

**UNIVERSITI TEKNOLOGI MARA**

**NEURO-LANDSCAPE MODEL:  
PSYCHOLOGICAL RESTORATION  
OF UITM STUDENTS (B40) VIA  
CONNECTEDNESS TO NATURE AND  
PRO-ENVIRONMENTAL  
BEHAVIOUR**

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## ABSTRACT

Depression, anxiety, and stress are growing increasingly widespread and severe among university students worldwide, notably during the COVID-19 pandemic. Low-income students (B40) are the most affected in Malaysia. They also struggle to formulate effective coping skills for dealing with the psychological problems they encounter. In this regard, connecting in a contemplative urban park for psychological restoration (PR) is an alternative way of addressing the problems cost-effectively. Despite the fact that numerous studies found a strong connection between PR and a restorative environment. Yet, the neuro-landscape approach, which combines neuroscience and landscape architecture, continues to receive scant attention. It is also vital to fully understand the intrinsic consequences of PR induced by pro-environmental behaviour (PEB) and connectedness to nature (CN) which involve human brain interpretation. Therefore, this study aims to develop a Neuro-Landscape Model (NLM) by quantifying CN, PEB and PR interrelationship among UiTM Shah Alam students. A deductive approach and quantitative method are proposed in this study to attain three main objectives. First, (Research objective 1, RO1) evaluates Taman Tasik Shah Alam's (TTSA) contemplativeness that influences psychological restoration. Ten Malaysian landscape architects assessed 35 potential contemplative TTSA images using the Contemplative Landscape Model (CLM) measurement, yielding five of the most contemplative images (CUP1-5). Second, (Research objective 2, RO2) examines the effect of CN and PEB on perceptual PR in contemplative TTSA. The five images were used to investigate PR in accordance with CN and PEB in a Google Form survey of 412 students, which was then analysed with SPSS v21 and Smart-PLS 3.2.7. Third, (Research objective 3, RO3) validates the PR on contemplative TTSA via the Electroencephalographic method. The electroencephalographic (EEG) experiment was used in this study to validate the restorative psychological experiences of 18 students via visual stimulation of CUP1-5 images and videos, respectively. Overall, the findings revealed substantively significant positive relationships between CN, PEB, and PR in contemplative TTSA, thereby verifying the development of NLM. Furthermore, the partially complementary mediation effect of PEB between CN and PR relationship is established based on the path coefficient of direct, indirect, and total effect. It was also reinforced by significant EEG data to validate the study's objective. Eventually, this study revealed that TTSA has a considerable ability to act as an antidote for psychological distress among students by connecting it intimately. Furthermore, acting as environmentalists to ensure the contemplativeness of urban parks for intrinsic benefits is another way to alleviate distress in a sequential approach of coping skill. It also called the 4Cs concept (Contemplative Urban Park-Connect-Conserve-Prospective Cure), is designed to assist those who are experiencing psychological distress in a way that is both an effective and economic coping skill.

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# TABLE OF CONTENTS

	<b>Page</b>
<b>CONFIRMATION BY PANEL OF EXAMINERS</b>	<b>ii</b>
<b>AUTHOR'S DECLARATION</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>ACKNOWLEDGEMENT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>xii</b>
<b>LIST OF FIGURES</b>	<b>xv</b>
<b>LIST OF PLATE</b>	<b>xvii</b>
<b>LIST OF SYMBOLS</b>	<b>xix</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xx</b>
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.1 Background of the Study	1
1.2 Problem statement	2
1.3 Research questions	4
1.4 Aim and Objectives	4
1.5 Hypothesis	5
1.6 Scope of the study	6
1.6.1 Definition of Terminologies	7
1.7 Significance of the study	8
1.8 Methodological Research Framework	9
<b>CHAPTER TWO: LITERATURE REVIEW</b>	<b>14</b>
2.1 Overview	14
2.2 Reality, Stigma, and Dilemma of Psychological Disorder Globally and Locally	14
2.3 Dismantling of Psychological Disorder in Malaysia Context	16
2.3.1 Socioeconomic Status and Psychological Disorder Interrelationship	17
2.3.2 University Students endure Psychological Disorders due to Socioeconomic Instability	20

2.4	Psychological Restoration (PR) Liberates Psychological Disorders of The Sufferers	23
2.5	The psychological Restoration (PR) Concept is Grounded in Nature-Health Related Theories	23
2.5.1	<i>Biophilia</i> Theory Postulated by Wilson (1984)	24
2.5.2	Stress Recovery Theory (SRT) Initiated by Ulrich (1991)	25
2.5.3	Attention Restoration Theory (ART) Developed by Kaplan (1995)	27
2.6	Urban Natural and Invented Landscape (UNIL) as Psychological Restoration (PR) Resources for All	32
2.6.1	The Urban Natural and Invented Landscape (UINL) Characteristics Stimulate Psychological Restoration Experience for University Students	35
2.6.2	Exposure and Experience with Urban Natural and Invented Landscape Park (UNIL) arouses Nature Connectedness (NC)	40
2.7	Nature Connectedness (NC) Foster Pro-Environmental Behaviour (PEB)	41
2.7.1	Types of Pro-Environmental Behaviour (PEB) with Nature Related among University Students	45
2.8	Underpinning theories of Pro-Environmental Behaviour (PEB)	46
2.8.1	Internal Stimulus of Pro-Environmental Behaviour (PEB)	50
2.8.2	Contextual Domains as External stimuli of Pro-Environmental Behaviour (PEB)	53
2.9	Landscape Architecture and Neuroscience Proposition on Psychological Restoration (PR) Study	54
2.9.1	Electroencephalographic (EEG) Prospect in Landscape Architecture Study	55
2.9.2	The Electroencephalographic (EEG) Data Acquisition	60
2.9.3	The Consideration of Electroencephalographic (EEG) Data Acquisition	62
2.10	Neuro-Landscape Model (NLM) Overview	63
2.11	The Neuro-Landscape Model (NLM) Development and Foundation	64
2.11.1	Relationship between Connectedness to Nature (CN) and Psychological Restoration (PR) – H1	66
2.11.2	Relationship between Connectedness to Nature (CN) and Pro-Environmental Behaviour (PEB) – H2	67