RECREATIONAL FOREST EXPERIENCE: A CASE OF MOUNT KINABALU CLIMBING ACTIVITY, SABAH MALAYSIA

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ABSTRACT

The use of tropical forest parks as recreation resource is receiving increasing response from the public. Although its contribution as a recreational resource is apparent, more in-depth information on how it relates to and benefits the users are still unclear. The purpose of this study is to understand the recreation experience and satisfaction of visitors in a tropical forest park setting with the use of mixed method approach (quantitative and qualitative techniques). Three hundred and seven questionnaire surveys and twenty two interviews were conducted with purposively sampled climbers of Mount Kinabalu in Kinabalu Park, Sabah, Malaysia. The Recreation Experience Preference (REP) scale was used to elicit visitors’ experience types gained through participation, and in-depth interview analysis based on Motivation-Hygiene Theory was conducted to understand their experience. This study found seven dimensions of recreation experiences that ranged from “Achievement-Stimulation” (highest mean score) to “Security-Comfort zone” (lowest mean score), which indicate visitors’ psychological needs fulfilled from participation. This study contributes to the understanding of visitors’ recreational experience in the specific site and activity, which highlights the values and importance of this resource. Recommendations for park management and avenues for future studies were identified and discussed.

KEYWORDS: Recreation Experience, Psychological Benefits

INTRODUCTION

Recreational parks with forest background such as the Kinabalu National Park in Sabah, Malaysia were first established for the people to enjoy because of its attractions. Then further, recognizing its universal values and the role it plays as one of the world biological sites among others, it was preserved as a national park and later on designated as a world heritage site. The main idea is for the people to enjoy and to manage sustainably. Since forest parks were established for the park users to enjoy and in return to take care of, it is crucial to understand the users in various aspects. Information on what have the visitors gained or experienced during their time in the park could play as an important role to highlight the benefits of this forest resource, which might further convince them to appreciate the resource more effectively than any kind of enforcement. This notion is supported by Chan [1] in her study on nature tourist experience, which posited that making an effort to understand the dimensions that contribute to the tourists’ experience is paramount in the delivery of quality experience, as well as contributing to sustainable management of resource. It is also supported that the use of forest
resources as recreational areas could result in attracting visitors who are characterized by their natural “ecological-environmental” interests which will lead to the promotion of nature related recreational activities such as hiking and mountaineering, and subsequently becoming aware of the role played by the resource [2].

Manfredo et al. [3] contended that experience “holds the explanation of why people engage in recreation, give guidance in understanding what people want from recreation, and offers insight into how it might benefit them” (p.189). Although individuals may recognize a need for recreation, their needs may not necessarily be fulfilled by activities undertaken during their leisure time. A marketing process needs to be developed specifically to target these consumers and better meet their needs [4]. In marketing of park and recreation product, the understanding of visitors’ experiences is vital in order for the management to design a product, program or services [5]. Tourists’ experience has been discussed as the antecedent of satisfaction [6][7][8]. A few previous studies on tourists or visitors experience in tropical forest settings (for example [9][10][1]), however, did not include the broader context of tourists’ experience, and especially how the experiences satisfy the human needs have not been clearly discussed, and thus limiting the explanation on the interrelationship between visitors’ experience and satisfaction.

Forest park and recreation can be described as consisting of tangible (functional/instrumental aspects) and intangible (psychological or social benefits/experiential aspects) elements [1][6]. Previous researches have indicated that the understanding of the dimensions that contribute to the tourists experience is vital in the delivery of quality experience, as well as in contributing to sustainable resource management [11][12]. However, in the tropical forest recreation context, focus has been given more on the resource management. This has been largely shown through the inclination of previous studies done in this field which is more towards researching on the resource and its management (tangible elements). Empirical evidence on the understanding of visitors’ experience and satisfaction (intangible elements) is still lacking [1]. Thus, this study seeks to fill the gap to gain a better understanding of the visitors’ experience and satisfaction in the context of tropical forest recreation, in order to enhance the visitors’ experience and satisfaction.

The research questions are

- Why do people come to tropical forest park? What kind of experience are they looking for;

The specific research objectives are:

- To determine the types of tropical forest recreation experience attained by the visitors in the study area;

**METHODOLOGY**

**Research Design**

The Recreation Experience Preference (REP) scale [13] has been used by many researchers such as Manfredo et al. [3], Payne et al. [14] to measure recreation experience, specifically “the extent to which specific experiences are desired and expected from leisure activities” (Driver et al., 1991: 275). The strong point of REP is that the scales were formulated to identify the “human needs that could be fulfilled by leisure behavior” [13], and thus could be very beneficial in highlighting and defining the important role of leisure and recreation.

The purpose of the study is to understand the visitors’ recreation experience in the study area in terms of how their recreational experiences satisfy them. A mixed-method approach was deployed in this study. The theoretical framework incorporates two different theories (the Theory of Planned Behavior [15], from which the REP scale [13] was developed,
and Herzberg’s Two Factor Theory [16]. Two different assessment approaches in the measurement of the tropical forest recreation experience, which are the benefit-based approach from the end-state frameworks which used the REP scale, and the experience-based approach from the process-oriented framework which used Herzberg’s Two Factor Theory as the guide for the in-depth interview. The REP scale was adapted to elicit the range of visitors’ recreation experiences, whereas, the Two Factor Theory was adapted to elicit the visitors’ satisfaction dimensions in order to better explain how the visitors’ needs are satisfied through the recreation experiences.

The Study Site

Mount Kinabalu is located in the Kinabalu National Park complex, which was established in 1964 as one of the first national parks in Malaysia, and the first World Heritage Site for Malaysia. Designated by UNESCO in 2000 for its outstanding universal values and its role as one of the most important biological sites in the world, it holds high level of species biodiversity and endemism. Located at the West Coast of Sabah, Kinabalu Park, which is also the trademark of Sabah, covers an area of 753 square kilometers (75,370 ha) surrounding Mount Kinabalu, which at 4,095 meters (the Low’s Peak), is the highest mountain between the Himalayas (Mt. Hkakaborazi) and Papua New Guinea (Mt. Puncak Jaya) [18]. The park is administered by The Sabah Parks, an organization entrusted under the State Tourism, Cultural and Environment Ministry. However, reservations for accommodation and Mount Kinabalu climbing are processed through a private firm, the Sutera Sanctuary Lodges [16]. Being located within the latitudinal range of 152 meters to 4,095 meters, and having the size of 753 square kilometers, Kinabalu Park exhibits a huge variety of habitats, dominated by tropical forest. There are five main types of natural vegetation, classified according to its latitudinal range. The rich tropical lowland and hill rainforest covers 34.8% of park in the lower parts. Tropical montane forest covers another 37.3%, followed by tropical lower sub-alpine forest which covers another 1.3%. Tropical upper sub-alpine forest covers 0.6 % and tropical alpine forest wraps 0.04% of the upper area [18].

Mount Kinabalu climbing activity starts with booking the climbing package from Sutera Sanctuary Lodges, which includes accommodation, meals, park permit, guide fee and conservation fee. The cost of package is basically depending on the types of accommodation selected. The duration of the climb is normally 2 days. The first day starts at the Kinabalu park headquarters at 1,563 meters (5,128 feet) altitude, at as early as 7.00 o’clock in the morning. Climbers need to walk to Laban Rata hut at 3,300 meters (10,800 feet) and to spend the night there. The climb to Laban Rata hut normally takes about 6 to 8 hours walk. Climbers must be accompanied by guides at all times. The second day starts at as early as 3.00 o’clock in the morning to walk from Laban Rata hut to Low’s Peak, the summit of Mount Kinabalu. Normally the walk to the summit takes between 2 to 4 hours walk. There are some parts of the trail where climbers need to use ropes to climb.

Data Collection

For the purpose of this study, only English speaking visitors were sampled due to the nature of the specified items for both the REP scale and the Herzberg’s interview guide used, where translation of items to other languages would require longer time for further validation processes. Therefore, purposive sampling was employed as the sampling technique. In Addition to that, proportional sampling technique was also deployed to the sample size in the effort to make it more representative of the whole population. Justification of the sample size was made based on: 1) the number of variables to be analyzed; 2) the nature of analysis to be conducted; and 3) the time and financial constraints of the study [17].
In the case of this study, 300 respondents were targeted, with about 50 items or variables involved in the analysis. As for the qualitative survey (in-depth interview), sample size is considered sufficient when data saturation is achieved, which could be indicated by repetition of traits or features with no significantly fresh or dissimilar information [18]. Around 20 – 40 in-depth interviews are considered sufficient as long as the data saturation is achieved [11]. The questionnaire survey form was specially designed to measure the ranges of experiences the visitors have acquired. The experience measurement indices were based primarily on the Recreation Experience Preference (REP) scale [13]. The questionnaire items were translated from the REP scales to suit the context of this study, in particular, in accordance with the result of the pilot survey, analyzed statistically for reliability coefficient, and went through panel discussions before being adapted. Scales that were of high importance to the participants were all included, as determined by the pretest. The instructional set should be dictated by theoretical concerns of the study [3]. In the case of this study, since the interest is in examining experience attainment, the instructional set asks subjects to indicate the extent to which the items were gained throughout their participation. Past studies underscored the importance of administering the REP scales as close as possible to the time of interest [3]. In this case, the scales were administered immediately after the trip for experience attainment. The question posted for each of the items adapted from REP scale was “Can you please describe your experience using the following scale?”, with subsequent direction to circle respondents’ responses for each experience in the list. The index uses a pre-set 5-point Likert scale, which ranges from 1 indicating “Insignificant” to 5 which indicates “Most significant”. The data collection was conducted in three months duration starting from end of 2008 through early 2009.

All the quantitative data were analyzed for content reliability, item means and standard deviation, frequencies and percentages, to obtain information on the participants’ socio-demography and to see the description of the whole dataset. Later, inferential statistics was deployed using confirmatory factor analyses’ loadings and communalities for each index, to see the factor structure of the experience dimensions specific for Mt. Kinabalu experience profile. After gaining the factor loadings and communalities, comparison of mean score of each factor were once again conducted in order to see the range of the tropical forest recreation experience gained. Qualitative analysis for this study was a combination of interpretative phenomenological analysis (IPA) [21][22] and qualitative data analysis procedures [23]. IPA is one of the techniques uses in analyzing qualitative data where individual responses were thoroughly analysed and further compared with the theme emerged as a whole. It is used to understand what a given experience was like (phenomenology), and how someone made sense of it (interpretation). It begins with an in-depth familiarization of the data by reading and re-reading the transcripts several times. This includes in-depth exploration of individual interviews (idiographic level) to establish understanding of each individual experience. Subsequent to the idiographic analysis, a similar analysis was used to developed an across individuals (nomothetic level) understanding of the whole data. The purpose of nomothetic analysis was to explore the patterns and themes that extended beyond individual participants.

RESULTS

Demographic Information

The final sample size was 307 which comprised of about 57 per cent local visitors and dominated by male respondents (about 55%). Age group ranged from 19 years old and below to 70-79 years old and the 20 to 29 year-old were the largest age group (56%). Majority of the respondents were first timers (about 73%).

As for the qualitative data, a total of 22 respondents were interviewed. Most of the respondents were male
(about 73%). Respondents’ age ranged from 19 years old and below, to 50 – 59 years old, and the majority were 20 – 29 years old (about 36%) and in 30 – 39 years old (about 36%) age group. Participants from the United Kingdom formed the majority of the respondents (about 23%), followed by participants from the United States (about 18%) and subsequently Malaysian and Australian respondents (about 9% for each group). Almost all of the respondents (about 96%) are first timers, except one who had climbed Mount Kinabalu eight times before.

**Range of Tropical Forest Recreation Experience**

Before the data were analyzed for experience ratings, the REP items’ reliability measurement was extracted using Chronbach’s Alpha reliability coefficient. The reliability measurement shows that the reliability coefficient (r = 0.93), was well above the minimum acceptable standard for reliability (r = 0.6) (Coakes and Steed, 2007). Previous studies indicate that certain experience types may be combined in “domains” which represent more general experience assemblies [14] [24]. In order to see the factor structure of the experience gained specific to the activity and setting in this study, factor analysis was performed to discern the underlying perceptual dimensions within the 19 domains of REP. Since the purpose is to detect the data structure, principal axis factoring was used as the data extraction method as it can identify hidden variables that contribute to common variance of the set [25]. The results subjected to a varimax rotation with maximum 25 iterations, and factors with eigenvalues greater than one (eigenvalue >1.0) have been extracted. Labelling of factors for each category were based on the researchers’ overall judgement and understanding of what the participants have gone through. In labelling the factor categories, items with dual or triple loadings and lower factor loadings (below 4.00) are excluded to produce a more meaningful interpretation. This has resulted in only 7 factor categories. Reliability analysis was performed on each of the underlying factor categories to determine its internal consistency.

Table 1 presents the mean scores and ranks of underlying dimensions of experience gained, which indicates the range of recreation experience acquired from participation in Mount Kinabalu climbing activity. It suggests that the recreation experience attained or psychological needs satisfied through this specific activity ranges from “Achievement-Stimulation”, to “Security-Comfort Zone”. “Achievement–Stimulation” experience scores the highest mean, followed by “Enjoy Nature–Learning”, “Escape Stressors”, “Socialization”, “Spirituality”, “Freedom-Excitement”, and “Security–Comfort Zone” experience scored the least. Since the REP scales are intended to measure the types of psychological benefits or goal states desired from recreation or leisure participation, this range of experiences could also be interpreted as the psychological needs satisfied through participation in Mount Kinabalu climbing activity. Thus, the mean score for each dimension indicate the psychological needs for achievement/stimulation, nature enjoyment and learning, the need to escape from stressors, the needs for socialization and for freedom, as well as the need for security and to be in one’s comfort zone, has been satisfied to some degree.

<table>
<thead>
<tr>
<th>Underlying Dimension (Label)</th>
<th>N</th>
<th>Mean Score (Rank)</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK factor1 (Achievement – Stimulation)</td>
<td>297</td>
<td>4.03 (1)</td>
<td>.737</td>
</tr>
<tr>
<td>MK factor3 (Enjoy Nature – Learning)</td>
<td>298</td>
<td>3.94 (2)</td>
<td>.664</td>
</tr>
<tr>
<td>MK factor4 (Escape Stressors)</td>
<td>301</td>
<td>3.91 (3)</td>
<td>.690</td>
</tr>
<tr>
<td>MK factor7 (Socialization)</td>
<td>296</td>
<td>3.67 (4)</td>
<td>.860</td>
</tr>
<tr>
<td>MK factor6 (Spirituality)</td>
<td>302</td>
<td>3.56 (5)</td>
<td>.935</td>
</tr>
<tr>
<td>MK factor2 (Freedom-Excitement)</td>
<td>293</td>
<td>3.42 (6)</td>
<td>.881</td>
</tr>
<tr>
<td>MK factor5 (Security – Comfort Zone)</td>
<td>297</td>
<td>3.28 (7)</td>
<td>.878</td>
</tr>
</tbody>
</table>
Quantitative and Qualitative Data Triangulation

Table 2 presents the triangulation result between the quantitative and qualitative data for Mount Kinabalu’s climbing experience. Identification of experience types from interviews were primarily based on the REP scales and categorized based on the seven new dimensions found for the Mount Kinabalu climbing activity. An important observation is where two experience dimensions with the highest mean scores for the Mount Kinabalu climbing activity, Achievement-Stimulation and Enjoy Nature-Learning dimensions were found to have been mentioned consistently by respondents during the interviews.

**Table 2: Interview Excerpts Supporting “Achievement-Stimulation” and “Enjoy Nature-Learning” as the Dominant Experience Types in MK**

<table>
<thead>
<tr>
<th>Quantitative Types of Experience Variables emerged from REP (Driver, et.al.,1991) (mean score) (rank)</th>
<th>Qualitative Identified from Interview</th>
<th>Example of response (Interview Excerpts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement-Stimulation (mean score = 4.03) (rank 1)</td>
<td>-mentioned by 18 out of 22 respondents</td>
<td>“…when we got to the sixth kilometers…and we’ve got that far…I felt good because I’ve accomplished it…” (resp.10, female)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“…more than anything there was just this big kind of sense of achievement for me, because I’ve never done anything really like that before…” (resp. 14, male)</td>
</tr>
<tr>
<td>Enjoy Nature-Learning (mean score = 3.94) (rank 2)</td>
<td>-mentioned by 18 out of 22 respondents</td>
<td>“…the view on the way back down…can see miles away…can see the mountain behind you. stunning…” (resp.4, female)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“…it’s a beautiful rainforest…waterfalls…arriving at the top and seeing sunrise and that was an amazing experience…” (resp. 13, male)</td>
</tr>
</tbody>
</table>

Respondents indicated the psychological benefits gained during participation, or as Driver et al. [24] put it, the psychological needs satisfied by ‘human-nature transaction’, in this instance through participation in the Mount Kinabalu climbing activity. Since the interview guide was based on participants’ descriptions on their either especially good or bad feeling from participation, this finding also suggests that these two dimensions of experience types contribute directly to participants’ exceptionally good feeling about their experience here.

This finding also suggests that these four dimensions of experience types contribute directly to participants’ exceptionally good feeling about their experience during this participation at this particular site. Other experience types found in the quantitative data were also detected from the interviews. However, these were mentioned only by a few respondents, in which case explains the lower mean score.

**Summary of Outcome**

The major findings of this study can be divided into two main parts, the quantitative and qualitative parts. The major outcomes from the quantitative part are the types of experience gained identified through dimensions emerged from factor analysis. Seven dimensions of experience were found for Mt. Kinabalu climbing activity. Linking the experience found here with the REP disclose what are the participants’ psychological needs that have been satisfied.
through their participation. Major outcomes from the qualitative part are the experience dimensions descriptions which have defined the types of experience dimensions as narrated by the participants.

**DISCUSSIONS**

**Types of Tropical Forest Recreation Experience**

There are seven dimensions that form the range of tropical forest recreation experience for Mount Kinabalu climbing activity. Overall, the range of experience found in Mt. Kinabalu tells of achievement and being stimulated, while at the same time enjoying and learning about the nature. Experience of escaping stressors during participation was also apparent especially in the mean score which is very close behind the enjoy nature-escape stressors mean score, which is 3.94 for enjoy nature-learning and 3.91 for escape stressors. The experience of socialization, spirituality and freedom-excitement are evident but in moderation. While the experience of security-comfort zone does, it is but scarce.

Meanwhile, other mountaineering experience reportedly have experience of contrasting emotions [25], for example, the emotional mayhem during rock climbing and thereafter feeling of relief and elation at reaching the top [26]. Although this study’s REP is not able to describe this experience of contrasting emotion in detail, nevertheless, it was detected in the participants’ interview responses in their story regarding their achievement-stimulation experience, described as the hardest thing ever done, but at the same time said to be the most rewarding thing in life. This account supported the emergence of the achievement-stimulation dimension which was found to be the top dominant type of experience gained in Mt. Kinabalu.

The main interest of this study arises from solving a marketing related question which is investigating and understanding the ‘consumers’ in order to design a product, program or service specific to their needs or wants (O’Sullivan, 1991). In the tropical forest recreation context, the specific question is, what are the participants looking for, or what needs are they trying to satisfy from their participation in tropical forest recreation? In the field of leisure and recreation, this question has also been the issue, but the emphasis is to see the role of leisure and recreation in relation with the natural environments. In other words, it addresses the question of, what are the benefits forest recreation can offer to the recreationists. In 1991, Driver and his colleagues came up with an assessment instrument consisting of scales to assess the recreationist’s ‘unmet needs’ or their ‘preferred psychological outcomes’, called the “Recreation Experience Preference” (REP) scales. Since the REP was intended to measure the psychological benefits of recreation, it has the capability to answer both the questions of what needs the participants are trying to satisfy through participation in forest recreation and what are the benefits that the forest recreation can offer to the recreationists. In this study, the REP was used to identify the recreation experience gained from participation which can be interpreted into the participants’ psychological needs satisfied through participation. Linking back with the REP, this range of experience gained in MK (Achievement-Stimulation, Enjoy Nature-Learning, Escape Stressors, Socialization, Spirituality, Freedom-Excitement, and Security-Comfort Zone) could indicate the list of recreation benefits obtained in Mount Kinabalu participation. It also indicates the satisfied needs of participants when they participated in this activity. Following O’Sullivan [4], this range of recreation experiences could be interpreted as the core products for this specific site. In other words, these are the main products that could be offered by this specific site as the main attraction to visitors.

Previous study on mountaineering or adventure tourism also reported emotional value and novelty value, among others, as predictors of satisfaction [27]. The emotional value in this study is indicated in the participants’ description of
their experience regarding “Achievement-Stimulation”, for example when they finally reached the summit which was thought to be almost impossible. Emotional value is also indicated in participants’ description regarding “Spirituality”, for example the situation in which they were described as “...in awe of God’s creation...” (Resp.5, male). Also, emotional value can be detected in participants’ description regarding “Socialization”, for example when they realized that their togetherness has brought them closer to each other. Novelty, in this study is prominently indicated in the participants’ description of their experience regarding “Achievement-Stimulation”, for example when they experienced something new and something extraordinary.

CONCLUSIONS

This study highlights the understanding of tropical forest recreation experience and satisfaction among the visitors or participants in Mount Kinabalu climbers in the Kinabalu Park areas. At the same time, the conceptual framework used in this study which incorporates the REP scale in deriving the range of experiences, and Herzberg’s Two-Factor theory of satisfiers and dissatisfiers in explaining the experience by identifying its source of satisfaction and dissatisfaction, also highlights a new approach to assessing and understanding recreation experience. However, in order to increase external validity, future adaptation of this research framework should consider examining the particular site in terms of activities offered at the site, user types, and geographical condition.

This study found that the core products of tropical forest recreation in the study sites are the psychological benefits gained by visitors. This study also found that visitors’ satisfaction in tropical forest recreation are related to the psychological benefits gained (the experience content), while visitors’ dissatisfaction are related to the physical condition of the setting where the experience took place (the experience context). This is in accordance with Herzberg’s Two-Factor theory that there exist two separate themes for satisfaction and dissatisfaction. The mixed-method approach (combination of quantitative and qualitative, incorporating REP and Herzberg’s Two-Factor theory) provides holistic perspective into the understanding of tropical forest recreation experience and satisfaction. The conceptual framework also suggests that the REP scale outcome constitutes the satisfiers part of Herzberg’s Two-Factor Theory. In other words, the psychological benefits the participants attained in their experience throughout their participation represent one of the two structures of human needs proposed by Herzberg, which is the need for personal psychological growth. The study findings underscore that one of the ways to achieve or fulfill this personal psychological growth is by engaging or participating in forest recreation activities.

The breakthrough of this study is the creation of the dimensions of experience description for tropical forest recreation, which has provided solid understanding on the tropical forest recreation experience for the specific site and activity. While the qualitative nature of deriving these dimensions may limit its generalization, triangulation with the findings from the quantitative part provides evidence that the same types of experience dimensions emerged in for both quantitative and qualitative part of this research.

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Malaysia.


