.179		
Total	579.275			

5. Discussion and Conclusion

This study sought to tackle on the question of 'How do socio-demographic characteristics associated with the snorkeling satisfaction?'. By looking at the socio-demographic profile of respondents, there was variation in the sample with respect to age, gender, education level, respondents' wage and country of origin. This study shows that the individual characteristic of origin and education level had a significant relationship with snorkeling satisfaction in Pulau Payar Marine Park. Based on Table 7, total mean satisfaction with snorkeling experience is 4.88 which recorded that all respondents are somewhat agree that they were satisfied with their whole snorkeling trip in Pulau Payar Marine Park (PPMP). With Europeans constituted the highest mean score ($M = 5.20$), it means that they agreed that they did feel satisfy during their snorkeling trip. Malaysians also constitute a positive reaction as their mean score approaching 'somewhat agree' in satisfaction with snorkeling experience in Pulau Payar. However, satisfaction level with Australians contradicted at mean score 3.91 which explained they were dissatisfied with snorkeling experience at the Marine Park. Result of the analysis is consistent with other study conducted on snorkelers in the marine settings (Topelko, 2007). With regards to education level, there is significant different in satisfaction level with snorkeling experience. Respondents with 'Secondary' educational background reported highest satisfaction mean ($M = 5.27$, $p = .009$) compared to other group of respondents.

In practical terms, the finding of a significant difference between different origins and satisfaction supports the need for tourism operators and marine park managers to continue to market to this important segment, and further develop strategies to encourage repeat visitation to Pulau Payar Marine Park. With international visitors only comprising 42 % of the sample, there appears to be an opportunity for increased market growth from this segment. In addition, findings from the survey indicated several matters that lead to dissatisfaction with snorkeling experience in the tiny island. Among others are cleanliness of the toilets, crowdedness, no clean water and unsatisfactory food package. The number of toilets or changing rooms provided are not sufficient to cater the increased of tourists as they need to long queue to get change. No fresh water were provided, beach dirtiness and bad maintenance of the basic infrastructures (no key locks on the toilet or changing rooms) indirectly affecting snorkeling satisfaction in Pulau Payar. Suggestions

have been raised up by the visitors to limit the number of boats and visitors to the park in the future and increased the marine park fee to provide good maintenance to the public facilities (toilets, pedestrian pathways and interpretive signs) and preserving natural environment. Since this paper only focuses on the influence of individual visitor characteristics on satisfaction, an analysis regarding factors of satisfactory snorkeling experience is not being discussed.

Looking at the relationship between individual visitor characteristics and satisfaction with snorkeling experience, a major finding from this paper is that satisfaction level is statistically related to only three of the five variables (country of origin, wage and education level). In particular, an analysis of trip characteristics (past travel experience and group type, group size) and satisfaction level with snorkeling experience has not yet been studied. An empirical study should be done to see whether these variables influence visitor satisfaction, particularly, in the context of snorkeling experience. This study assists the management of tourist attractions especially the marine park management to different mix of marketing for different demographic and geographic segments in their market. However, tourism marketing should be regarded in a sustainable manner to ensure longevity of the natural resources. Otherwise, the rich source of marine lives in marine parks in Malaysia might be loose its golden eggs.

Acknowledgement

The funding for this project was made possible through the research grant obtained from the Ministry of Higher Education, Malaysia under the Long Term Research Grant Scheme 2011 [LRGS grant no: JPT.S (BPKI)2000/09/01/015]ld.4(67)].

References

- Banyai, M. (2012). *Assessing visitors' satisfaction at Parks Canada Sites*. (Doctor of Philosophy PhD), University of Waterloo, Ontario.
- Coghlan, A. (2012). Facilitating reef tourism management through an innovative importance-performance analysis method. *Tourism Management*, 33(4), 767-775. doi: <http://dx.doi.org/10.1016/j.tourman.2011.08.010>
- Hanim, N., Salleh, M., & Othman, R. (2010). Importance-Satisfaction Analysis for Tioman Island Marine Park. <http://mpru.ab.uni-muenchen.de/22679/>
- Huh, J. (2002). *Tourist Satisfaction with Cultural/Heritage Sites: The Virginia Historic Triangle*. (Master of Science in Hospitality and Management Master), State University, Virginia.
- Israel, G. D. (2009). Determining sample size. 1-5. <http://edis.ifas.ufl.edu/pd006>
- Kozak, M., & Rimmington, M. (2000). Tourist satisfaction with Mallorca, Spain as an off-season holiday destination. *Journal of Travel Research*, 38, 260-269. doi: 10.1177/004728750003800308
- Lim, L. C. (1997). *Carrying Capacity Assessment of Pulau Payar Marine Park*. Paper presented at the Integrated Coastal Management Alor Setar.
- Moscardo, G. (2001). Understanding visitor wildlife interactions : factors influencing satisfaction (pp. 1-11). Queensland: James Cook University.
- Moscardo, G., & Saltzer, R. (2005). Understanding Tourism Wildlife Interactions In C. Cooper, T. D. Lacy & L. Jago (Eds.), (pp. 36): Sustainable Tourism Cooperative Research.
- Musa, G. (2002). Sipadan: a SCUBA-diving paradise: an analysis of tourism impact, diver satisfaction and tourism management. *Tourism Geographies*, 4(2), 195-209. doi: 10.1080/146166802010124927
- Njeri, D. K. (2013). *Tourist satisfaction level at Ol Pejeta Conservancy (OPC) in Laikipia, Kenya*. (Diploma in Tourism and Wildlife Management), Moi University.
- Nowacki, M. (2013). *The determinants of satisfaction of tourist attractions' visitors: Activepозnan*.
- Pallant, J. (2005). *SPSS Survival Manual: A step by step guide to data analysis using SPSS*. Sydney: Allen & Unwin.
- Perovic, D., Stanovcic, T., Moric, I., & Pekovic, S. (2012). What socio-demographic characteristics do influence the level of tourist's satisfaction in Montenegro? Empirical Analysis. *Journal of Tourism - Studies and Research in Tourism*, 14(14), 5-10.
- Salleh, M., Hanim, N., Othman, R., Jaafar, A. H., & Norghani, B. M. N. (2012). Tourist satisfaction of the environmental service quality for Tioman Island Marine Park. *Indian Journal of Geo-Marine Sciences*, 41(2), 173-179.
- Shahrivar, R. B. (2012). Factors that influence tourist satisfaction. *Journal of Travel and Tourism Research*, 1(Special Issue Destination Management), 61-79.
- Spinks, W., Lawley, M., & Richins, H. (2005). Satisfaction with Sunshine Coast Tourist Attractions: The influence of individual visitor characteristics. *Journal of Tourism Studies*, 16(1), 12-22.
- Tonge, J., & Moore, S. A. (2007). Importance-satisfaction analysis for marine-park hinterlands: A Western Australian case study. *Tourism Management*, 28(3), 768-776. doi: <http://dx.doi.org/10.1016/j.tourman.2006.05.007>
- Topelko, K. N. (2007). *Understanding the environmental and social impacts of coral reefs: A study of the snorkeling environment and experience in Koh Chang Marine National Park, Thailand*. (Master of Art), University of Victoria, Australia.
- Weiler, B., & Ham, S. (2004). Relationship between tourist and trip characteristics and visitor satisfaction: A case study of the Panama Canal Watershed. <http://www.buseco.monash.edu.au/mgt/research/working-papers/2004/wp59-04.pdf>
- Yeh, W. K. (2008). *The Investigation of Tourists' Motivation, Satisfaction and Constraint Factors on a Snorkeling Holiday of Marine Leisure and Tourism at Kenting in Taiwan*: United States Sports Academy.
- Yu, L., & Goulden, M. (2006). A comparative analysis of international tourists' satisfaction in Mongolia. *Tourism Management*, 27(6), 1331-1342. doi: <http://dx.doi.org/10.1016/j.tourman.2005.06.003>