



Encouraging Safe Behaviour among Malaysian Outdoor Recreation Participants

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Abstract

The focus of the management of outdoor activities is keeping participants safe. Developing safety management practices (SMPs) encourages participants' safe behaviour (SB) and prevents accidents. The study examined the relationship between SMPs and SB among outdoor participants. Two hundred and fifty outdoor participants were respondents. The Vinodkumar and Bhasi questionnaire was administered to the participants. The majority of respondents, 49.4% (n=126), participated in outdoor activities once or twice a week. Results showed a moderate relationship between SMPs and SB ($r(255) = 0.697$, $p < 0.001$). The study recommends that outdoor activities management should implement policies to promote safety to prevent accidents.

Keywords: Safety Management Practices (SMPs); Safety Behavior(SB); Outdoor Participants

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1.0 Introduction

Alor Setar Escape ZONE recreation centre in Kedah organises outdoor activities for participants. It is located near Mount Keriang Recreational Park and organises outdoor activities such as hiking, caving, abseiling rock climbing, kayaking, and team building for Malaysians and foreign adventure enthusiasts (Rahman, 2020). It is situated in an area with lush greens, exotic flora, and a network of hiking routes. It is a popular area for outdoor activities, but accidents sometimes occur, and participants get hurt and, on occasions, even die. An accident is an unfortunate event that happens without warning and causes an injury to a person; it can occur at any place, at any time (Cuthbert, 2020). An accident is unintended, unforeseen, and happens to people who are unprepared for it (Cuthbert, 2020).

Victims of accidents suffer various consequences like death, injuries, diseases, property loss, and environmental damage (Cuthbert, 2020). Therefore, it is essential for management to train participants in outdoor activities to safely use their equipment and follow safety procedures to prevent dangerous accidents. However, managers and outdoor participants ignore the significance of safety procedures (Ladewski, 2019). Safety management (SM) for participants in outdoor activities is as important as school SM for pupils, teachers, and staff. All parties need SM to protect them from potential dangers that can cause accidents and injuries to participants (outdoor activities) or pupils, teachers, and staff (schools). The prime aim of SM is to identify dangers that can cause accidents and remove them or set mitigating risk procedures in hazardous places to warn people of hazards to prevent accidents (Naranasamy, 2019). In minimising the number of injuries, SM must take a proper approach to accident-prevention management.

Furthermore, safety is achieved when dangers that are capable of causing accidents and injuries to people are minimised or prevented through the implementation of risk management policies (Ikau, 2019). Safety management is organisation procedures and policies to eliminate danger and ensure the safety of people within the organisation. Marin et al. (2017) define safety management practices as measures organisations institute and implement to safeguard their employees' safety. The better the implemented policies, the more employee safety behaviour outcomes are observed and accidents and injuries prevented (Ashour, 2019).

In recent years, many accidents have happened to people while participating in outdoor activities in Malaysia. For example, when hiking up the slopes of Bukit Banang, a 20-year-old woman died (on November 14, 2020) when she fell 80 meters down into a gorge (Devi, 2020). The management could have educated her on safety procedures to prevent her accident and avoid her death. Several accidents have happened to visitors to adventure parks and outdoor recreation destinations in Malaysia. Such accidents are also a problem worldwide (Johannis, 2016). To warn participants about dangers and prevent accidents, many local authorities in Malaysia have implemented safety procedures and held campaigns to educate the public on safety protocols when participating in outdoor activities (Johannis, 2016). However, accidents are still increasing as the local authorities in Malaysia reported 134 hiking accidents (Johannis, 2016). In addition, from 1996 to 2014, 665 of the reported casualties occurred in mountain hiking activities, including 47 deaths. Besides,

two students fell to death while hiking in Gunung Bubu, Kuala Kangsar, Perak (Sidi, 2019). During a training program for vocational school students at Ulu Kenas Recreational Park, two students died. In contrast, the Search and Rescue team rescued two others from Kuala Kangsar (Sidi, 2019).

The above cases show that an accident can happen anywhere, and the safety management application needs to be taken to prevent them. It is essential to know the safety rules and procedures before conducting outdoor recreational activities. The implementation of precautions will prevent unnecessary risks by participants and prevent accidents from happening to them. The present study investigated the nature of SM procedures initiated by management to educate, Improve and encourage SB among participants to prevent accidents involving participants in outdoor activities. SB creates a safe environment for participants to enjoy participating in outdoor activities, devoid of dangers and attendant accidents (Shuen, 2018). Besides, SB promotion involves SM creating a safety-supportive environment to identify hazards and prevent accidents (Shuen, 2018). SB is generally examined by third parties, leading to the issuing of safety compliance certificates that recognise that an organisation has appropriate safety procedures to identify and remove or mitigate dangers and prevent accidents (Vara, 2020). There are specific safety compliance companies and government agencies responsible for monitoring and enforcing compliance of safety standards in outdoor activities (Young, 2015).

2.0 Literature Review

Safety management combines safety principles, procedures, and policies necessary to prevent accidents (Naranasamy, 2019). It also includes rules, guidelines, strategies, events, training, communication, feedback, and promoting general knowledge in safety management. A good safety policy will fit the needs of an organisation and help prevent accidents (Naranasamy, 2019). An excellent SM routine will help the company establish robust promotional procedures; the best safety communication methods in outdoor activities to ensure participants' safety. The management of organisations should carry out comprehensive accident reviews and annual safety checks to evaluate and improve organisations' safety policies. Risk mitigation should be at the core of the management safety process (Qamruzzaman, 2020). The method includes risk recognition, evaluation, and control that guarantees safety for employees and clients (industries) and staff and participants (outdoor activities). Accident reviews encourage long-term company commitment to safety, leading to increased productivity (Qamruzzaman, 2020). A good safety policy fits the needs of an organisation and helps prevent accidents (Naranasamy, 2019). An excellent SM routine will help the company achieve and develop robust promotional and work assignment procedures and best safety communication methods in outdoor participation to ensure the safety of participants. More significance should also be attached to meetings to discuss safety issues and how to implement them to prevent accidents (Qamruzzaman, 2020).

Furthermore, there should be comprehensive accident reviews and annual safety checks to evaluate and improve the organisation's safety policies. In the meantime, the management safety process should focus on risk loss mitigation, usually including risk recognition, risk evaluation, and risk control (Ikau, 2019). In minimising the number of injuries, safety management must take a proper approach to management. Furthermore, safety is achieved when dangers that are capable of causing accidents and injuries to people are minimised or prevented through the implementation of risk management policies (Ikau, 2019). Safety management is organisation procedures and policies to eliminate danger and ensure the safety of people within the organisation. Marin et al. (2017) saw SM as a measure that guarantees protection to participants in outdoor activities. The more proficient the implemented SM, the better SB outcomes observed in outdoor activities participants (Ashour, 2019.)

To this end, Vinodkumar and Bhasi (2010) reported that safety training was crucial in maintaining safety in outdoor activities and helps participants adhere to safe behaviour. Safety training is essential because it allows the outdoor-activity participants to detect dangers and find ways to avoid them (Aziz, 2019) to protect them from accidents and injuries. It includes emergency procedures to tackle indoor and outdoor accidents (Aziz, 2019). Safety training may help people deal with emergencies and adequate hazard identification and risk-control (Aziz, 2019). Safety training aims to enable people to act safely during outdoor activities to prevent accidents. It can be developed by raising awareness of safety issues, instilling safety knowledge and risk identification. Therefore, any efficient SM to promote SB in outdoor activities should include safety training (Vinodkumar & Bhasi, 2010).

2.1 Participation is the willingness of people to take part in a particular activity

Outdoor participation is when people gather to take part in outdoor activities. The management can obtain higher motivation levels towards safety by training in safety-related activities and explaining to participants that it was in their interest to adhere to safety protocols to avoid accidents and injuries (Mashi, 2018). Safety communication should be two-way communication between managers and participants (Mashi, 2018). Mashi (2018) observed that effective methods of frequently communicating safety principles and procedures among management and employees and providing feedback show significant differences between organisations with fewer accidents and injuries and those with rather serious ones. The implementation of safety rules and procedures controls dangers and eliminates risk.

The question here is: What are safety rules and procedures? A safety rule refers to a safety structure that explains a specific safe way of behaving when confronted with a hazardous situation (Vidal-Gomel, 2017). These safety rules and guidelines are made available to all stakeholders and observed by all (Vidal-Gomel, 2017). Safety rules explain different dangers and offer ways to avoid them, and what to do when accidents and injuries occur, the practices improve organisational safety (Vidal-Gomel, 2017). Effective safety

management is vital for preserving the intercommunication between the safety policies and people, as the human factor contributes to safety efficiency (Vinodkumar & Bhasi, 2010).

2.2 The aim of safety promotion policies

Behaviour reflects how a person acts, whereas people respond to specific situations (Lyu, 2018). SB of participants of outdoor activities is actual behaviours that participants perform that promote safety, avoid accidents, and ultimately injuries. Security enforcement denotes mandatory habits while doing outdoor activities to preserve the safety and prevent accidents to participants (Lyu, 2018). SB promotion policies are designed to upkeep situations and are essential to warn of dangers to avoid accidents and guarantee protection for people (Aziz, 2019). Raising awareness of safety practices in organisations has considerably reduced accidents and injuries (Aziz, 2019). Having introduced company safety policies showed that the management took preventive measures to protect all with their constructive approach to safety (Lyu, 2018). Mainly, outdoor accidents and injuries among participants occur when participants do not observe safety rules and procedures. However, strict adherence and enforcement of policies to ensure safety will indeed reduce such accidents and injuries (Schopf, 2021). Accidents and injuries reduce when outdoor-event partakers are fully committed to safety participation (Lyu, 2018). Moreover, employees' performance will likely increase by reducing workplace dangers and decreasing the number of accidents and injuries (Schopf, 2021). Likewise, lowering risks within outdoor activities will prevent accidents, encourage more people to participate, and improve profitability (Vidal-Gomel, 2017).

The above review shows that accidents can happen anywhere (Cuthbert, 2020). Therefore, adequate measures via SM prevent hazardous incidents. It is essential to study all safety rules and procedures before partaking in outdoor activities to avoid accidents. This paper explored the nature of SM for outdoor activities implemented by the management of an organisation to enhance participants' SB to reduce or eliminate risk. The research investigated three objectives: first, the favourite outdoor activities of the participants; second, the level of SB amongst participants; and finally, the relationship between SMPs and SB among outdoor-activity participants.

3.0 Methodology

The research design employed techniques and a framework of research methods to collect and analyse all data (Bhat, 2020). The design allowed researchers to select appropriate methods to investigate the research topic to ensure the success of their study (Bhat, 2020). The research uses the quantitative methodology for cases where statistical analysis leads to a statistical conclusion was deemed essential (Bhat, 2020). The quantitative method was considered necessary for studying safety procedures in outdoor activities.

3.1 Sampling

Sampling is choosing a representative unit from a larger population that matters to

researchers (Trochim, 2020). Studying the sample will allow researchers to generalise the results based on the population from which the sample was selected (Trochim, 2020). The respondents in this study were people partaking in outdoor activities, including hiking, caving, abseiling, rock climbing, and kayaking. The research used purposive random sampling to select the sample. 720 was the number of outdoor-activity participants, but the sample included 250 (Krejcie & Morgan, 1970). Male respondents were (n=132; 51.8%) and females-123 (48.2%). Most respondents comprise male and female in the following age groups: 18 to 21-year-olds (n=78; 30.6%) followed by 38-year olds (n=61; 23.9), 22 to 25-year-olds (n=60; 23.5%) and 30 to 33-year-olds 9.0% (n=23). Others were from 26 to 37-year-olds, which accounted for 33 respondents.

3.2 Measurements

The quantitative approach was applied in this research, which included data collection using a questionnaire survey. The questionnaire was distributed through Google Form (GF), which appears a common strategy for survey research (Raju & Harinayan, 2016). Vinodkumar and Bhasi's (2010) questionnaire was used and distributed to all the respondents for completion. A pilot study assessed the reliability of the Vinodkumar and Bhasi (2010) questionnaire (Musa, 2018). Results yielded an alpha value of $\alpha=0.925$.

4.0 Results

Male participants' favourite outdoor activity was hiking - 40 respondents (15.7%) (Table 1). As for females, horseback riding was the most favourite one: 32 respondents (12.5%). Hiking - preferred activity by 18–25 year-olds: 27 respondents (10.6%). The favourite overall outdoor activity for 26–29-year-olds was rock climbing with 25 respondents (9.8%), as for the 30–37-year-olds, it was abseiling. For 37-year-olds and above, horseback riding was their favourite activity -15 respondents (5.9%). Five basic outdoor recreation activities were surveyed, but most participants preferred hiking, rock climbing, and horseback riding. The majority of the respondents, 49.4%, did outdoor activities 1–2 times (n=126) per week. Meanwhile, 24.3% (n= 62) did outdoor activities 3–4 times weekly. More than 4-times-a-week activity occurred with 14.9% of respondents (n=38). The lowest result (n/a) on the frequency of outdoor activities represents 11.4% or—29 of the respondents.

Table 1. Outdoor activities based on demographic data

	Rock Climbing	Kayak	Horseback riding	Hiking	Abseiling
Gender					
Male	31 (12.2%)	24 (9.4%)	16 (6.3%)	40 (15.7%)	36 (14.1%)
Female	12 (4.7%)	23 (9%)	32 (12.5%)	27 (10.6%)	14(5.5%)
Age					
18 – 25	23 (9%)	17 (6.7%)	4 (1.6%)	27 (10.6%)	19 (7.5%)
26 – 29	25 (9.8%)	19 (7.5%)	3 (1.2%)	20 (7.8%)	13 (5%)
30 – 37	6 (2.4%)	10 (3.9%)	11 (4.3%)	7 (2.7%)	15 (5.9%)

>37	4 (1.6%)	5 (1.9%)	15 (5.9%)	8 (3.1%)	4 (1.6%)
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Participants carried out outdoor adventure activities safely by relying on the safety brochure. Upon results in Table 2 - safety rules and procedures available in recreational parks can prevent accidents (e.g., wearing a helmet while cycling) was the most practised safety measure undertaken by management (M=2.88; SD=0.41). Meanwhile, the public appeared not interested in knowing security issues; it recorded the lowest action taken by management in safety practices (M=1.53; SD=0.59) (Table 2). Safety rules and procedures are vital factors that outdoor participants need to follow.

Table 3 illustrates the SB of participants. Highest result: "...I safely do outdoor activities..." (M= 2.92, SD=0.37). "...I play the phone while doing outdoor activities..." (M=1.27; SD=0.46) - lowest.

Table 2. **SMPs** across outdoor participants

	Mean	SD
Safety rules and procedures available in recreational parks can prevent accidents (wearing a helmet while cycling)	2.88	0.41
Signage rules indicate the steps to follow when carrying out activities	2.86	0.42
Management provides adequate personal protective equipment to the public (helmets for rock climbing)	2.85	0.41
The rules and procedures found in this recreational park are valuable and effective	2.85	0.43
Management always receives opinions from the public before making final decisions on security measures	2.82	0.47
Management is concerned about the safety of the people who perform activities in recreational parks	2.80	0.49
Management emphasises the level of public safety when doing outdoor activities in recreational parks	2.78	0.49
The public follows and practices safety rules and procedures	2.65	0.54
Management takes appropriate action when there is an accident against the public at a recreational park	2.60	0.55
I feel that management agrees on security to increase public satisfaction	2.60	0.55
Management strives to perform safety work procedures (management monitors closely)	2.56	0.56
Management considers protection as necessary as satisfaction	2.52	0.56
When an accident is imminent, the administration acts quickly to resolve the issue	2.51	0.56
Management obtains feedback from the public on safety when conducting outdoor activities	2.47	0.57
Management has experience in the protection of outdoor activities	2.39	0.54
Management does not care about safety in recreational parks	1.61	0.59
The public is not interested in knowing security issues	1.53	0.59

Table 3. **SB** factor among outdoor participants

	Mean	SD
I do outdoor activities in a safe way	2.92	0.37
I make sure no injuries occur while doing outdoor activities.	2.90	0.39
I follow safety rules and procedures while doing outdoor activities	2.89	0.40
I use and maintain the facilities available in the recreation park	2.88	0.41
I cycled using the proper path in the recreation park	2.87	0.42

I help my friends when they do outdoor activities	2.77	0.49
I always tell the management if there is a security problem	2.74	0.52
I invite my friends to participate in outdoor activities	2.26	0.65
I do activities voluntarily	2.20	0.70
I wear bright clothes while doing outdoor activities	2.18	0.54
It is not essential to follow all safety rules and procedures while participating in outdoor activities	1.89	0.75
I play the phone while doing outdoor activities	1.27	0.46

Correlation test analysis was used to answer question three. Table 4 shows the range of correlation.

Table 4. Relationship between **SMPs** and **SB**

		Safety Behavior
Safety Management Practices	Person correlation	0.697**
	Sig (2-tailed)	0.00
	N	255

** Significant at the 0.01 level (2-tailed).

SMPs and how they promoted SB among participants were moderately correlated ($r(255) = 0.697$, $p < 0.001$). The correlation showed that there was a significant relationship between SMPs and SB.

5.0 Discussion

5.1 SMPs and SB among outdoor participants

When implemented in recreation parks, safety rules and procedures can prevent accidents and injuries to participants (e.g., wearing a helmet while cycling). SMPs in EscapeZONE Kedah is pretty promising ($M=2.54$) when emphasising safety rules ($M=2.88$), reminding users to behave safely by placing signs ($M=2.86$), and when supplying outdoor safety equipment ($M=2.86$). Safety rules and procedures are critical factors of SMPs to be observed by outdoor activities participants. According to Vinodkumar and Bhasi (2010), introducing SMPs has a significant correlation with safety behaviour. Accident-prevention measures should be documented and implemented to reduce accidents and injuries to outdoor-activity participants. Therefore, risk management standards are fundamental to reduce accidents and injuries to participants in outdoor activities (Aziz, 2019).

5.2 SB and outdoor participants

A mean value of 2.92 (Table 3) reflecting safety behaviour data has indicated a high level of consistency, e.g., "I safely do outdoor activities." In the meantime, decent safety practices will lead to positive safety results. Improved safety habits may lead to decreasing the number of near-misses and accidents. The number of accidents and injuries resulting from breaching safety policies is likely to be reduced by a higher degree of safety rules

enforcement. Significant factors contributing to positive safety compliance behaviour were management commitment, security coordination, safety control, efficient safety instruction, safety laws and regulations, safety management system, an incentive for safety, safety, health officers, and personal protective equipment (Hassan, 2019). Safety compliance was the factor reflecting safety behaviour in outdoor participation.

5.3 Relationship between SMPs and SB among participants in outdoor activities

There was a moderate correlation between SMPs (management commitment, outdoor participation involvement, safety rules, and procedures) and SB ($r(255) = 0.697$, $p < 0.001$). According to Musa (2018), the value $r = 0.697$ indicates a moderate correlation. The results were similar to a study by Vinodkumar (2015), which found that management's pledge to ensure safety in an organisation and implement safety measures predicted safety compliance directly. However, safety measures of training, communication, and feedback indicated safety compliance indirectly. These results showed that the implementation of safety management practices leads to changes in safety efficiency (Vinodkumar, 2015).

5.4 Implications of the findings of the study

The findings and results of this research will hopefully have practical implications that include the personnel, users (participants), and the organisation. Zero accidents and good quality services should be the primary objective of any organisation that conducts outdoor activities. The safety of the participants should be at the forefront of all SM measures. The engagement of the management and the users to tackle safety issues is essential. The administration should create safety programmes for participants to ensure their safe participation in outdoor activities. Management should create SM policies and rules that are clear and easily understood by participants. Ultimately, the administration must disseminate the safety rules and measures to all participants to improve their SB. For the users or outdoor participants patronising the EscapeZONE Kedah, the managers should conduct more mini-workshops, briefings, short-term courses, prepare and distribute pamphlets and posters on the facilities offered and the safety aspect regarding the usage of the facilities. In conclusion, SB promoted at the EscapeZONE Kedah should make outdoor participator safe. The SM should also make the staff more alert and committed to safety and make the EscapeZONE Kedah and its facilities and activities safe.

5.5 Limitations of the study

The limitation of the study was the method of distribution of the questionnaire to the respondents. The questionnaire distribution happened at the peak of the COVID-19 pandemic in Malaysia. There was a mandatory lockdown, and human interaction was minimal to curb the spread of the disease. As a result, the researcher could not communicate face-to-face with the respondents to distribute the questionnaires. The pandemic prevented the researcher from clarifying any misunderstandings in the questionnaire to the respondents. The researcher only distributed the questionnaire to the respondents using Google Forms with social media such as WhatsApp and Instagram. The

frequency of doing outdoor activities also decreased during this pandemic because people were afraid to do activities outside their homes to catch the disease. The risks of getting COVID-19 were higher when doing activities outside. This restriction in the participation of outdoor activities might have affected the respondents' responses to the questionnaire.

6.0 Conclusion

In conclusion, the safety management practices such as management commitment, outdoor participants' involvement, safety rules, procedures, and safety behaviour have a moderate correlation at the value of $r=0.697$ with safety behaviour. When we are conducting outdoor activities, we should know about safety management practices and safety behaviour. Knowledge of SM and SB will prepare us to identify dangerous conditions and prevent them from causing accidents to participants when conducting outdoor activities. The implementation of SM will reduce the probability of accidents. Management needs to implement safety plans, commitments, and enforcements to enhance managers' performance of safety policies to create a culture of safety behaviour in the EscapeZONE Kedah. The findings of this research may serve as applicable for practices involving the personnel, participants, and organisation. Zero accidents and good quality services should be the primary objective of each organisation. The safety of users should also be of paramount importance and taken into serious consideration. The equal engagement of management and users should be mandatory, for safety-and-risk-management awareness, skills, and attitude are developed by putting theory into practice. Management policy and rules must be clear, transparent, disseminated, and easily accessible to all users.

For the outdoor participants, the service providers should conduct various mini-workshops and short-term courses. Another main task is that pamphlets and posters should be prepared and distributed to attendees to all outdoor facilities in English and local language for ease of comprehension. Additionally, safety aspects regarding the usage of the facilities should be made available in print and soft-copies on websites. Nowadays, young people are gadget-savvy, and this calls for the management to make the entire information broadly accessible and interactive on social media. Although Facebook, Twitter, and Instagram are preferred platforms, the use of other media is encouraged. In this way, such critical information will help alert the young generations on safe behaviour during exercise and using sports facilities or when participating in outdoor activities. This safety information will reduce the probability of dangerous incidents. Management needs to implement safety plans, show commitment, grant funds, enforcements, and make changes in company policies to enhance the managerial implementation of safety regulations to create an atmosphere of safety behaviour in the recreation parks. We hope that our research and recommendations would provide company management with strategies to reduce accidents amongst outdoor participants.

It is also recommended that all future SM directed at participants in outdoor activities include equipment inspection to ensure no defects. It should also be mandatory for the staff to be licensed for activities responsible for handling. There should also be screening for

participants' age and skill levels to ensure they can participate at either the primary, intermediary or the highest level of the activities they have signed for participating. Following these steps will contribute to the safety of participants.

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Article Contribution to Related Field of Study

This study could be a guideline for administrators to emphasise the importance of safety procedures in managing outdoor activities as a preventive action.

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