



***VISITORS' AWARENESS ON SAFETY MEASUREMENTS AT PENANG
BOTANICAL GARDEN (PBG), MALAYSIA***

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**VISITORS' AWARENESS ON SAFETY MEASUREMENTS AT
PENANG BOTANICAL GARDEN (PBG), MALAYSIA**



**A Project Report Submitted in Partial Fulfillment of the Requirements
for the Degree of Bachelor of Park and Recreation Science in the
Faculty of Forestry
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DEDICATION

To:
My beloved parents,
Lee Weng Teik (Father) and Ng Poh Joo (Mother)

All my closest family members,
All my dedicated lecturers,

And
All my dearest best friends.

I hope I have made all of you proud. Thank you so much.
I love all of you.



ABSTRACT

The study was conducted in Penang Botanical Garden (PBG) because of the natural hazards that threaten visitors' recreational safety. Visitors need to be aware about the natural environment when doing outdoor recreation activities. The purpose of the study was to measure visitors' level of awareness towards recreational safety and determine the factors influencing visitors' awareness on safety measurements. A total of 250 respondents participated in the questionnaire survey. The study utilized questionnaire to measure visitors' awareness on safety measurements at PBG. Results indicated that the visitors were moderately aware with the overall safety measurements with the mean value of 2.86 out of 5.00. The highest mean score was at 3.16 obtained for the general signboard "Do not feed the monkeys". The lowest mean score was at 2.40 obtained for the statement "Appear of wild boars in the park" from the attribute of wildlife attack. Multiple regression analysis showed that the number of visits, accompaniment, duration spend in the garden, sources of information about PBG, education level and monthly salary influenced visitors' awareness on safety measurements.

ABSTRAK

Kajian ini dijalankan di Kebun Bunga Pulau Pinang (KBPP) oleh kerana bencana semulajadi menggugatkan keselamatan rekreasi pengunjung. Pengunjung perlu menyedari tentang persekitaran semulajadi apabila melakukan aktiviti rekreasi luar. Tujuan kajian ini adalah menilai tahap kesedaran pengunjung terhadap keselamatan rekreasi dan mengenalpasti faktor mempengaruhi kesedaran pengunjung tentang pengukuran keselamatan. Seramai 250 responden mengambil bahagian dalam kajian soal selidik. Kajian ini menggunakan soal selidik untuk mengukur kesedaran pengunjung tentang pengukuran keselamatan di KBPP. Keputusan menunjukkan bahawa pengunjung agak menyedari terhadap keseluruhan pengukuran dengan purata mata min sebanyak 2.86 daripada 5.00. Purata mata min yang tertinggi adalah 3.16 yang diperolehi untuk papan tanda umum "Dilarang memberi makanan kepada monyet". Purata mata min yang terendah adalah 2.40 yang diperolehi untuk kenyataan "kemunculan babi hutan di taman" daripada atribut serangan hidupan liar. Ujian regrasi menunjukkan bahawa bilangan lawatan, teman untuk melawat taman, tempoh masa berada di taman, sumber maklumat mengenai KBPP, tahap pendidikan dan gaji bulanan mempengaruhi kesedaran pengunjung tentang pengukuran keselamatan.

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Words are powerless to express my gratitude.

APPROVAL SHEET

I certify that this research project report entitled “**Visitors’ Awareness on Safety Measurements at Penang Botanical Garden (PBG), Malaysia**” by Lee Lin Wei has been examined and approved as a partial fulfillment of the requirements for the degree of Bachelor of Parks and Recreation Science in the Faculty of Forestry, Universiti Putra Malaysia.

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LIST OF ABBREVIATIONS

AED	Automated External Debrillator
CPR	Cardio Pulmonary Resuscitation
FRIENDS	The Friends of the Penang Botanic Society
KBKK	Kebun Bunga Pulau Pinang
PBG	Penang Botanical Garden
SPSS	Statistical Package for Social Science
WOM	Word of Mouth



CHAPTER 1

INTRODUCTION

1.1 Outdoor Recreation

Outdoor recreation is the therapeutic refreshment of someone's body or mind. This kind of recreation activities normally carry out at outdoor and natural environment. According to Cushman and Laidler (1990), recreation is an activity carried out voluntarily, primarily for pleasure and satisfaction during leisure time, but also be seen as social institution, socially organized for social purposes. Different kinds of spaces and environments can support and maintain a large portion of outdoor recreation activities that relate to the urban people like parks, gardens, recreation grounds, playing fields, playgrounds, urban woodlands and an abandoned area (Williams, 1995). Therefore, recreation becomes part of our daily life because everyone carries out recreation activities to release their stress as well as to get away from the hustle and bustle life.

Recreational activities are the tool to find relaxation, refreshing and fun while they secure a healthy body in the future. Exercise helps people feel better and healthier because it can increase the metabolism rate in the body system. It is a fact that people will live longer and improve their quality of life depends on being healthy and remaining independent. People who are willing to spend their leisure time doing recreation activities can lower their risk to get

common diseases such as stroke and also heart disease. Besides, people will relieve the pain of arthritis and help them recover faster from the sick by carry out recreation activities. Because of there are increasing demands in outdoor recreation activity, the management of recreation area should have abilities to fulfil and provide a safe environment to the recreational users. Therefore, the agency should ensure the recreational user's satisfaction at the maximum level and it also a challenge that had to be faced by the administration and management.

1.2 People and Nature

Outdoor recreation products and services are always depended on the natural environment. The recreation needs of people based on policy-makers, planners and managers to decide about what activities and which facilities need to be installed in the nature park. In the twentieth-first century, demands of outdoor recreation increase especially development of different types of recreational areas such as national parks, state parks, municipal parks, urban parks, private parks and resident parks. First impression of the people when they arrived at recreation site is the surrounding environment that existed in that area likes fresh air. Therefore, park managers need to provide a safe environment to make sure the visitors always secure when they do the recreational activities.

1.3 Parks in Penang

There are several natural parks in Penang which are Penang National Park, Penang Municipal Park, Youth Park, Bukit Dumbar Park as well as Penang Botanical Gardens. Most neighbourhoods would have a patch of greenery as a green lung as well as space for recreation. Recreation parks provide local community and foreigners a variety of tourism attraction. There are a lot of natural resources apart of recreational facilities that can provide outdoor recreation activities for the people. The air in the natural gardens is fresh and cool because there are surrounded by trees and hills as its background. Parks in Penang are the attraction place for people to go during their leisure time especially in the weekends.

1.4 The Development of Botanical Garden

Botanic gardens define as the places that open to the public and the habitats for plants during ancient time (Kevin et al., 2016). Nowadays, the purposes of the garden developed and expanded for many categories. Conserving the plant biodiversity, offering the educational programs and research, and the most important function is providing the recreational opportunities for people are the roles of botanical garden. Botanical gardens should have a safety measurement that imply the positive connotation to manage the safety of an activities. Besides, visitors must aware of the potential risks happened in the garden so that they have a safer environment to do recreation.

1.5 Problem Statement

According to Francis (2016), 129 year old rain tree at the entrance of PBG considered as a hazard had been chopped down because it may cause accidents to visitors. Based on the personal communication with Director of PBG, Mr Mohd Azwa Shah said that the tree cannot absorb nutrients anymore and the top branches had been pollard. The chopping down the tree was done for the safety of visitors. From this point of view, the safety of visitors is threatened by natural hazard when they carry out the recreation activities in Penang Botanical Garden. Therefore, this study is developed to discuss about the visitors' awareness on the safety measurements in the surrounding of the garden.

Appear of wildlife injured visitors that considered as natural hazards causes the risk of visitor increases. The monkeys will become aggressive if the people approached them too close. Other than that, he people that had been bite or scratched need to seek medical advice because their mouths were teeming with bacteria (Phil, 2015). Monkeys are seen as the common things that we can be found especially in recreation parks and botanical gardens.

This is because the natural environment full of the trees and food sources that fulfil the requirements of the habitat for wildlife. From Susie (2016), one of the activist mentioned that monkeys approached the visitors and ripped the bag when a woman carrying a plastic sack full of food. This issue happened because the safety measurement of botanical garden is not good

enough to aware people keep a distances with monkeys as well as there is no barrier to prevent monkeys enter the place where people do the recreational activities. Monkeys attacked visitors considered as the natural hazard. Therefore, the study is to develop and contribute to the public's awareness of need to protect visitors from injuries.

Tan (2017) reported that there is a herd of wild boars came out of the forest at the foothills of Penang Botanical Garden threatened the safety of visitors due to lack of fences on that site. The wild boars came out to search their food sources because a variety of plants at this area. Based on the personal communication with Director of PBG, Mr Mohd Azwa Shah said they had reported the wild boar-watching to the Department of Wildlife and National Parks. He said the department had secured a quotation to upgrade the fence near Penang Rifle Club to stop the wildlife from coming out of the forest.

There are several studies about the visitors' perception towards safety and security, one of the studies carried out by George and Booyens (2014) had encouraged people to study about the visitors' perception on safety measurement in natural parks. In this study, there have another aspect of safety perception at Penang Botanic Gardens. In the previous study of Ang (2002), she only focused on a few questions that related to recreational safety in Penang Botanical Garden. However, this is not enough to determine the visitors' level of awareness.

1.6 Objectives

The main objective of this study is to obtain information about the visitors' level of awareness on the safety measurement at Penang Botanic Gardens.

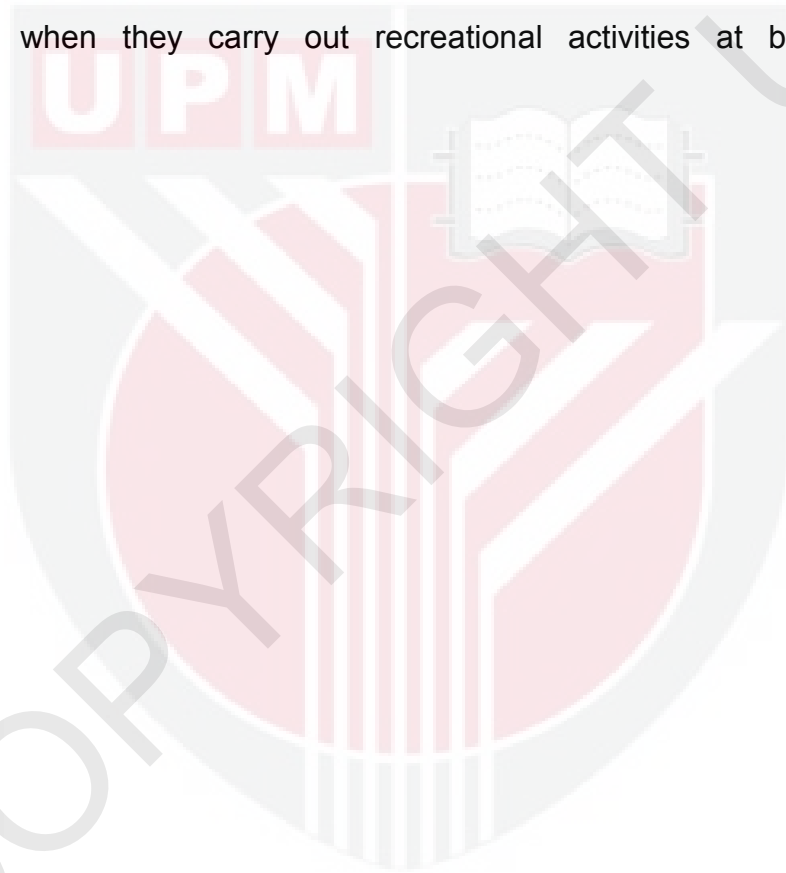
The specific objectives are as the following:

- a. To identify the demographic characteristics and visiting patterns of visitors to Penang Botanic Gardens.
- b. To determine the level of awareness of visitors on the safety measurement at Penang Botanical Garden.
- c. To determine the factor influencing the level of awareness of visitors on the safety measurement at Penang Botanic Gardens.

1.7 Significance of Study

Correlation between safety factors and the demographic characteristics as well as visiting patterns of the visitors can be done to determine the level of awareness on safety measurement. Safety measurement in the botanic gardens was very important in managing/minimizing risk to the visitors. According to Kwon and Park (2002), the studies about tourists' safety in tourism will affect the image of a destination. Visitors' behaviour, safety factors and traveller choice models can be used as the indicators in the context of safety measurement.

Therefore, this study focused on the visitors' level of awareness on safety measurements which had no future research by another people in PBG. It helped the management of Penang Botanical Garden to know the factors influencing visitor's perception on safety measurement and thus improve their recreational facilities included the safety instructions to provide a safer environment for public. Directly, through this study, the visitors will be more aware of safety measurements in the area and concerned about the personal safety when they carry out recreational activities at botanic garden.



REFERENCES

- Achim, P., Bruce, S., & Karl, F. (2017). *Uncertainty and stress: Why it causes disease and how it is mastered by the brain*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0301008217300369>
- Adom, A. Y., Jussem, B., Pudun, J., & Yatim, A. (2012). Factors That Influence Visitors' Satisfaction Toward Kuching Waterfront. *Journal for Advancement of Science and Arts*, 3 (2), 40-48
- Ali, I. M., Hashim, A. E., Ismail, W. Z., Isnin, Z., & Nazeri, M. A. (2011). Spectators safety awareness in outdoor stadium facilities. *Procedia Engineering*, 20, 98-104
- Amir, A. F., Ismail, M. N., & See, T. P. (2015). Sustainable Tourist Environment: Perception of International Women Travelers on Safety and Security in Kuala Lumpur. *Procedia - Social and Behavioral Sciences*, 168, 2
- Ang, G. P. (2002). *Visitor's Profile and Perception of Awareness towards the Recreational Safety in Botanical Garden, Penang*. Unpublished Degree Thesis, Universiti Putra Malaysia, Malaysia
- Anuar, A. N., Jaini, N., Kamarudin, H., & Nasir, R. A., (2011). Effectiveness evaluation of Safe City Programme in relation to the tourism industry. *Procedia Engineering*, 20, 407-414
- Bains, G. (2017). *I Love Doing Things Alone & People Should Stop Worrying About It*. Retrieved from <https://www.scoopwhoop.com/I-Love-Doing-Things-Alone/#.hxdknjvt9>
- Bentley, T. A., Page, S. J., & Walker, L. (2004). The safety experience of New Zealand adventure tourism operators. *Journal of Travel Medicine*, 11,1
- Bentley, T. A., Cater, C., & Page, S. J. (2010). Adventure and ecotourism, safety in Queensland: Operator experience and practice. *Tourism Management*, 31(5), 563-571. Doi:10.1016/j.tourman.2009.03.006
- Bond, A., & Jones, D. (2013). Wildlife Warning Signs: Public Assessment of Components, Placement and Designs to Optimise Driver Response. *Animals*, 3(4), 1142-1161. doi:10.3390/ani3041142
- Botanic Gardens Conservation International. (2017). *"International Agenda for Botanic Gardens in Conservation (2nd Edition)." BGCI*. Retrieved from www.bgci.org/policy/international_agenda/
- Cole, S. T., & Chancellor, H. C. (2009). Examining the festival attributes that impact Visitor experience, satisfaction and re-visit intention. *Journal of Vacation Marketing*, 15 (4), 323-333

Consumer NZ. (2014, April 16). "Trees and Neighbours." Retrieved from www.consumer.org.nz/articles/trees-and-neighbours

Cushman, G., & Laidler, A. (1990). *Recreation, leisure and social policy*. Canterbury: Lincoln University

Department of Environment, Food and Rural Affairs. (2014). *Secretary of State's Standards of Zoo Modern Practice. Zoos Branch, Wildlife Species Conservation, United Kingdom*. Retrieved from http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69596/standards-of-zoo-practice.pdf

Dickson, T. J., & Gray, T. L. (2012). *An introduction to risk, adventure and risk management*. Retrieved from https://scihub.tw/https://www.researchgate.net/publication/236658071_An_introduction_to_risk_adventureand_risk_management

Dougherty, N. J. (2010). *Principles of safety in physical education and sport*. Reston, VA: National Association for Sport and Physical Education

Dziubanek, G., Marchwinska, W., Piekut, A., Hajok, I., Bilewicz, W., & Kuraszewska, B. (2013). Environmental risks perception--a study of the awareness of families to threats in areas with increased health disorders in children. *Ann Agric Environ Med*. 2013;20(30):555-8

Echtner, C. & Ritchie, B. (2003). *The Meaning and Measurement of Destination Image*. Retrieved from http://www.tourism.tallinn.ee/static/files/049/the_meaning_and_measurement_of_destination_image.pdf

Eiser, J. R., Bostrom, A., Burton, I., Johnston, D. M., McClure, J., Paton, D., & White, M. P. (2012). Risk interpretation and action: A conceptual framework for responses to natural hazards. *International Journal of Disaster Risk Reduction*, 1, 5-16. doi:10.1016/j.ijdr.2012.05.002

Explorable. (2009). *Judgemental Sampling*. Retrieved from <https://explorable.com/judgemental-sampling>

Francis, J. (2016, May 27). *Penang Botanic Gardens to chop down 129-year-old rain tree*. Retrieved from <https://www.thestar.com.my/metro/community/2016/05/28/majestic-no-more-gardeners-have-started-chopping-down-famous-rain-tree/>

George, R. (2003). Tourist's perceptions of safety and security while visiting Cape Town. *Tourism Management*, 24(5), 575-585

George, R., & Booyens, I. (2014, February 28). *Township Tourism Demand: Tourists' Perceptions of Safety and Security*. Retrieved from <https://link.springer.com/article/10.1007/s12132-014-9228-2>

Gem, J. (2015). *Environmental Health and Safety Management System*. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK55873/>

Goh, H. C., & Noratiqah, M. (2016). *The user's perceptions of Perdana Botanical Garden in Kuala Lumpur*. Retrieved from <https://ajap.um.edu.my/index.php/jdbe/article/view/5363>

Guntoro, B., & Hui, T. K. (2013). Travel Satisfaction and Revisit Intention of Chinese Visitors. Case of Singapore. *Advances in Hospitality and Leisure*

Grigoroudis, E., & Siskos, Y. (2010). *Customer Satisfaction Evaluation*. Greece: Springer

Hair, K., James, P., Battour, J., Megan, L., Anderson, W., & Strauss, C. (2010). *Sample Size- What should be the sample size if a mixed approach is used?* Retrieved from https://www.researchgate.net/post/Sample_Size-What_should_be_the_sample_size_if_a_mixed_approach_is_used

Health and Safety Executive. (2012). *Managing health and safety in zoos. United Kingdom*. Retrieved from <http://www.hse.gov.uk/pUbns/priced/hsg219.pdf>

Hee, O. C., & Johari, H. (2013). Personality Traits and Customer-Oriented Behavior in the Health Tourism Hospitals in Malaysia. *International Journal of Trade, Economics and Finance*, 213-216. doi:10.7763/ijtef.2013.v4.288

Janmaimool, P., & Tsunemi. (2014). *Evaluating Determinants of Environmental Risk Perception for Risk Management in Contaminated Sites*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078580/>

John, B., & Robert, C. (2016). *Outdoor Recreation Planning*. Retrieved from <https://www.sagamorepub.com/files/lookinside/571/outdoor-rec-planning-look-inside-opt.pdf>

Jones, J. (2015). *Concepts of Statistics*. Retrieved from <https://people.richland.edu/james/lecture>

Kara, R. (2015, April 8). *Please Don't Feed The Monkeys | Earth Trekkers*. Retrieved from <http://www.earthtrekkers.com/please-dont-feed-monkeys/>

Kang, D., Wang, S., & Li, J. (2017). "Resting Site Use of Giant Pandas in Wanglang Nature Reserve." *Scientific Reports*, vol. 7, no. 1, 2017, doi:10.1038/s41598-017-14315-x

Keller, E. A., & DeVecchio, D. E. (2014). *Natural Hazards: Earths Processes as Hazards, Disasters, and Catastrophes*. Retrieved from <https://www.pearson.com/us/higher-education/product/Keller-Natural-Hazards-Earth-s-Processes-as-Hazards-Disasters-and-Catastrophes-3rd-Edition/9780321662644.html>

Kevin, R. H., Lucas, C. M., Veronica, S. N., Salvador, A., Alberto, B., Barbara, G., Raul, P., & Alejandro, Z. (2016). *The Role of Botanical Gardens in the Conservation*. Retrieved from <http://academic.oup.com/bioscience/article/66/12/1057/2327308>

Kwon, Y. G., & Park, H. J. (2002). Factor Analysis of Safety for Visitors to a Mega –Event. *International Journal of Occupational Safety and Ergonomics*, 8(3). 365-375

Lapham, S. C., Cohen, D. A., Han, B., Williamson, S., Evenson, K. R., Mckenzie, T. L., & Ward, P. (2016). How important is perception of safety to park use? A four-city survey. *Urban Studies*, 53(12), 2624-2636.
doi:10.1177/0042098015592822

Lee, H. S. (2015). Measurement of visitors' satisfaction with public zoos in Korea using importance-performance analysis. *Tourism Management*, 47, 251-260

Macaro, A., & Baggini, J. (2014). *Should we avoid value judgments?* Retrieved from <https://www.ft.com/content/66f90b6e-a866-11e3-8ce1-00144feab7de>

Manning, E. T., & Deans, A. (2010). *Evaluation of tree condition and tree safety assessment procedures in beetle-killed and fire-damaged lodgepole pine stands in central interior British Columbia*. Retrieved from file:///C:/Users/User/Downloads/37-108-1-PB.pdf

Masarrat, G. (2012). Tourist's Satisfaction towards Tourism Products and Market: A Case Study of Uttaranchal. *International Journal of Business and Information Technology*, 2 (1), 16-25

Mathew, T. (2017, October 25). "America's Greenest Health Asset Needs a Little Help." *CityLa*. Retrieved from www.citylab.com/environment/2017/10/improving-the-public-health-tool-in-our-backyards/543303/

Maurice, G. (2015). *Park safety measures to be implemented*. Retrieved from <http://www.echo.ie/news/article/park-safety-measures-to-be-implemented>

Mosley, M. (2018, February 9). *Why is Word of Mouth Marketing so Incredibly Important?* Retrieved from <http://referralrock.com/blog/word-of-mouth-marketing/>

Mühlhäusler, P., & Peace, A. (2001). Discourses of ecotourism: The case of Fraser Island, Queensland. *Language & Communication*, 21(4), 359-380.
doi:10.1016/s0271-5309(01)00006-4

Nambiar, P. (2018, January 22). *Unesco heritage status possible for Penang's gardens, says expert*. Retrieved from <http://www.freemalaysiatoday.com/category/nation/2018/01/22/unesco-heritage-status-possible-for-penangs-gardens-says-expert/>

National Park Service. (2016, December 19). *Safety*. Retrieved from <https://www.nps.gov/jotr/planyourvisit/safety.htm>

National Recreation and Park Association. (2017). *Safety and Security in Parks and Recreation Programs*. Retrieved from <http://docplayer.net/31546539-16-safety-and-security-in-parks-and-recreation-programs.html>

National Service Wilderness Visit Safety (2006). *NPS 2006 Management Policies*. Retrieved from <https://www.wilderness.net/toolboxes/documents/safety/NPS%20Wilderness%20Visitor%20Safety%20Policy.pdf>

Paek, H., & Hove, T. (2017, July 19). *Risk Perceptions and Risk Characteristics*. Retrieved from <http://communication.oxfordre.com/view/10.1093/acrefore/9780190228613.0>

Palesch, Y. Y. (2014). *Some common misperceptions about p-values*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4245357/>

Phil, S. (2015, May 30). *Monkey madness in Malaysia. Tips to keep you safe*. Retrieved from <https://www.worldnomads.com/travel-safety/southeast-asia/malaysia/monkey-business-travellers-beware>

Ryan, T. P. (2013). *Sample Size Determination and Power*. Retrieved from <https://onlinelibrary.wiley.com/doi/book/10.1002/9781118439241>

Siebold, S. (2016, July 29). *The way millionaires view money is different from everyone else*. Retrieved from <http://www.businessinsider.com/how-millionaires-think-about-making-money-2016-7>

Susie. (2016). *When Monkeys and Cactus Attack: Life Lessons from Penang Botanic Garden* [Blog post]. Retrieved from <https://carlinfamilyadventures.wordpress.com/2016/02/07/when-monkeys-and-cactus-attack-life-lessons-from-penang-botanic-garden/>

Tan, S. C. (2017, July 30). *Punters hoping to strike big by luring wild boars*. Retrieved from <http://www.thestar.com.my/news/nation/2017/07/30/punters-hoping-to-strike-big-by-luring-wild-boars/>

Taplin, R. H. (2013). The influence of competition on visitor satisfaction and loyalty. *Tourism Management*, 36, 238-246

The Star Online. (2017, February 1). *High Drama at Botanic Garden*. Retrieved from <https://www.thestar.com.my/metro/community/2017/02/01/high-drama-at-botanic-gardens-quick-response-from-staff-saves-park-visitor-stricken-by-cardiac-arres/>

Trochim, W. M. K., & Donnelly, J. P. (2006). *The Research Methods Knowledge Base, 3rd Edition*. US: Atomic Dog

Wachter, J. K., & Yorio, P. L. (2014). A system of safety management practices and worker engagement for reducing and preventing accidents: An empirical and theoretical investigation. *Accident Analysis & Prevention*, 68, 117-130. doi:10.1016/j.aap.2013.07.029

Williams, S. (1995). *Outdoor Recreation and the Urban Environment*. UK: Staffordshire University, Staffordshire

Wittink, D. R. (1988). *The Application of Regression Analysis*. US: Allyn and Bacon