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Faculty of Cognitive Sciences and Human Development

THE RELATIONSHIP BETWEEN GREEN SPACE AND MENTAL

HEALTH AMONG UNDERGRADUATE STUDENT IN UNIMAS

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Bachelor of Psychology (Honours)

2022

UNIVERSITI MALAYSIA SAWARAK

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This declaration is made on the 30th day of June 2022.

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"THE RELATIONSHIP BETWEEN GREEN SPACE AND MENTAL HEALTH AMONG UNDERGRADUATE STUDENT IN UNIMAS"

HAZANARIAH BINTI NASSIR

This project is submitted
in partial fulfilment of the requirements for a
Bachelor of Psychology with Honours

Faculty of Cognitive Sciences and Human Development
UNIVERSITI MALAYSIA SARAWAK
(2022)

The project entitled **"The Relationship Between Green Space and Mental Health Among Undergraduate Student in UNIMAS"** was prepared by **Hazanariah Binti Nassir (72254)** and submitted to the Faculty of Cognitive Sciences and Human Development in partial fulfillment of the requirements for a Bachelor of Psychology with Honours

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study aimed to investigate the relationship between green space and mental health among undergraduate students in UNIMAS and the gender differences in green space and mental health among undergraduate students in UNIMAS. To investigate the study hypotheses, the questionnaire was randomly distributed among undergraduate students in UNIMAS and contains three sections: the demographic of the participants, Green space (Nature Exposure Scale, NES), and mental health (WHO-5 Well-being Index). The Pearson Correlation Coefficient and the Independent T-test are used to test the hypotheses of the study. The result of this study shows that there is a significant relationship between green space and mental health among undergraduate students at UNIMAS. However, it only shows a weak correlation between the two variables. Meanwhile, the analysis shows that there are no significant gender differences between green space and mental health. The implication from this study is it can increase awareness related to the use of green space in promoting better mental health among the students. Besides that, it can also increase in number and improve for the local green area to be more attractive, comfortable and convenient to be used and increase research related to green space and mental health in Malaysia setting.

Keywords: *Green Space, Mental Health, Undergraduate student,*

ABSTRAK

Kajian ini bertujuan untuk menyiasat hubungan antara ruang hijau dengan kesihatan mental dalam kalangan pelajar prasiswazah di UNIMAS dan perbezaan antara jantina bagi ruang hijau dan kesihatan mental dalam kalangan pelajar prasiswazah di UNIMAS. Bagi menguji hipotesis kajian, borang soal selidik secara talian telah diedarkan secara rawak di dalam kalangan pelajar prasiswazah di UNIMAS dan mengandungi tiga bahagian: demografi peserta, Ruang Hijau (*Nature Exposure Scale, NES*), dan kesihatan mental *(WHO-5 Well-being Index*). Ujian *Pearson Correlation Coefficient* dan *Independent T-test* digunakan untuk menguji hipotesis kajian. Hasil daripada analisis kajian menunjukkan terdapat hubungan di antara ruang hijau dengan kesihatan mental dalam kalangan pelajar prasiswazah di UNIMAS. Walau bagaimanapun, ia hanya menunjukkan korelasi yang lemah antara kedua-dua pembolehubah. Selain itu, kajian ini juga menunjukkan bahawa tiada perbezaan jantina di antara ruang hijau dan kesihatan mental. Implikasi daripada kajian ini ialah dapat meningkatkan kesedaran berkaitan penggunaan ruang hijau dalam meningkatkan kesihatan mental yang lebih baik dalam kalangan pelajar. Selain itu, ia juga boleh menambah bilangan dan membaik putih ruang hijau tempatan agar lebih menarik, selesa dan mudah digunakan serta meningkatkan penyelidikan berkaitan ruang hijau dan kesihatan mental di Malaysia.

Kata kunci: *Ruangan Hijau, Kesihatan Mental, Pelajar Prasiswazah,*

CHAPTER ONE

INTRODUCTION

1.0   Introduction

This chapter introduces the research outline of the study, which begins with the background of the study, problem statement, research objectives, and research questions. This chapter is important because it explains what green spaces is and how it affects student mental health, and this chapter will end with a definition of terms of the study variables, which able to enhance understanding regarding the research.

1.1   Background of Study

Based on the World Health Organization (WHO), mental health can be defined as "a state of well-being in which an individual realizes his or her abilities, can cope with the normal stresses of life, can work productively, and can make a contribution to his or her community" (WHO, 2005, p 12). Mental health plays an essential part in our life, and a good state of mental health helps people interact well with each other, motivates people to do works daily, and makes them enjoy and continue living their lives.

Meanwhile, for green space, it is an 'integrated area comprising natural, semi-natural, or artificial green land which an aesthetic place for social and recreational opportunities, which encourages physical activity, enhances social ties and promotes mental and physical recuperation"(Tzoulas et al., 2007; Zhou & Rana, 2012 as cited in Nutsford et al., 2013, p. 1006). Greenspace has been relevant for research to many disciplines such as health and medical sciences, ecology, social sciences, and urban design and planning. It is also being considered multifunctional as it can provide support from the aspect of social, health, economic,

1

and the environment itself. Green space brings many benefits to many fields of studies, making it one of the factors for the basic materials of a good life.

From the aspect of mental health, many studies have been done to study the effect of green space on mental health. In the 19th century, public green spaces were officially designated as it is believed that green space might provide health benefits to people around it (Barton & Rogerson, 2017). Public green space has been viewed as a place for leisure and recreation as people can spend time with their family and friends for an activity such as picnic and an evening walk. Based on research, an individual that has been exposed to green space and living in the areas obtain more significant benefits as they have less mental distress, less anxiety and depression, greater well-being, and healthier cortisol profiles compared to the individual with less exposure to green space (Barton & Rogerson, 2017). This has been one of the reasons, the increasing number of public green spaces has been built as it not only able to be a place that can be used for spending time with family and friends but it also in the exact times help to give better effects to the mental health of an individual.

Most studies have found that living near urban green spaces is generally associated with increased physical activity, positive health behaviors, and improved health outcomes. The presence of more green space has also been linked with healthier stress levels which the operation of process can be explained based on "three mechanisms which are the 1) is the in increased physical activity which helps to improves mood, then 2) increased the social contact and sense of "belonging" within a community and 3) psychological restoration related to attention processes and attenuation of stress and fatigue" (Hartig et al., 2003; Maas et al., 2009; Barton & Pretty, 2011 as cited in Roe et al., 2013, p. 4087). The increased interaction with the green space has helped the individual to have a better mental health level. It also brings positive affect such as increased attention for the individual that can help them be more productive in

work, develop good morale, and help to be more rational in decision-making. This helps them move towards positive and healthier ways of life and helps build better characters in themselves.

Previous studies have reported a positive effect of green spaces on the development of positive mental health, which is described as a psychological restoration experience (Malekinezhad et al., 2020). *Psychological restoration* can be defined as "the capacity for natural environments to replenish cognitive resources depleted by everyday activities and to reduce stress levels" (Ulrich, 1983; Kaplan & Kaplan, 1989 as cited in Scopelliti et al., 2019, p. 1). It helps the individual restore their mental health by shifting the state of emotion into a stable and positive state and helping them readjust their thought and feeling more calmly. This helps reduce problems such as attention fatigue and brings stronger short-term cognitive benefits in individuals (Gidlow et al. 2016a as cited in Kabisch et al., 2017). Thus, a more effective and cost-saving way to achieve better well-being can be applied and used in many sectors.

A number of researchers have been done to study the effect of green space on the mental health of university students. The study shows that there is a "light on the restorative potential of outdoor campus green spaces for students' psychological restoration and in development of positive mental health" (Liu et al. l., 2018; Gulwadi et al., 2019 as cited in Malekinezhad et al., 2020, p.2). Thus, exposing the students to green space enables the student to have a better state of mental health and at the same time able to help the students to be more positive towards their study in the university. Based on the research also shows that a higher quality of life has been reported amongst students who perceive their university campus to have higher levels of "greenness" as the green space can serve to "buffer physiological and emotional stress and also to restore attention and focus" (Ulrich, 1983; Kaplan, 1987; Ulrich et al., 1991; Kaplan, 1995; Berman et al., 2008; Van den Berg et al., 2011 as cited in Holt et al., 2019, p. 2). This enables

the students to be more comfortable and perform their cognitive abilities in a better state. It also helps develop healthy ways of emotional management and prevents the students from engaging with unhealthy ways to release their stress and tension. Thus, this shows that green space can give better ways of living to university students.

Based on the above information, it shows that green space has a relationship with mental health. As we can see, green space can positively affect health and their ways of living and perceiving things, which play one of the primary roles in mental health. Although there is many research on green space and mental health, there has been little discussion on green space and mental health among university students in Malaysia. Thus, this research aims to know whether green space relates to mental health among undergraduate students in Malaysia or not.

1.2 Problem Statement

The problem related to mental health has become an issue in the global state. This is because mental health plays an essential role in an individual as it is often related to higher functioning and achievement in life. Thus the increased level of problems related to mental health causes a significant concern as it can bring negative impact to people globally. Based on the United Nations, "depression is ranked third in the global burden of disease and is predicted to rank first in 2030" (Mental Health and Development | United Nations Enable, n.d, para 1). The number of mental health problems related to university students has also increased for the past few years, likely because of the increase in pressure to do well in study and the increase in competition among the students itself. Based on a study, in the United Kingdom, a quarter of students is suffered from some mental health problems; meanwhile, in Asian university students, "9% of Chinese students have a high prevalence of depressive symptoms" and "41% of Hong Kongese students reported a high level of anxiety" (Tomoda et al., 2000; Wong et al., 2006; Song et al., 2008; Aronin & Smith, 2016; as cited in Kotera et al., 2020b, para 1). Thus

4

the increase in number has brought a significant concern as the university students will be the next generation to administer the country.

The benefits of green space to mental health have increased in studies for the past few years. This is most likely because the researcher can see green space as a better option to help people with mental health problems and the pressure in life. This is because increasing the level of exposure to green spaces can positively affect overall health. Based on previous studies, exposure to green space positively affects human health, such as relaxing the mind, preventing mental fatigue, lowering blood pressure, and increasing creativity (Kaplan, 1995; Fjortoft & Sageie, 2000 as cited in Liu et al., 2018). This shows that green space help to provide calmness, restorative, reduce the level of stress and help to restore the ability to pay attention and concentrate in daily life activity. Many people have shown a positive attitude towards green space as one of the ways of helping people with mental health problems. This may influence as it is a natural way to help others without any side effects on the body. Malaysia also started to slowly develop an interest in applying these methods as the increased research related to the relationship between green space and mental health in Malaysia.

Nevertheless, there are limited methods used to measure the exposure to green space areas. Based on the previous study, the researcher will use systems such as Geographical Information System (GIS) techniques (Nutsford et al., 2013; de Vries et al., 2003), or the participants that will be involved in the research will have to spend a certain amount of times in the green space (Malekinezhad et al., 2020) to study the level of exposure to green space. Past research also stated that there are limited number of standardized questionnaires that can be used to perceive the availability of neighborhood greenness (Loder et al., 2020).

Besides, most of the studies related to green space and mental health focus on age groups such as children and adults and gender. Although there is a study on the relationship between green space and the mental health level of university students in Malaysia, it only focuses on the exposure of green areas inside the campus (Malekinezhad et al., 2020). A study also related green space and university students' mental health, which involves the green space located outside of the campus. However, the study only involves one type of gender, which is 20 male students from the Faculty of Forestry, University Putra Malaysia (Mokhtar et al., 2018). The researcher from the past study suggested that the future study will involve more diverse subjects, including the female participants (Mokhtar et al., 2018). Thus, from the previous study, a gap needs to be filled up to enhance our understanding of both genders and involve a wide range of types for green space. Besides that, there is also a lack of methods to measure green space that can be used in Malaysia. Hence, this study is essential as it can identify and learn the relationship of green space on the mental health of undergraduate students in University Malaysia Sarawak (UNIMAS)

1.3   Research Objectives

The major objective of this study:

i.   To investigate the relationship between green space and the mental health level among the undergraduate students in UNIMAS

ii.   To investigate the gender differences on green space and mental health among undergraduate students in UNIMAS

1.4   Research Questions

To understand the relationship between green space and mental health in Malaysia, the following questions will be learned and understood:

a) Is there any relationship between green space and mental health among undergraduate students in UNIMAS?

b) Is there any gender differences in green space and mental health among undergraduate students in UNIMAS?

1.5   Research Hypotheses

The following are the hypothesis for this study:

a) There is a relationship between green space and mental health levels among undergraduate students in UNIMAS.

b) There are significant gender differences in green space and mental health among undergraduate students in UNIMAS.

1.6   Conceptual Framework

The major concept of this research is focusing on the relationship between green space and mental health among undergraduate students in UNIMAS. Besides, the variable gender is also being included in this research to see the gender difference between green space and mental health.

Figure 1.6; shows the relationship between the three variables that are green space (independent variable), mental health (dependent variables), and gender (moderator variables).
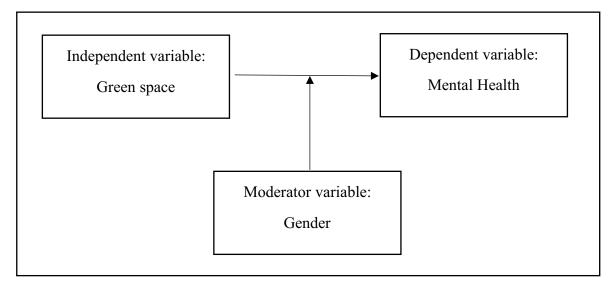

Figure 1.6 Conceptual framework

1.7   Significance of Study

a) Conceptual

This project provided a significant opportunity to advance the understanding of the influence of green space on mental health among university students in Malaysia. The data that is collected can be added to the new knowledge related to green space and mental health in the Malaysia setting.

b) Methodological

The research will help add new ways of measuring the green space that can be used in Malaysia. It also helps to increase the understanding of the effect of green space on mental health from the Malaysian perspective. This helps to give a clear vision regarding the role of green space on the mental health of people from Malaysia.

c) Practical

The study offered some important insights that can help solve the problems relating to the students' mental health in UNIMAS. It also creates a clear vision the green space can play an important aspect in mental health which can be applied in many sectors to improve mental health in more nature-friendly and cost-saving ways. It also enabled us to create strategic ways to improve mental health among the students and increase awareness of the important role of green space in mental health.

1.8   Definition of Terms

The following terms are defined to help the reader understand the context of each term in this study:

1.8.1   Green space

Conceptual Definition:

Green space can be defined as an 'integrated area comprising natural, semi-natural, or artificial green land which an aesthetic place for social and recreational opportunities, which encourages physical   activity,   enhances   social   ties   and   promotes   mental   and   physical recuperation''(Tzoulas et al., 2007; Zhou & Rana, 2012 as cited in Nutsford et al., 2013, p. 1006).

Operational Definition:

This study measured green space using a Nature Exposure Scale (NES). This questionnaire contains 4 questions has 2 distinct dimensions. The first dimension is for questions 1 and 2 which shows the level of exposure to nature in everyday life and activities. Meanwhile for the second dimension is question 3 and 4 that shows the level of exposure of the participants to

nature during excursions outside in everyday environments. This scale use 5 Likert scale (1 until 5) answers which scale 1, 3 and 5 have descriptions while there is no description for questions 2 and 4. For questions 1 and 3, it use "1 (low)", "3 (medium)' and "5 (high)". Meanwhile, questions 2 and 4, it use "1 (not much)", "3 (Somewhat)" and "5 (A great deal)". The score for this questionnaire total up and the total score represent the level of exposure to nature where 20 is the maximum total score and 4 is the minimum total score (Kamitsis & Francis, 2013). The higher the score obtain shows the higher the level of exposure to nature.

1.8.2   Mental Health

Conceptual Definition:

Mental health can be defined as "a state of well-being in which an individual realizes his or her abilities, can cope with the normal stresses of life, can work productively and can make a contribution to his or her community" (WHO, 2005, p 12).

Operational Definition:

In this study, mental health levels was measured using WHO-5 Well-being Index. This questionnaire contains five questions and uses 6 Likert scales from "All of the time" to "none of the time." The raw score for this questionnaire is calculated by totaling the figures of the five answers. The raw score range from 0 to 25, with 0 representing the worst possible and 25 representing the best possible quality of life.