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Path of Awareness: The Relationship between Mindfulness and Place

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ABSTRACT

Mindfulness meditation has been increasingly used as a tool to address both physical and mental health issues in contemporary society and has gained growing interest and application in various fields. Meanwhile, designers have attempted to use architectural design to help improve people's well-being. However, the relationship between dedicated mindfulness practice and the physical environment in which it is practised awaits further exploration. This study aimed to investigate how spatial design can facilitate formal mindfulness practice. To do so, this research examined a wide range of literature, including related mindfulness theories originating in the Buddhist tradition, architectural and landscape design, and environmental psychology. It established an initial research framework for empirical study and application.

The study first distributed an online survey to over 200 mindfulness practitioners in the UK to gain a quantitative understanding of their views toward the environment in which they practised mindfulness. The case study method was then adopted to explore this topic further. The case of Kagyu Samye Dzong London was selected to qualitatively investigate the influence of a specifically dedicated space for mindfulness and whether setting up a specific space for practice is necessary. Empirical data was collected through spatial analysis, an online questionnaire, and semi-structured interviews. The results were analysed using architectural interpretation, IBM SPSS (Statistical Package for the Social Sciences) Statistics means analysis and factor analysis (version

27.0), and the Computer Assisted Qualitative Data Analysis Software (CAQDAS) NVivo (version 11). This research conducted a comprehensive comparison of mindfulness practitioners based on factors such as expertise level (beginner/proficient), religious background (Buddhist/non-Buddhist) practice frequency, and gender, aiming to gain diverse perspectives on how the environment can effectively facilitate mindfulness practice.

The findings of this empirical research provided a systematic and refined research framework consisting of nine main factors, achieved through the quantification of qualitative research. Not only it suggested that setting up a specific physical environment for mindfulness practice is necessary, especially for beginners, but it also provided the order of impact for the elements. Among the elements, quietness was among the top for positively influencing mindfulness meditation; second, the use of tools (such as meditation cushion); and third, the warm room ambience. This framework provided guidance for both designers and mindfulness practitioners to change the environment and better facilitate mindfulness meditation – which leads to long term well-being. Such physical environment, like mindfulness practices itself, is a tool to help people reach their goals. Hence, people would be encouraged to go beyond physical boundaries and obtain awareness, happiness, and well-being with the support given. To sum up, this research holds both academic and practical significance as it enriches the existing field of architectural design through its systematic review and empirical framework. Furthermore, it provides an accessible toolkit for individual practitioners to enhance their mindfulness practice.

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1 – INTRODUCTION

This chapter introduces the background and emergence of the research topic, identified the research gap, and discussed the significance of the research. The research questions, aims, and objectives will then be presented. The research approach, methodology, and case study will also be introduced before the main body of the literature review. Subsequently, the author presents the research structure to provide a more explicit explanation of the thesis content.

1.1 Research Background and Rationale

1.1.1 Overview

Mindfulness meditation¹ practice and associated design approaches have been deployed as methods to mitigate the increasing well-being issues nowadays. This research emerged to explore how physical spatial design can facilitate the practice of mindfulness meditation, which directly and indirectly improves people's well-being in the long term. It intended to investigate what elements in the physical environment can facilitate mindfulness practice in detail. Much previous research focused on the effect of mindfulness meditation and was conducted in laboratory and controlled settings. This research attempted to explore how spatial design can support formal² mindfulness meditation

¹ In this thesis, 'mindfulness practice' and 'mindfulness meditation' will be used interchangeably due to its contextual overlaps. Mindfulness meditation is one form of mindfulness practice. This approach ensures clarity and avoids unnecessary repetition while encompassing mindfulness meditation under the term 'mindfulness practice.'

² **Formal mindfulness practice:** involves setting aside dedicated time and space to engage in mindfulness exercises or meditation as opposed to informal mindfulness practice, where it do not require a specific time or place and can be done throughout the day (Kakoschke., et al).

practices by quantifying the qualitative through real-world settings to improve people's health and well-being.

1.1.2 Health and mental health issues pre-pandemic

As defined by the World Health Organisation, 'Health' is 'a state of complete physical, mental and social well-being' (WHO, 2021). Between 1990 and 2013, there was a 50% rise in the global occurrence of all mental disorders, with the number of affected individuals increasing from 416 million to 615 million (WHO, 2016). In 2017, a study showed that 792 million people lived with a mental health disorder (Dattani, Ritchie and Roser, 2021). Furthermore, the number of individuals with a mental disorder has raised to 970 million in 2019, with anxiety and depressive disorders being the most common (Institute of Health Metrics and Evaluation, 2022). In addition, deteriorating physical health has also been closely related to mental well-being. These statistics showed the urge to address the issues.

The environment played a significant role in people's health and well-being. The Royal Commission on Environmental Pollution (RCEP, 2007) stated that 'health and well-being are recognised as inextricably linked with the urban environment.' Urban living has been associated with higher rates of mental health problems compared to rural areas (Gruebner et al., 2017). A study taken from 20 population survey revealed that individuals living in urban areas have a 21% higher chance of having anxiety disorders and a 39% higher likelihood of experiencing mood disorders than those residing in rural areas (Peen et al., 2010:91). For citizens living in urban areas, it was found that such busy and

stressful environments may have a generally negative impact on people's mental health (Gifford, 2014; Van Os et al., 2003). Furthermore, the general disproportion of urban development affects the quality of mental health and well-being, which increases the number of people with depression, stress, loneliness, isolation and psychosomatic disorders (Vujcic et al., 2017).

With the increasingly fast pace of work and life in urban areas, people face more mental and physical pressure. There are many sources contributing towards the mental health issues, one of which is the work-related stress. According to Gallup's (2022) *State of the global workplace report*, 44% of individuals surveyed worldwide reported experiencing considerable workplace stress every day. This marks a slight increase from 43% in 2021. In the UK, work is the most common cause of stress for UK adults. In the report published by the Health and Safety Executive (HSE), '*Work-related stress depression or anxiety statistics in Great Britain, 2018*', which indicated that work-related stress, depression, or anxiety continues to represent a significant ill health condition in the workforce of Great Britain, accounting for 44% of work-related ill health and 57% of working days lost between 2017 to 2018 (HSE, 2018). The situation continues to deteriorate. Perkbox (2020) conducted a survey in 2020 and showed that 79% of adults in employment experienced work-related stress – on the rise compared to 59% in the 2018 (Perkbox, 2018). Other sources of stress include health concerns, failure to get enough sleep, and the pressure of household chores (Forth, 2018).

More and more callings have been raised to pay attention to mental health issues (Russell and Patrick, 2018). With stress being one of the key focuses of discussion (Bertolote, 2008) in the UK, a nationwide stress survey was commissioned by YouGov in 2018, surveying 4,619 people, which was believed to be the most comprehensive stress survey ever carried out across the UK (MHF, 2018a). The study found that nearly three-quarters of adults (74%) have at some point over the past year felt so stressed that they felt overwhelmed or unable to cope (MHF, 2018a:7). It also found that almost a third of people (32%) had experienced suicidal thoughts or feelings because of stress (MHF, 2018a:7). It has been made clear by the Director of the Mental Health Foundation, Isabella Goldie, that current levels of stress have brought various problems to society, stating that 'stress is a significant factor in mental health problems, including anxiety and depression. Stress is also linked to physical health problems such as heart disease, problems with our immune system, insomnia, and digestive problems' (MHF, 2018b). More statistics in the report showed the urgency and severity of the need to address this issue.

Indeed, the stress response could lead to an appropriate and beneficial reaction at times. However, when stress becomes excessively difficult to deal with, it could develop into chronic stress that impacts both physical and mental health (Bell, 2019; Marksberry, 2019; MHF, 2018a). The aforementioned statistics and other sources from Healthline (2020), British Heart Foundation (2019), Mind (2019), and Felman and Sampson from Medical News Today (2020) all indicate that the level of stress in current UK society brings problems such as suicidal thoughts and feelings, depression, and anxiety to people's daily lives.

1.1.3 The influence of COVID-19 pandemic

The COVID-19 pandemic has further exacerbated the situation, with rapidly growing incidents of isolation, anxiety, depression, and suicidal thoughts and actions reported (Panchal et al., 2021). Since 2020, the COVID-19 pandemic has placed both the physical and mental health of people under an increased amount of stress (Didriksen et al., 2021). Due to the COVID-19 pandemic, there was a substantial surge in the number of individuals living with anxiety and depressive disorders in 2020. Early projections indicate a rise of 26% and 28%, respectively, for anxiety and major depressive disorders within a single year (WHO, 2022). In a survey from June 2020, 13% of adults reported 'new or increased substance use due to coronavirus-related stress', and 11% of adults reported 'thoughts of suicide in the past 30 days' (Czeisler et al., 2020:1049). Bereavement, isolation, loss of income, and fear trigger mental health conditions or the deterioration of existing conditions, such as insomnia, anxiety, and depression (WHO, 2020). An increase of stress level was also reported (Torales et al., 2020). Thus, this global and social issue requires urgent attention and needs to be addressed.

This recent COVID-19 pandemic has highlighted the importance and popularity of mindfulness practice. Studies have been conducted (e.g., Zhu et al., 2020) that reveal that individuals who practised mindfulness before the pandemic experienced lower stress levels than those who began practising during the pandemic. Furthermore, people also showed improvements in measures of anxiety, depression and pain scores through mindfulness practice (Behan,

2020). Nonetheless, given the scope of this research, the primary focus remains on the importance of mindfulness practice rather than on the pandemic.

1.1.4 Mindfulness meditation practice

The commonly accepted definition for mindfulness is the 'awareness that arises through paying attention, on purpose, in the present moment, non-judgementally' (Kabat-Zinn, 1994:4). With a long-rooted tradition in Buddhism, mindfulness practice has a wide range of benefits, including self-control, objectivity, affect tolerance, enhanced flexibility, equanimity, improved concentration, mental clarity, emotional intelligence, and the ability to relate to others and oneself with kindness, acceptance and compassion (Davis and Hayes, 2011, 2012). Many other scholars have reported on increasing empathy (Aiken, 2006; Shapiro et al., 1998; Wang, 2007), compassion (Kingsbury, 2009; Shapiro et al., 2005; Shapiro et al., 2007), decreased stress and anxiety (Coffey & Hartman, 2009; Farb et al., 2010; Hoffman et al., 2010; Ostafin et al., 2006; Rosenzweig et al., 2003; Shapiro et al., 1998; Shapiro et al., 2007), and better quality of life (Bruce et al., 2002; Cohen & Miller, 2009; Tang et al., 2007; Waelde et al., 2008) resulting from mindfulness practice. Such benefits have not only been theorised but also empirically supported (Krygier et al., 2013; Walsh & Shapiro, 2006).

More specifically, research on mindfulness has identified the following benefits such as reduced rumination (e.g., Chambers et al., 2009), reduced emotional reactivity (e.g., Ortner et al., 2007), decrease task effort (e.g., Lutz et al., 2008),

increased working memory (e.g., Jha et al., 2010), increased focus level (e.g., Moore & Malinowski, 2009), increased cognitive flexibility (e.g., Siegel, 2007 Cahn & Polich, 2006; Davidson et al., 2003; Davidson, 2008; Davidson, Jackson & Kalin, 2000), increased relationship satisfaction (e.g., Barnes et al., 2007), increased immune functioning (Davidson et al., 2003; Grossman et al., 2004; Kabat-Zinn, 2018), improvement to wellbeing (Moore & Malinowski, 2009), and increase information processing speed (Carmody & Baer, 2007). The empirical studies have examined diverse population groups, including novice and experienced practitioners, Buddhists, undergraduate students, and military groups, among others, providing a comprehensive overview of the various advantages of mindfulness. It is evident that mindfulness has numerous physical and mental benefits, which led to its adaptation and evolution into various forms to support people's well-being.

Mindfulness, being a category of meditation (NCCIH, 2022), has been accepted as an effective and popular tool to tackle the problem in this deteriorating age of well-being. Institutions and organisations, such as the National Health Service (NHS), universities, researchers, and Headspace, have also encouraged individuals to practise mindfulness to mitigate the negative effects caused by COVID-19 (Bossi et al., 2022). The growing number of mindfulness-based interests across different fields (e.g., education, public health, medicine, military training, and business) during the pandemic is evident in the growing empirical evidence demonstrating that mindfulness positively impacts physical and mental well-being (Kwon, 2023). As a result, more online courses and mindfulness apps to promote mental health have emerged (Aziz et al., 2022).

Moreover, mindfulness-based applications have expanded, particularly in the medical and mental healthcare fields. The recognition of the positive effect of mindfulness meditation is evident through the increasing media coverage and research results, showcasing it as a means to improve physical and mental health (Antonova et al., 2022). Thus, mindfulness-related methods have gained popularity in public interests (Kwon, 2023).

Nonetheless, the physical places dedicated to mindfulness practice cannot be replaced. People have resumed the practices in the mindfulness centres and gradually returned to physical gatherings (observed from different official websites of mindfulness centres and the author's site visits to the centre) and more mindfulness centres are established every year in the UK (BuddhaNet, 2022). This showed the importance of the appropriately dedicated physical environment designed for mindfulness practice.

1.1.5 The intervention of design approaches

Design approaches have been established to provide and support people's sense of well-being, with 'well-being' becoming one of the most popular focuses in spatial design. 'Well-being' has been defined by Cambridge Dictionary as 'the state of feeling healthy and happy' (2023). Moreover, it encompasses the "development of one's potential, having some control over one's life, having a sense of purpose, and experiencing positive relationships" (Ruggeri et al., 2020:1). An emerging design field is 'looking at the direct connection between good design and positive health and well-being outcomes' (University of Melbourne, 2021). It considers the physical, psychological, social, and

ecological dimensions of the built environment and its relationship to people's thoughts, behaviours, and health.

Literature related to how the environment can facilitate one's well-being has witnessed concepts and theories on the rise. The Environmental Stress Theory was first proposed by Evans in 1982 and discussed that exposure to environmental stressors, such as noise or pollution, can have a negative impact on health and well-being (1982). Biophilia Hypothesis was first proposed by Wilson in 1984 and suggested that humans have an innate connection to nature, and exposure to natural environments can promote health and well-being (1984). The Stress Reduction Theory (SRT) was first proposed by Roger Ulrich in 1984 and suggested that exposure to natural environments can reduce stress and promote relaxation. Rachel and Stephan Kaplan first proposed the Attention Restoration Theory (ART) in 1989, discussing that exposure to natural environments can help restore cognitive function and reduce mental fatigue. The Place Attachment theory was first proposed by Altman and Low in 1992, suggesting that emotional attachment to the physical environment can promote well-being (1992). While they have different focuses, they share a common emphasis on the importance of physical, especially nature and natural environments, for human health and well-being. These theories have since been further developed and expanded upon through ongoing research and scholarly discourse in the fields of environmental psychology, health psychology, and related spatial design disciplines.

Drawing upon the proposed theories, many design approaches and principles have evolved to guide the design. For example, optimal healing environment draws from both the ART and SRT along with other research related to health care design, and it provides a holistic approach to consider the overall well-being of patients, using physical environment, social interactions, and other factors to impact on an individual's healing process significantly. Biophilic Design was developed based on the Biophilia Hypothesis. In addition, the assessment tools have been developed based on research to further support the health and well-being of people (see Table 1.1 for detail).

Table 1.1 The theories, design approaches and assessment tools to support the health and well-being of people.

Category	Theories	Proposed	Focus
Concept and Theory	Environmental Stress Theory	Evans, 1982	Exposure to environmental stressors, such as noise or pollution, can have a negative impact on health and wellbeing
	Biophilia Hypothesis	Wilson, 1984	Exposure to natural environments can promote health and well-being
	Stress-Reduction Theory	Ulrich, 1984	To propose that natural environments promote recovery from stress
	Attention-Restoration Theory	Kaplan and Kaplan 1989	To reduce mental fatigue and restore concentration by spending time in nature or natural environments.
	Place Attachment Theory	Altman and Low, 1992	To improve well-being by incorporating elements of local culture and history, creating spaces that are welcoming and comfortable, and providing opportunities for social interaction and community engagement.
Design principles	Biophilic Design	Browning, Ryan, and Clancy, 2014	To increase connectivity to the natural environment using direct/indirect nature, and space and place conditions to improve well-being.

	Contemplative Landscape	Krinke, 2005	To provide more aesthetic and environmental values with mental health benefits for the visitors.
	Optimal Healing Environment	Samueli Institute, 2004 (Rakel and Jonas, 2007)	To create an environment in which the social, psychological, spiritual, physical, and behavioural components of health care are oriented toward support and stimulation of innate healing capacities and the achievement of wholeness.
	Happy City	Montgomery, 2013	To create emotional infrastructure for joy among people (including centres for creativity, innovation and social entrepreneurship).
	Happy by Design	Channon, 2019	To explore the ways for architecture and design to support people's mental health and make them happy.
Assessment tools	BREEAM	BREEAM, 2023 (Originally in 1990)	To improve indoor environment quality and the health and well-being of the occupants in the building.
	LEED v.4.1	LEED, 2023 (Originally in 1998)	Evaluates the sustainability of buildings and environments, includes several credits related to health and well-being.
	WELL v.2	Well, 2020 (Originally in 2014)	To deliver more thoughtful and intentional spaces that enhance human health and well-being.
	Fitwel	Fitwel, 2023 (Originally in 2017)	Evaluates the impact of building design and operations on the health and well-being of occupants.
	Living Building Challenge	Living Future, 2022 (Originally in 2019)	Focused on regenerative design, but includes a range of criteria related to health and well-being.

Environmental psychologists, urban designers, architects, landscape architects and interior designers have attempted to improve the well-being of humans, other species, and the environment through the means of spatial design. This is witnessed through the literature, design concepts proposed, and assessment tools developed by groups and individuals such as WELL, BREEAM, International Well Building Institute, Terrapin Bright Green, Happy City and

others named above in the table. They proposed guidelines for the design of interior and urban spaces that have the potential to transform the quality of life and enhance the richness of workplaces and communities. The essence is that the built environment influences one's mind, as evidenced by environmental psychology, and people can change the environment (Bell et al., 2001), which influences back again. As people spend more than 80% of their time in buildings (Channon, 2018:1), the quality of the places can significantly impact people's well-being. All these design principles, as named, have provided many references for designers and individuals to consider how the set-up of the physical environment can lead to better well-being (Table 1.2).

1.1.6 Conclusion

In short, this study is based on three premises:

- 1) Health and well-being
- 2) Mindfulness practice to improve mental health and well-being
- 3) Spatial design to modify the environments to facilitate the mindfulness meditation practice

Changing the physical environment can also produce a transformative and stress-relieving effect (Mills, Reiss & Dombeck, 2019). In today's world, restoring our inner peace and tranquillity through a design approach is necessary and essential. Approaching such a situation with appropriate design strategies and methods is crucial. Therefore, this study aims to embark upon the situation from both the 'inner experience' of mindfulness practice (as a practitioner) and the 'outer context' of physical environments (as a designer)

through exploration of the relationship between formal (with dedicated time and space) mindfulness practice and the outer physical space in which it is practised.

1.2 Research Gap

A gap in knowledge regarding the physical environment that can facilitate the practice of mindfulness meditation has been identified. On the one hand, it has been widely acknowledged that mindfulness has numerous benefits for short-term and long-term well-being. On the other hand, spatial design (including urban design, architecture, and landscape architecture) has focused on creating external environments that promote positive well-being in people. Additionally, most previous research has been conducted in laboratory settings, which may not accurately reflect the real-world settings where people practice mindfulness. Therefore, there is a need for research that explores the impact of the physical environment's holistic design on mindfulness practice and its potential to improve long-term well-being outcomes in real-world settings. The question now is: **how can the physical environment be designed or adapted to support mindfulness practice?**

Furthermore, while some attempts have been made to design spaces specifically for mindfulness practice, such as meditation centres, meditation rooms, or wellness centres, little research has been conducted on the effectiveness of these specialised spaces in improving mindfulness practice or well-being outcomes. Thus, this research aims to explore how the physical environment influences mindfulness practice and established a research framework to support the practice of mindfulness meditation. If the physical

environment were conducive to mindfulness, practitioners would be more efficient, and their mindfulness would be solidified and strengthened. The current research gap highlights the need for further exploration and development of the physical environment that facilitates the practice of mindfulness meditation.

1.3 Research Significance

This research established a new interdisciplinary framework crossing three disciplines: mindfulness theories, spatial design, and environmental psychology. This research collected information about centres related to mindfulness practice in the UK which was not available before. It is also the first time to survey over 200 adults who have practised mindfulness meditation in the UK about how space influences their practice. It also surveyed practitioners associated with the case study centre about how the centre has facilitated their mindfulness meditation. In-depth semi-structured interviews have been conducted with mindfulness practitioners and managers of mindfulness centres to explore their insights about how the physical environment has influenced and facilitated mindfulness meditation. Thus, the relationship between mindfulness practice and space was investigated more thoroughly.

Another significance of this research was the approach to quantify the qualitatively and establish the research framework. The framework was based on a combination of quantitative questionnaires and qualitative study of the physical space, and interviews of the case. It has gone through a series of analyses, including means analysis, factor analysis, and qualitative analysis, to

reach a comprehensive and reliable conclusion supported by empirical evidence.

In practice, the findings of this research provide practical guidance for potential mindfulness meditation-related organisations, personnel in management or design fields, and individuals looking for sufficient support from the physical space they are in for their mindfulness practice. In addition, the research findings also provide suggestions for practitioners with limited access to resources or limited budgets, helping them adapt and improve their current environment based on the established research framework.

Hence, on the one hand, the study provided empirical results to support what has been stated or suggested in the literature, such as certain qualities of the space/environment. On the other hand, this study established a research framework that can be applied to organisations as well as individuals to conduct relevant studies based on their contexts. In summary, this interdisciplinary research focused on exploring the relationship between mindfulness practice and the physical space in which it is practised. It investigated the attributes and elements in a physical environment that can facilitate or hinder the practice of mindfulness meditation. After understanding how the environment can support or discourage mindfulness meditation, it can then suggest how the environment can help improve the efficacy of mindfulness practice, which is proven to be beneficial to one's well-being in the long term.

1.4 Research Question

This thesis investigated the relationships between formal mindfulness practice and the spatial environment. In addition, it explored spatial qualities that could facilitate mindfulness practice. The research aims to address the following key questions:

Main research question: How can the external physical environment be designed or adapted to facilitate the formal mindfulness practice?

Sub questions:

- 1) How do spatial environments influence people's thoughts and behaviour?
- 2) What are the spatial attributes influencing mindfulness practice?
- 3) To what extent do these attributes influence (positive, negative, neutral) the experience of mindfulness practitioners at different a) levels of proficiency b) religious belief c) frequency of practice and d) gender.

1.5 Research Aims and Objectives

1.5.1 Research aims

- 1) To understand the relationship between environment and formal mindfulness practice.
- 2) To establish the research framework based on the elements influencing (positive, neutral, negative) formal mindfulness practice for practitioners.
- 3) To understand how attributes influence formal mindfulness practice.

1.5.2 Research objectives

- 1) Review the literature relevant to mindfulness (i.e., traditional Buddhist and contemporary secular mindfulness) and the spatial environment, i.e., environmental psychology, spatial design theories (in urban design, architectural design, landscape design, etc.)
- 2) Collect the relevant attributes from the literature.
- 3) Critically examine the attributes, categorise them and form the research framework for later empirical research and analysis.
- 4) Collect the data according to the established research framework and examine the relative significance of the attributes by testing the research framework through online surveys, interviews, and spatial analysis.
- 5) Analyse and discuss the data results, answering all the research questions.

1.6 Research Approach

This research adopted a mixed-method approach, employing a case study combines both quantitative and qualitative methods to explore the relationships between formal mindfulness practice and the physical environment through the established framework. Prior to the case study, the initial research framework was established through a comprehensive review of the literature in three fields: traditional Buddhist teaching and the concept of 'mindfulness', spatial design theories and built examples, and environmental psychology. For the quantitative methods, it involved distributing an online questionnaire to mindfulness practitioners across the UK. The data collected were analysed using both IBM SPSS Statistics and NVivo to interpret the results. The research

framework was then refined by comprehensively analysing this empirical evidence. For qualitative methods, in-depth semi-structured interviews and spatial analysis were conducted within the selected case study location - Kagyu Samye Dzong London, a Buddhist centre in central London that serves a diverse community in urban areas. This provided a good sample to explore how the place could facilitate mindfulness practice. The semi-structured interview involves an in-depth conversation with proficient practitioners and manager of the centre. The data were analysed using NVivo. The spatial analysis involved identifying attributes in the physical environment using the research framework. Then, the research suggested the spatial elements and qualities that can facilitate mindfulness practice, which could be beneficial for both individuals and organisations seeking to promote mindfulness practice in their physical environments.

1.7 Structure and Organisation of Thesis

The following section briefly captures the essence and rationale for each chapter of this thesis – the research structure and the backbone of this research thesis (Figure 1.1 at the end).

Chapter 1: Introduction – introduces the research topic and its background, identifies the research gap, and presents the research questions, aims, and objectives. The structure of the thesis is also outlined.

Chapter 2: Mindfulness – studies the concept and ideology of mindfulness that originated in the Buddhist tradition to understand how mindfulness practice could inform the spatial environment. Buddhist literature is explored to

understand the meanings, purpose, benefits, and relevant instructions of Buddhist mindfulness. It explores the essence and forms of mindfulness relating to the physical environment and discusses the debates about whether mindfulness practitioners need a particular space for practice. The scope of research is defined as dedicated (formal) sitting mindfulness practice.

Chapter 3: Space and Place – examines physical spaces related to Buddhist and secular mindfulness practices – the traditional Buddhist places and contemporary places designed to accommodate mindfulness practices. It investigates how different types of spaces influence practitioners. It summarises the key qualities of the environment that may support the practice of mindfulness.

Chapter 4: Environmental Psychology – forms an overarching structure based on the discipline of environmental psychology that brings together the previous two chapters. It confirms that the environment influences people's thoughts, behaviours, and activities, and people can influence the environment. It explores the beneficial effects of key elements mentioned in Buddhist doctrines and design disciplines to establish a research framework based on the literature review.

Chapter 5: Methodology – covers the research methodology, approach, design, sampling strategies, case study selection, and pilot study. It employs a quantifiable mixed-method approach, using quantitative questionnaires and

qualitative spatial analysis and semi-structured interviews to obtain data and conduct analysis to provide insights from different perspectives.

Chapter 6: Questionnaire result – presents the analytical results of the online questionnaire from 203 mindfulness practitioners in the UK over 18 months using means analysis and factor analysis (by IBM SPSS Statistics version 27 and NVivo version 11). A refined research framework based on quantitative analysis is then established.

Chapter 7: Case study – Kagyu Samye Dzong London – This chapter presents the case study that further explores the relationship between mindfulness practice and the space where it is practised qualitatively. It includes qualitative spatial analysis, questionnaires, semi-structured interviews, and teaching instructions. It concludes with results from these aspects.

Chapter 8: Discussion – discusses comprehensively and qualitatively based on the established research framework using the existing literature, questionnaire results, and case study. It highlighted the most influential positive elements within the physical environment for mindfulness meditation. The research framework is then refined to provide suggestions and recommendations for organisations and individuals supporting mindfulness practices. This chapter also summarises and concludes the research, highlights key findings and significance, acknowledges limitations, and recommends future research directions.

Bibliography – Contains all the references for this research.

Appendices – Contains the appendices for this research, namely ethics approval document, consent form, recruitment email, questionnaire questions, questionnaire results, interview questions, and other relevant information.

Please see below for the research structure (Figure 1.1).

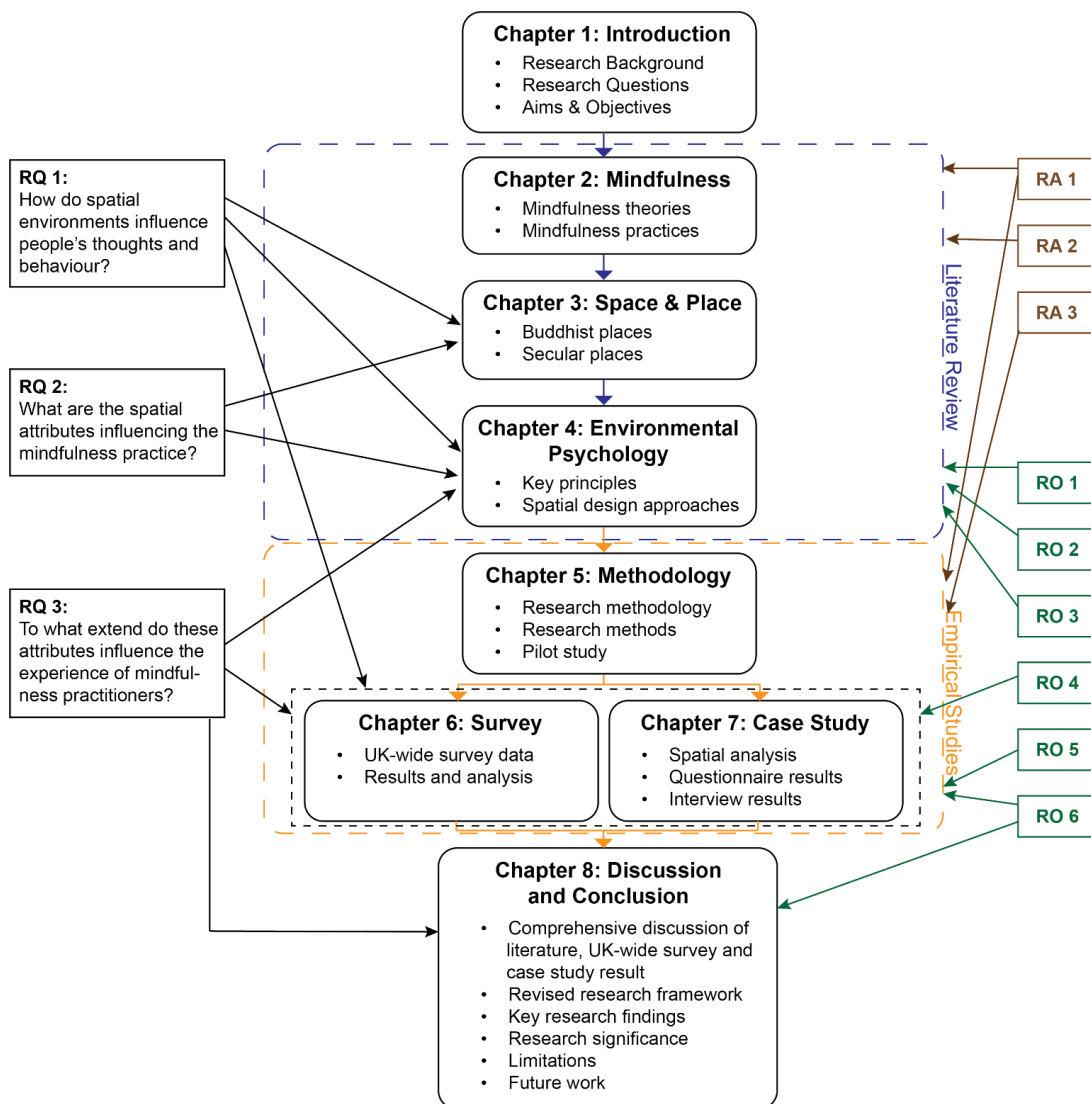


Figure 1.1 Structure of this thesis content.

2 – MINDFULNESS

2.1 Overview

This chapter sets the foundation for the research question, **‘How can the external physical environment be designed or adapted to facilitate the formal mindfulness practice?’** The literature review chapter examines in detail the three key aspects of the research to explore how mindfulness meditation (e.g., its essence, spatial requirements of activities) informs the spatial design, namely, (1) the definitions, (2) the meaning of mindfulness, and (3) both Buddhist and secular mindfulness activities. It is noted that this review will not explore in detail the mindfulness practice in other religions and informal mindfulness practices. Instead, this literature review aims to explore and discuss the relevant materials of all aspects mentioned above, which set the foundation for the later chapters. The literature sources include books, journal papers, reports, Buddhist doctrines, teachings from Buddhist masters and guidebooks for secular mindfulness practices.

2.2 Mindfulness Literature

2.2.1 Introduction

To better understand the physical environment that can facilitate mindfulness meditation and improve people’s health and well-being, the concept, the definition, the purpose of mindfulness, and the physical spaces required for this activity to take place have been examined. This provides a foundation for understanding how mindfulness practice informs the physical environment and,

conversely, how spatial design can feed back to further support mindfulness meditation practices.

This section provides a comprehensive exploration of the literature on the two key aspects of mindfulness: (1) Buddhist mindfulness, which is rooted in Buddhist teachings, and (2) contemporary secular mindfulness, which has developed outside of religious contexts. The review considers the definitions and meanings of mindfulness as presented in various literature sources, with a specific focus on the historical background and evolution of Buddhist and secular mindfulness. It is essential to thoroughly understand the underlying theory and practice of mindfulness to advance research on the potential relationship between dedicated mindfulness practice and physical space. While there are other mindfulness practices based on different religions, such as Hinduism (Selva, 2020), this review primarily focuses on contemporary mindfulness, which has gained significant popularity among the general public and draws largely from Buddhist traditions (Husgafvel, 2016; Monteiro, Musten & Compson, 2014).

2.2.2 Buddhist mindfulness

2.2.2.1 Definition

It is crucial to define it in greater detail by referring to its original translation and meaning within Buddhism to gain a comprehensive understanding. The literature contains a wealth of definitions of mindfulness, including recent publications and ancient sutras taught by Buddha himself. Mindfulness is widely considered to be a crucial aspect of Buddhism, with many Buddhist masters

and scholars emphasising its importance throughout the Buddhist spiritual path (e.g., Analayo, 2016; DN 22, 2000; Kuan, 2012; MN 10, 2008; Shantideva, 2008; Shonin et al., 2016; Trungpa, 2010). With the proliferation of mindfulness programmes in recent years, traditional mindfulness communities have expressed concerns about potential misunderstandings and misappropriations of its original intent (Monteiro et al., 2014; Shonin et al., 2016), leading to a growing voice for the necessity to explore the original ideology of mindfulness practice.

Etymologically, the original Pali term for mindfulness is *sati*, which derives from *smṛti* in Sanskrit, meaning memory. The memory here may refer to the meaning of remembering. According to the *Satipatthana Sutta* (MN 10, 2008), practitioners should remember 'to be alert to what one is doing in the present moment, to recognise the skilful and unskillful qualities that arise in the mind, and also how effectively to abandon the qualities that get in the way of concentration, then to develop the skilful ones that promote it.' Mindfulness contains the meaning of 'to remember' (Marques et al., 2019). Jamgon Ju Mipham (1846-1912) supported this point in *Khenjuk, or The Entrance to the Way of the Wise* (Mipham, 1997), stating that mindfulness means not forgetting a known object and its function is to prevent distraction. The Mahayana Abhidharma suggests that mindfulness is not forgetting things (i.e., Buddha's teachings) in the past, and the mind is not distracted. Its object is the past, its form is not forgotten, and its function is to prevent distraction (Sodargye, 2015). Thus, the physical environment facilitates mindfulness meditation and should

be able to foster such quality and support practitioners to ‘be alert’, ‘be in the present moment’ and ‘to remember’.

Some sources suggest that the English term ‘mindfulness’ is a direct translation of the Buddhist concept of *sati* in Pali (Dhamma, 2019). However, other sources have attempted to translate *sati* (P.) into words such as ‘conscience’, ‘attention’, ‘meditation’, ‘contemplation’, and ‘insight’ (Kuan, 2012). T.W. Rhys Davids was the first to translate *sati* into ‘mindfulness,’ which he defined as ‘the active, watchful mind’ (Gethin, 2011). *Sati* (P.), or *smriti* (Sk.), refers to attentiveness or Right Mindfulness, which is the seventh step on the Noble Eightfold path (Shonin, Van Gordon and Singh, 2016).

In the book *Mindfulness in Early Buddhism*, ‘mindfulness’ is described as a function or quality of the mind that can be practised or cultivated (Kuan, 2012). Goldstein (2007) defined mindfulness as ‘the quality and power of mind that is aware of what is happening, without judgment and without interference.’ It is also referred to as ‘the subtle process that people are using and experiencing at this very moment’ (Dhamma, 2019). Trungpa (2010) suggested that mindfulness means allowing oneself to be present in the very moment of what is happening in the living process – and then letting go, rather than pushing oneself toward or hanging onto something. Thich Nhat Hanh (2009), a pioneer in teaching mindfulness, asserts that mindfulness reveals what is happening in one’s bodies, emotions, minds, and in the world, helping beings avoid causing harm to oneself and others. Mindfulness is defined as the spiritual process of being fully aware of that *which is*, as opposed to that *which might be* (Shonin

& Van Gordon, 2014). All the above definitions of 'mindfulness' can be traced back to Buddha's original teachings.

According to Buddha's first instructions in establishing mindful awareness, now known as the Satipatthana Sutta or the 'Discourse on the Establishments of Mindfulness' (DN 22, 2000), he stated that:

'And what is right mindfulness? There is the case where a monk remains focused on the body in and of itself - ardent, alert, and mindful - putting aside greed and distress with reference to the world. He remains focused on feelings in and of themselves... the mind in and of itself... mental qualities in and of themselves - ardent, alert, and mindful - putting aside greed and distress with reference to the world. This is called right mindfulness...'

This early discourse states four main domains of practice for the establishment of mindfulness, which were: (i) body (P. *kaya*), (ii) feeling, emotion (P. *vedana*), (iii) mental state, mind (P. *citta*), and (iv) phenomena (Skt. *dharma*). Each of the foundations contained sub-domains which were referred to as applications by some scholars (e.g., Wallace, 2011) (see Figure 1.1). The purpose of the four foundations of mindfulness was to develop insight and, therefore, liberation from cycles of *dukkha*³, which was the main aim for Buddhist practitioners (Analayo, 2015).

³ **Dukkha:** Pali word, most often translated as 'pain,' 'suffering,' 'stress,' or 'dis-ease' (and as an adjective, 'painful, stressful') (Oxford Bibliographies, 2020)

One key issue that needs attention is that the Buddha differentiated between right mindfulness (*samma sati*) and wrong mindfulness (*miccha sati*). Strictly speaking, the mindfulness that Buddhists are encouraged to cultivate is the right mindfulness (Castro, 2018; Van Gordon et al., 2015). According to the Pali canon, a person committing a premeditated and heinous crime can still be seen as exercising mindfulness (Purser and Loy, 2013). However, on such occasions, this is the wrong mindfulness. In the Buddhist view, the quality of awareness for right mindfulness is characterised by wholesome intentions and positive mental qualities that lead to human flourishing (e.g., enlightenment⁴) and optimal well-being for others as well as oneself (Purser and Loy, 2013). In the *Mahacattarisaka Sutta* (MN 117, 1997), the Buddha made the following statement:

‘One makes an effort for the abandoning of wrong view and for entering into right view: This is one’s right effort. One is mindful to abandon wrong view and to enter and remain in right view: this is one’s right mindfulness. Thus these three qualities - right view, right effort, and right mindfulness - run and circle around right view.’

In short, Buddhist mindfulness refers to the process whereby one is fully aware of the very moment of the living process (MN 10, 2008) with an ardent, alert, and watchful mind (DN22, 2000; Shonin & Gordon, 2014), and also does not forget the known object (Mipham, 1997; Sodargye, 2015), for example, to remember (Marques, 2019) the virtuous qualities of the mind, the nature of the mind, and this awareness must also incorporate the quality that can (i) give rise

⁴ **Enlightenment:** Awakening, full realisation; a final blessed state marked by the absence of desire or suffering (Merriam-Webster, 2022)

to a pervasive and enduring feeling of calm and spiritual wellness (calm-abiding), and (ii) bring the mind into a state of meditative focus that is conducive to examining and gaining insight into the non-self or empty nature of self and reality (wisdom, insight) (Van Gordon et al., 2015). From the essence of these definitions, it is worthwhile to investigate how the physical environment can support mindfulness meditation, ultimately leading to the cultivation of these qualities. The objective is to ascertain how the physical setting can aid practitioners in cultivating the right mindfulness with the right intention and be fully aware of the present moment with an ardent, alert, and watchful mind, and providing an environment conducive to gaining insights into wisdom.

2.2.2.2 Historical background and development

To understand where mindfulness meditation has taken place in the past, investigation into the historical background and development of mindfulness is necessary. Buddhism, from which Buddhist mindfulness originated, was founded around the 6th century BCE by Siddhartha Gautama, later known as the Buddha (Conze, 1980; Skilton, 1999; Trainor, 2004). According to BBC (2002), 'the history of Buddhism is the story of one man's spiritual journey to Enlightenment, and of the teachings and ways of living that developed from it.' 2500 years ago, Siddhartha Gautama was born into a royal family in the village of Lumbini, but his privileged life was disrupted when he saw the inevitable fate of human beings - sickness, age, and death - which greatly disturbed him (BBC, 2007). From this point, he decided to seek for a way where one can escape the inevitability of death, old age and pain completely (to uproot the root causes of *dukkha*). He went through strict self-denial and asceticism, before finally

choosing the Middle Way⁵. Finally, he achieved enlightenment under the Bodhi tree in his deep state of meditation. For the next 45 years, he taught the dharma⁶ and many disciples attained enlightenment under his guidance (BBC, 2002). Based on his own experience on the path to enlightenment, or awakening, mindfulness was an indispensable part of Buddhist practice.

Buddha's spiritual journey denoted an initial relationship between his meditation practice (including mindfulness) leading towards enlightenment and the physical environment. As a result, he chose to move away from the luxurious palace, comforts, food, enjoyment and his family, which he considered as distractions – also known as the Great Renunciation (Keown, 2004). It was seen as an act to abandon desire and clinging to the comfort (Prince, 1996). Instead, he moved to remote areas, such as forests and mountains, without external distractions to enhance his practices. Not only was this part of the biography of the Gautama Buddha but a pattern that can be found in every Buddha's life (Strong, 2015). From this, a supportive environment for mindfulness meditation should eliminate possible distractions as much as possible.

To further understand the Buddhist mindfulness and the physical environment required for the practice to occur, it is important to first comprehend the foundation of the cause of suffering in the Buddha's view. According to Buddhist

⁵ **Middle Way:** Sanskrit *Madhyama-pratipadā*, Pāli *Majjhima-patipadā*, in Buddhism, complement of general and specific ethical practices and philosophical views that are said to facilitate enlightenment by avoiding the extremes of self-gratification on one hand and self-mortification on the other (Britannica, 1998).

⁶ **Dharma:** the doctrine, the universal truth common to all individuals at all times, proclaimed by the Buddha; teaching of Buddhism (Britannica, 2023a).

teachings, the root cause of *dukkha* is *Avidya* (Skt.), which is the fundamental ignorance that misunderstands the nature of reality (Shonin et al., 2016; Thaye, 2018; T27, 659). *Avidya* was mentioned in various contexts in Buddhist teachings, including the Four Noble Truths⁷, the twelve links of dependent origination⁸, and the three poisons⁹ within the Mahayana¹⁰ Buddhist tradition, because it is the cause of all disturbing afflictions which lead to inappropriate actions, ultimately leading to suffering (Buswell and Lopez, 2014). Buddha found that the only complete way to end suffering is to 'replace ignorance, our failure to recognise the nature of reality, with wisdom' (Thaye, 2018). Therefore, in all Buddhist traditions (Theravada¹¹, Mahayana, and Vajrayana¹²), uprooting this cause of all sufferings would lead to the overcoming of *dukkha*, enlightenment, or awakening, realising one's ultimate nature, which is the ultimate goal of Buddhist mindfulness practice.

From the brief history of Buddhism mentioned above, mindfulness meditation is the method that Buddha and his numerous disciples applied in their successful path to enlightenment. In the *Mahasatipathana Sutta* (DN 22), Buddha said that:

⁷ **Four Noble Truths:** accepted by all schools of Buddhism and have been the subject of extensive commentary: (1) suffering, (2) the origin, cause of suffering (3) cessation of suffering, and (4) the path to the cessation of suffering (Britannica, 2023c).

⁸ **Dependent origination:** a fundamental concept of Buddhism describing the causes of suffering and the course of events that lead a being through rebirth, old age, and death (Britannica, 2012).

⁹ **Three poisons:** greed, ignorance (delusion), and hatred (aggression, aversion) (Khyentse, 2004).

¹⁰ **Mahayana:** "Great Vehicle' or 'Great Carriage' (for carrying all beings to nirvana), also known as the Bodhisattvayana, the bodhisattva's vehicle." (Warder, 1999: 338).

¹¹ **Theravada:** (Pali: 'Way of the Elders') major form of Buddhism prevalent in Sri Lanka (Ceylon), Myanmar (Burma), Thailand, Cambodia, and Laos (Britannica, 2022).

¹² **Vajrayana:** 'Vehicle of the Mantra' (Sanskrit: 'Thunderbolt Vehicle' or 'Diamond Vehicle') form of Tantric Buddhism that developed in India and neighbouring countries, notably Tibet. (Britannica, 2023d)

'This (mindfulness) is the direct path for the purification of beings, for the overcoming of sorrow and lamentation, for the disappearance of pain and distress, for the attainment of the right method, and for the realization of Unbinding...'

The great master Nagarjuna also declared in his *Letter to a Friend* (Thaye, 2018:1) that:

'Mindfulness of the body was thoroughly taught by the Buddha as the only path; protect it well through attentiveness. If your mindfulness deteriorates, you will lose the entire teachings.'

From the Buddhist perspective, mindfulness was originally taught by the Buddha as a core aspect of the path of awakening and is essential to be practised throughout the spiritual journey (Shonin et al., 2016:3). Again, the physical environment that supports the happening of mindfulness should contain the qualities to evoke the awareness, wisdom, and compassion, and to reduce the distractions and afflictions.

As recorded in history, various interpretations of his teachings led to the emergence of eighteen different schools of Buddhism after Buddha's passing (Thera, 2011). Over time, these schools coalesced into two main branches, the Theravada (Lesser Vehicle or Teaching of the Elders) and the Mahayana (Great Vehicle), each with its sub-sects, such as the Pureland school, Zen, and Tendai schools. Some scholars also recognise a third major school, the Vajrayana

(Vehicle of the Thunderbolt), although it is often considered an extension of the Mahayana (O'Brien, 2018). Does this then affect the spatial requirement for mindfulness meditation?

Despite the diversity of Buddhist traditions, all of them regard mindfulness meditation as a core practice (Nisbet, 2017). From a Buddhist perspective, meditation is not merely a means of reducing stress or maintaining inner peace, but rather a way of exploring the nature of reality and progressing toward enlightenment (*Anuttara Samyaksambodhih*) (Tsai, 2018). Buddhism sees each sentient being as having the potential to become enlightened, and mindfulness is seen as a crucial step on that path. As the Buddha's final words attest, '*All compounded things are liable to decay; strive with mindfulness*' (*Yauadhamma Samkhara, Appamadena Sampadetha*) (Skilton, 1999).

The system of mindfulness developed in Buddhism is not only analytical, involving contemplation of various bodily, sensory, mental, and phenomenological factors, but also leads to a higher synthesis of consciousness in Samadhi, ultimately enabling practitioners to achieve enlightenment. Irrespective of the tradition, whether Theravada, Mahayana, or Vajrayana, mindfulness occupies a central position in Buddhist teachings as it represents one of the most crucial elements such as the Noble Eightfold Path¹³. The practice of mindfulness is deemed to be a fundamental means to alleviate suffering and foster wisdom, which ultimately leads to enlightenment or

¹³ **Noble Eightfold Path:** (1) correct view, (2) correct intention, (3) correct speech, (4) correct action, (5) correct livelihood, (6) correct effort, (7) correct mindfulness, and (8) correct concentration, single-mindedness, (Britannica, 2023b).

awakening (Xiao et al., 2017). Mindfulness, as a concept, has been transmitted through generations for over 2500 years since the time of Buddha and has persisted to this day. This enduring continuity emphasises the enduring significance of mindfulness as a core component of Buddhist practices regardless of which schools of Buddhism. From this, the physical environment for mindfulness meditations may have different geological context (due to its spread in different countries), but the essence remains the same – to encourage the generation of mindfulness awareness in short.

2.2.2.3 Purpose

A supportive physical environment should also help the practitioners to fulfil the purpose. As previously mentioned, the ultimate objective of Buddhism is to achieve enlightenment, which refers to ‘the highest spiritual state that can be attained’ (Xiao et al., 2017:139). Enlightenment is also known as ‘awakening’ in Buddhism, as it is the state of comprehending the nature of reality (Skt. *Bodhi*; Tib. *Sangyé*) and gaining perfect wisdom, with no more ignorant (Chandrakirti, 1986). ‘In the end, Buddhism is about knowing yourself, building a relationship with yourself’ (Khyentse, 2020), to fully realise our Buddha nature.¹⁴ In Buddhism, every method taught by Buddha is a tool that creates an environment or atmosphere to remind practitioners of the ‘base’ – their true nature (Khyentse, 2020), and mindfulness is one of the many methods that can achieve such goal, that aims to remove the dualistic view of object and subject (Mingyur, 2020).

¹⁴ **Buddha nature:** the potential for all sentient beings to be a Buddha (Brunnholz, 2015).

As Chapter V of *The Way of Bodhisattva* (Shantideva, 2008) elaborated, mindfulness and alertness are critical components of Buddhist practice. The *Mahayana Abhidharma* (Sodargye, 2015) also emphasised the importance of mindfulness, which contains the meaning of 'not forgetting,' at both basic and profound levels. At a basic level, mindfulness involves not forgetting the teachings and righteous thoughts, whereas at a deeper level, it entails the awareness of not forgetting the true nature of one's mind.

According to Buddha, distractions and forgetfulness of one's true nature cause chaos, confusion, and suffering (Sogyal, 2017). Mindfulness serves as a means of bringing back lost awareness and is an essential tool in attaining enlightenment or awakening. While calmness, stress reduction, and tranquillity are by-products of mindfulness, they are not the ultimate goal of Buddhist practice (Khyentse, 2021a; Sogyal, 2017). In Buddhism, all teachings must be practised with mindfulness from beginning to end to fully realise the goal of attaining enlightenment. Thus, the physical environment for the happening of mindfulness meditation should facilitate the qualities of awareness and help prevent distractions and forgetfulness.

2.2.3 Contemporary secular mindfulness

The emergence of contemporary secular mindfulness and meditation as a focus in the West did not occur until the 1960s, despite previous interest among Westerners in meditation. The mindfulness movement in the West was fuelled by several forces in the 1970s. The first force was the founding of the Insight Meditation Society (which later formed the Insight Meditation Centre) in Barre,

Massachusetts in 1976 by Joseph Goldstein, Jack Kornfield, and Sharon Salzberg who were influenced by the Theravada Buddhist practices (such as Vipassana meditation) outside the West (Tricycle, 2004). This retreat centre integrated elements of Western psychology and psychotherapy, downplaying religious elements such as chanting (Wilson, 2014). The second force was the promotion of mindfulness and meditation by Vietnamese Buddhist monk Thich Nhat Hanh in the mid-1970s, with many official meditation practice groups today still affiliated with his teaching (Wilson, 2014). Another instrumental influence was Ajahn Chah, who established the Thai Forest Tradition in the UK (Buddho, 2022). This tradition also made significant contributions under the leadership of Ajahn Sumedho to the development and later popularisation of mindfulness (Sumedho, 1994). The most influential force in the acceptance of mindfulness as a secular and scientific practice came from Jon Kabat-Zinn (Nisbet, 2017), who has an Eastern foundation in mindfulness that he later integrated with Western science (Selva, 2020). In 1979, Kabat-Zinn started an eight-week MBSR (Mindfulness Based Stress Reduction) course at the University of Massachusetts Medical School, which marked the starting point of contemporary secular mindfulness as MBSR distanced itself from the original religious contexts (Nelson, 2009) by carefully describing the methods and underlying philosophy in secular terms and separating it rhetorically from Buddhist religiosity (Hickey, 2019). Does contemporary secular mindfulness then have different spatial requirements for mindfulness practices?

According to Monteiro et al. (2014), contemporary secular mindfulness can be defined as all forms of mindfulness programs that are not explicitly based in

Buddhist practice (and other religions), as Olendzki (2020) stated that contemporary secular mindfulness uses meditation to cultivate mindfulness without relying on doctrines from Buddhism or any other spiritual tradition. This definition means that practitioners of different religions or none at all, as well as those in various fields of study, including medical fields, can all access the power of mindfulness.

2.2.3.1 Definitions

According to Jon Kabat-Zinn (founder of Mindfulness Based Stress Reduction, commonly known as MBSR – the initial version that many secular mindfulness practices stem from), who adapted Buddhist teachings on mindfulness (Kabat-Zinn, 2011) and developed the Stress Reduction and Relaxation Program in the West (Wilks, 2014), mindfulness ‘is awareness, cultivated by paying attention in a sustained and particular way: on purpose, in the present moment, and non-judgmentally’ (Kabat-Zinn, 2003, 2011). It is a form of meditation that Jon Kabat-Zinn viewed as a way in which people engage in:

- 1) systematically regulating one’s attention and energy;
- 2) thereby influencing and possibly transforming the quality of one’s experience;
- 3) in the service of realising the full range of one’s humanity and of;
- 4) one’s relationships to others and the world.

In his book *Full Catastrophe of Living* (2013:58), Jon Kabat-Zinn asserts that mindfulness is not just a practice but a way of being – ‘a way of looking at problems, a way of coming to terms with full catastrophe that make life more

joyful and rich than it otherwise might be...' It offers a perspective on problems that can help individuals come to terms with life's full range of experiences, leading to a more joyful and enriched existence.

Table 1.1 Contemporary definition and descriptions of mindfulness.

Author	What	How
<i>Oxford dictionary (OED, 2022)</i>	The quality or state of being conscious or aware of something; A mental state achieved	by focusing one's awareness on the present moment, while calmly acknowledging and accepting one's feelings, thoughts, and bodily sensations, used as a therapeutic technique
<i>Cambridge dictionary (2022)</i>	The practice to create a feeling of calm	by being aware of your body, mind, and feelings in the present moment, thought
<i>Kabat-Zinn, 1994; Kabat-Zinn, 2003</i>	Paying attention, or the awareness that arises through paying attention	on purpose, in the present moment, and non-judgmentally; with an affectionate, compassionate quality, a sense of openhearted, friendly presence and interest
<i>Marlatt & Kristeller, 1999</i>	Bringing one's complete attention to present experiences	on a moment-to-moment basis, with an attitude of acceptance and loving-kindness
<i>Bishop et al., 2004</i>	Self-regulation of attention so that it is maintained on the immediate experience	with an orientation characterized by curiosity, openness, and acceptance
<i>Germer, Siegel, & Fulton, 2005</i>	Awareness of present experience	with acceptance: an extension of nonjudgment that adds a measure of kindness or friendliness
<i>Linehan, 2015</i>	The act of focusing the mind in the present moment	without judgment or attachment, with openness to the fluidity of each moment
<i>Langer & Moldoveanu, 2000</i>	An active mindset characterised by novel distinction	situated in the present, sensitive to context and perspective, and guided (but not governed) by rules and routines

At the heart of contemporary secular mindfulness lies the concept of paying attention, or awareness, which is purposeful and non-judgmental, with a focus on the present moment. These central ideas embody the three axioms of mindfulness, namely, intention, attention, and attitude. Table 2.1 presents a

collection of definitions of contemporary mindfulness that share this commonality.

It is worth noting that Kabat-Zinn's definition of mindfulness as 'awareness, cultivated by paying attention in a sustained and particular way: on purpose, in the present moment, and non-judgmentally' (Kabat-Zinn, 2003:145) is consistent with the broader understanding of mindfulness as a mode of attention characterised by openness, acceptance, and an enhanced ability to respond to the present moment (MHF, 2019a). In this way, contemporary secular mindfulness has deviated from its traditional Buddhist roots but remains rooted in the practice of cultivating awareness and non-judgmental acceptance of one's experiences. Thus, similar for Buddhist mindfulness, the physical environment supportive of the contemporary secular mindfulness should also facilitate the generation of such open awareness to be present, and non-judgementally.

2.2.3.2 Historical background and development

As mentioned previously, mindfulness, widely accepted and applied in various fields in the contemporary world, has its roots in the Buddhist tradition. Modern Western practitioners and mindfulness teachers have largely learned about mindfulness from the Buddhist tradition. Since then, secular mindfulness practices have been developed and widely applied in clinical and non-clinical settings. Kabat-Zinn developed a successful mindfulness-based stress reduction (MBSR) programme in 1979, which became known as the most

influential Mindfulness-Based Intervention (MBI) or Mindfulness-Based Programme (MBP).

Table 2.2 Reproduced table of group-based Mindfulness-Based Interventions (MBI) along with target illness/population (Shonin et al, 2013).

Mindfulness-based intervention	Target illness/population
Mindfulness-based stress reduction	Various (e.g., anxiety disorders, heart disease, chronic pain, cancer, psoriasis)
Mindfulness-based cognitive therapy	Various (e.g., mood-disorders, anxiety disorders, bipolar disorder, chronic fatigue)
Mindfulness-based relapse prevention	Prevention of relapse following rehabilitation from substance-use disorders
Mindfulness-based eating awareness therapy	Binge-eating disorders
Mindfulness-based childbirth and parenting	Maternal well-being during and post pregnancy
Mindfulness-based art therapy	Psychological health and quality of life in cancer patients
Mindfulness and acceptance-based group therapy	Various psychopathologies (e.g., mood disorders, anxiety disorders)
Mindfulness-based stress management	Stress and anxiety
Mindfulness-based mental fitness training	Stress and trauma resilience for military personal

Other therapeutic approaches based on MBSR have since evolved, such as Mindfulness-Based Cognitive Therapy (MBCT), dialectal behaviour therapy (DBT), and acceptance and commitment therapy (ACT). These MBPs are typically secular and are grounded in mindfulness (GoodTherapy, 2018; MHF, 2019a). MBPs have been found to have benefits in medicine and mental healthcare, as supported by a growing empirical evidence base (Grossman et al., 2010; Hofmann & Gomez, 2017). Details of MBPs are provided in the table below (Table 2.2). The recommendations given for the nationwide incorporation of mindfulness in public healthcare, education, workplace, and the criminal

justice system by the all-party parliamentary group in the UK exemplify this (Baer et al., 2019; Husgafvel, 2016; MAPG, 2015; Yeganeh & Kolb 2009).

In conclusion, while mindfulness has its roots in the Buddhist tradition, secular mindfulness practices have been developed and widely applied in various fields. These practices are typically secular are grounded in mindfulness and have been found to have benefits in medicine and mental healthcare (e.g., Paulson et al., 2013). From this perspective, an environment that encourages mindfulness practice could be more likely to facilitate the health and well-being of people.

2.2.3.3 Purpose

The primary objective of contemporary secular mindfulness is to determine whether mindfulness and relaxation exercises can aid individuals with chronic health conditions such as high blood pressure, chronic pain, and anxiety disorders (MHF, 2019a). Kabat-Zinn (2014) noted that mindfulness-based stress reduction (MBSR) could promote profound awareness throughout one's life. Despite its limited focus, secular mindfulness can still transform people's lives, regardless of their religion or faith. Kabat-Zinn suggested that this approach 'would be maximally useful to people who could not hear it or enter into it through the more traditional dharma gates' (2011:288). For many individuals, secular mindfulness requires less effort but can provide the calmness and peacefulness they seek.

The initial purpose of secular mindfulness meditation was to mitigate and alleviate suffering associated with chronic illnesses (Niazi & Niazi, 2011). Since then, it has gradually been applied to clinical psychology and other general fields, such as education, military institutes, and business companies, to improve study and work performance (Carter & Mortlock, 2019; Levin, 2017). Many studies have found that secular mindfulness meditation can effectively bring peace to those who practice it, improve mental health, increase focus and intelligence, enhance self-control, and alleviate physical ailments such as reducing blood pressure (Corliss, 2014; Davis & Hayes, 2005; Germer et al., 2005; NCCIH, 2016).

For most people, practising secular mindfulness can significantly improve their quality of life, making them happier and calmer and fostering better relationships (e.g., with partners, family members, and colleagues) in their secular lives (e.g., Allen, 2016; Barnes et al., 2007). In summary, the primary purpose of contemporary secular mindfulness is to enhance the quality of life in the ways mentioned above and to promote personal growth and development. In relation to the physical environment for mindfulness practice, it should also include the qualities that help people stay calm and relaxed.

2.3 Mindfulness Practice

2.3.1 Introduction

This section reviews the literature on mindfulness practice instructions in order to understand the associated spatial environments for them. Mindfulness is a versatile activity that can be practised in various settings, such as at home, in

the office, in a garden, at a retreat centre, or on public transportation. Additionally, mindfulness can be practised while engaging in different activities, such as sitting, standing, walking, or eating. This makes mindfulness accessible to people of various ages and cultural backgrounds and allows them to experience its benefits first-hand (MHF, 2019b). By thoroughly studying the various types of mindfulness practices and the appropriate settings to perform them, it is possible to identify the optimal environments for mindfulness practice. However, this research focused on formal mindfulness practice (both Buddhist and secular) as an activity. Therefore, this section will comprehensively review the requirements and guidelines associated with formal (dedicated) mindfulness practice.

2.3.2 Formal mindfulness meditation practice

The term 'formal' indicated the dedicated time and space for the activities – not to do other things simultaneously. A complete activity in Buddhism, according to *Instructions for Daily Retreat Practice*, includes three stages: before the activity, during the activity, and after the activity (Sodargye, 2009). In Mahayana Buddhism, Buddhist masters emphasised applying the three supreme methods¹⁵ to all the activities one does, which include: 'start with the thought of bodhicitta, do the practice itself without any conceptualization, and dedicate the merit at the end' (Patrul, 2011:36-37). Applying the three supreme methods would enable practitioners to maximise the efficacy of their practices. In the context of formal mindfulness practice, this principle applies as well. Hence, this

¹⁵ **Three supreme methods:** 1. motivation; 2. actual practice with a mind free of clinging and concepts; 3. Dedication (Lodro, 2016)

session will follow this order (before, during, and after the activity) to examine the formal mindfulness practice as an activity. As secular mindfulness practice is rooted in Buddhism, therefore, it is appropriate to apply the same framework for the examination.

The preliminary action (before the activity) refers to the preparation leading towards the activity, serving as the foundation for a successful practice. Therefore, the author has summarised Table 2.3 of the essential points of successful practice from a Buddhist perspective, including teachings and instructions from Buddhist masters across different periods and school sects on formal meditation practice. Formal mindfulness practice is one aspect of meditation that follows the same principle.

Furthermore, Buddha's teachings supported the elements required to prepare formal mindfulness meditation practice. For example, in the opening paragraph of section 2 of *Satipatthana Sutta* (MN10, 1990), the Buddha described the mindfulness practice of the practitioner:

'He goes to the forest, to the foot of a tree, or to an empty room, sits down cross-legged in the lotus position, holds his body straight, and establishes mindfulness in front of him. He breathes in, aware that he is breathing in. He breathes out, aware that he is breathing out.'

This paragraph presented the four elements required for the practice in a simplified form: (i) environment, (ii) body posture, (iii) speech, and (iv) mind. A collection of instructions from Buddhist masters elaborates on each element in more detail (see Table 2.3). Therefore, while mindfulness practice can be done

anytime and anywhere, there were specific requirements for formal mindfulness practices that can improve practitioners' efficacy.

The environment is one of the preliminary elements of formal practice, and many of Buddha's teachings emphasised its importance. Many Buddhist masters over the centuries have also suggested specific environments helpful for beginners who may be less stable in their practice. Given that the environment is the foundation for the 'activities' to occur, conducting in-depth research into the environment is crucial.

Contemporary secular mindfulness practice took the form of mindfulness-based programmes did not require as much preliminary preparation as a traditional Buddhist mindfulness practice. Kabat-Zinn (2013) notes that MBSR does not require going anywhere or obtaining anything but instead requires inhabiting a different domain of mind as a being mode of mind. This mode of mind allows practitioners to be mindful in any place and at any time. Unlike traditional mindfulness practice, which emphasises the environment where practice occurs, formal contemporary secular mindfulness practice focuses on the practitioner's mindset and mental state. However, the Mindfulness-Based Stress Reduction Workbook (Stahl & Goldstein, 2010:74) briefly recommends that practitioners engage in formal mindfulness practice in a 'relaxing environment without distractions.' This suggestion indicated that formal contemporary secular mindfulness practice does have some environmental requirements.

Table 2.3 Summary of stages of an activity for Buddhist practice (i.e., Patrul, 2011; Sodargye, 2019, 2015, 2014; Lodro, 2016) and for MBSR (Kabat-Zinn, 2013; Stalh & Goldstein, 2010).

Stages of formal practice	Aspects	Buddhist Actions	MBSR Actions
Before the activity	Environment	A quiet environment without noises and distractions.	A relaxing environment without distractions.
		Avoid a place that is too hot or cold.	
		Avoid a place that one is in contact with strong winds.	
	Body	Abandon all daily activities to avoid possible distraction during the meditation practices.	Switch off the phones or change into silent mode; (8-week MBSR training courses).
		Avoid extreme situations, i.e., too hungry, too full, too tired.	
		Get into the appropriate posture, follow a sequence of instructions to get the body ready for the practice.	Get into the appropriate postures.
	Speech	Abandon all the daily speeches	Abandon all the daily speeches
		Exhaust the stained air for nine times	
		Keep silent or chant certain mantras.	Keep silent.
	Mind	Abandon all unnecessary thoughts	Eight attitudes of mindfulness (Beginner's mind; nonjudgement; acknowledgment; non-striving; equanimity; letting be; self-reliance; self-compassion).
Generate the right intention (strive for the benefits of self and others); i.e., bodhicitta.			
During the activity	E/B/S/M	This may vary due to different content of practices. However, the principle is to fully concentrate on the practice and do the practice without any conceptualisation.	This may vary due to different content of practices. However, the principle is to fully concentrate on the practice.
After the activity	E/B/S/M	Dedicate the merit at the end.	Review and reflect upon the practice.

The posture that individuals assume during meditation can significantly impact the quality of the practice and the relationship between the practitioner and the surrounding space. Therefore, Buddha and Buddhist masters placed great emphasis on the posture of the practice. In the Satipatthana Sutta, Buddha taught four postures for formal mindfulness meditation practice: walking, standing, sitting, and lying down (DN22, 2000). For example, Dzongsar Khyentse Rinpoche (1999) instructed in Samatha meditation that 'all the great meditators of the past advised us that we sit up straight when we meditate,' as sitting up straight produces a sense of alertness and importance that creates the right atmosphere. This instruction aligns with Buddha's teaching in the Satipatthana Sutta that one should 'sit down cross-legged in the lotus position, hold his body straight' (MN 10, 2008). Although meditation is not restricted to sitting only, it is the most widely acknowledged and typical posture for formal mindfulness practice. The Satipatthana Sutta provides extensive details on the instructions for mindfulness practices, including sitting and walking.

Similarly, Stahl and Goldstein emphasised that 'The only instructions are to assume a position where you can remain alert, attentive, and comfortable. It is also helpful to have your spine straight yet not too rigid or lax. Mindfulness isn't about attaining a certain sitting posture or even a certain mental state; it's about waking up to the moment in whatever position you are in – physically and mentally' (2010:49). The posture that practitioners adopt serves as a tool for the practice. Although the kneeling position is not so common in the MBSR¹⁶ course

¹⁶ **Choosing MBSR as an example:** it is a 'well-defined and systematic patient-centred educational approach which used relatively intensive training in mindfulness meditation as the

and the workbook, it has been taken as a popular alternative for the sitting position in other meditation practices. Different postures for practice may require different spatial requirements in the environment. For example, walking meditation may require a larger area of space than just simply sitting, and the sitting position may require cushions or chairs that walking and standing positions do not.

Regardless of the posture, the practitioner can establish a relationship between themselves and the environment through the body's postures. Therefore, practitioners need to find suitable places for the relevant postures. The environment for mindfulness meditation should also provide the practitioners with the option to be in the appropriate postures. In short, the physical environment should support the practitioners to adopt different postures, create a sense of alertness and importance, and help them be in the present moment. This research will focus on the formal sitting/kneeling posture as they require a similar amount of space within the environment. In addition, they are both still and are the most common postures adopted by practitioners. This way, the study will provide a general conclusion that could be applied to a broad population of practitioners.

core of a program to teach people how to take better care of themselves and live healthier and more adaptive lives' (Kabat-Zinn, 1996:161). In addition, the most commonly known 8-week MBSR training course has been widely applied and well-received by the general public worldwide. Hence, using MBSR as an example of the study was appropriate.

2.4 Discussion

Despite the common ground of mindfulness meditation's long history and benefits, conversations and debates emerged around whether mindfulness practitioners need a particular environment to practice. The debates can be condensed into two:

- 1) No need for a particular environment for mindfulness meditation - one can be mindful anywhere and anytime.
- 2) A particular environment for mindfulness meditation is necessary - to support the practice of mindfulness.

It is necessary to comprehensively discuss the aspects mentioned in the above sections to comprehend the relationship between mindfulness meditation and the physical environment and how mindfulness practice informs the physical environment.

2.4.1 Definition and development summary

To summarise briefly, the essence of all the definitions of contemporary mindfulness contains the following factors: (1) paying attention; (2) being in the present moment; (3) being non-judgmental, allowing things to be as they are (which can refer to acceptance). In comparison, traditional Buddhist mindfulness embodied a broader meaning. For example, 'mindfulness' refers to Right Mindfulness and insight into the emptiness. However, despite the differences, many scholars in both fields defined mindfulness as a state of mind. Furthermore, both the traditional Buddhist and contemporary views of

mindfulness share a similar functional intent: to alleviate suffering, with reducing stress being one of them.

In Buddhism, regardless of schools and sects, mindfulness meditation has always been a central part of the practices. Although contemporary secular meditation developed from mindfulness meditation in Buddhism, it has removed the religious elements and integrated Western science to adapt to Western society. Although secular mindfulness practices have relinquished the central theme of enlightenment in Buddhism, from which the practice originated, many scientific studies have shown that these practices still achieve their effects in fields such as clinical psychology. The results reporting on reducing stress and anxiety prove this (Shonin et al., 2013), which helps these practices gain more popularity among the public (McGroarty, 2019; Levin, 2017; Norton, 2015).

This study includes both formal contemporary secular mindfulness practice and formal Buddhist mindfulness practice as research subjects, despite their differences in intention, ultimate goals, and focus. Both practices share commonalities, such as the cultivation of awareness, observation of the four aspects (body, feelings, mind and Dharma), and establishment of a relationship between practitioners and their environment. Hence, the physical environment should support the practitioners to conduct mindfulness meditation regardless of Buddhist or secular mindfulness practices. The environment should facilitate the generation of awareness, attention to the present moment, non-judgementally, with an alert mind, and cultivate insight. From Buddha's life journey, he has adopted places of remoteness, such as forests, away from

distractions, such as a luxurious palace. Similar life patterns have been observed in many other great Buddhist masters. Thus, this indicates that an ideal environment should also be distraction-free.

2.4.2 Mindfulness activities

When viewing formal mindfulness practice as an activity, formal Buddhist and contemporary secular mindfulness have their own categorisations. In short, Buddhist mindfulness **covers four aspects**: body, mind, feeling, and Dharma. On the other hand, the secular practice developed a series of MBPs based on the parent MBSR, initially developed by Jon Kabat-Zinn (details see above section). According to the three methods in the activities section, formal Buddhist practice requires much more than secular practice for preliminary preparation, including aspects of environment, body, speech, and mind.

From the practice point of view, practices from each division require a focus on a particular object (i.e., breaths, body), the generation of attention and awareness. Both Buddhist and secular mindfulness meditation share common postures, which means the space that works for the set of postures for Buddhist mindfulness should also work for secular mindfulness. They both pay attention to the position practitioners would take for mindfulness practice. The key instruction is to use a position that one would not easily fall asleep to remain alert and attentive (Stahl & Goldstein, 2010). Despite the difference in the content of the practices, the central principle of 'staying awake' and remaining 'alert' regardless of the posture one takes remains for both divisions of

mindfulness practices. Hence, this aspect remains a similarity between the two practice divisions.

Despite all the differences, formal Buddhist and secular practices require an environment without distraction. This instruction is proof that Buddhist masters and mindfulness teachers from different traditions agreed that the environment exerts influences on the practitioners to the degree that practitioners are advised to find a place that meets such requirements.

2.4.3 Debates around the space

Some may argue that practitioners are encouraged to carry the quality of mindfulness into their day-to-day lives and be mindful in everyday activities, so they should not look for a specific location to practice. While this may be the case for proficient practitioners who have attained a certain level of achievement, beginners are strongly advised to perform their formal mindfulness practice in a quiet place without much distraction. Only when one has gone through a certain period of formal mindfulness practices in an appropriate environment (that helps with generating and stabilising the quality of mindfulness) would one be able to stabilise such a state of mind and carry it into day-to-day life (Sodargye, 2023). Without such a process for beginners, achieving such a goal would be very difficult. However, this is not to say that only the specific place would work for the purpose. Instead, the essence is that practising in an 'ideal' environment would make it easier for practitioners to achieve their goals and continue the practice with greater flexibility. Furthermore, by generating the quality of mindfulness, one is prompted to gain insight into

the interdependent nature of the world and build a harmonious relationship with the surroundings (people, environment, etc.) (Schuyler et al., 2021; Thiermann & Sheate, 2022).

Dzongsar Rinpoche (2020) spoke about various means of practice, for example, building temples, burning scents, and playing music, together with mindfulness, create an environment or atmosphere to remind people of going back to their mind, to 'touch the base'. The key message delivered here is that it is about generating this awareness that remembers (i.e., the nature of the mind) through the creation of an appropriate environment or atmosphere via various means. In the *Guidance for meditation*, Mipham Rinpoche also discussed the importance of minimising external and internal distractions for meditation (Sodargye and Mipham, 2019). Bodhidharma provided an analogy of using the 'wall' to cut out the distractive external conditions so that the mind can rest – which can lead to enlightenment (Sodargye, 2012). Similarly, Shantideva stated in the *Compendium of Training* or *Compendium of Precepts* (Skt. Śikṣāsamuccaya) that if distractions from the external environment were eliminated, the mind would abide in silence and remain unmoved (Sodargye, 2015).

Both Buddhist and secular mindfulness practices explicitly state that an ideal environment should not be distracting; however, distraction is a word that could include many aspects. 'Distraction' will be inspected in terms of the physical environment with greater detail. Hence, the relationship between places and the formal practice of mindfulness needs further exploration.

2.4.4 Short summary

Since the purpose and mechanisms of mindfulness have been discussed, the question now is whether secular or Buddhist mindfulness, both activities require a suitable environment to take place. The activities have specific goals so that an ideal environment can facilitate them more effectively. Therefore, the focus of this research is to investigate the type of environment that is more conducive to mindfulness practice to take place and achieve its goals more efficiently.

To reiterate the scope of this research, formal mindfulness practice in a still position, such as mindfulness meditation, is the focus. Other types of mindfulness meditation in motion, such as walking and informal mindfulness practices, will not be discussed. Mindfulness practice is specifically defined as a practice that aims to generate the quality of being fully aware of the present moment non-judgmentally with an ardent, alert, and watchful mind, not forgetting the known object. It does not refer to other meditation practices with mindfulness, as that would include all Buddhist practices. Hence, the next chapter will investigate the space and place in which mindfulness practice would take place. Table 2.6 (next page) summarises the comparison between Buddhist mindfulness and contemporary secular mindfulness practice, which sets the foundation for study and discussion in the later chapters.

Table 2.4 Summary of comparison between Buddhist mindfulness and contemporary secular mindfulness.

	Buddhist Mindfulness	Contemporary secular Mindfulness (i.e., MBSR)
Definition	<p>Being fully aware of the very moment of the living process with an ardent, alert, and watchful mind, not forgetting of the known object.</p> <p>It must also: (1) give rise to a pervasive and enduring feeling of calm and spiritual wellness, and (2) bring the mind into a state of meditative focus that is conducive for examining and gaining insight into the non-self or empty nature of self and reality.</p>	<p>(1) paying attention;</p> <p>(2) in the present moment;</p> <p>(3) non-judgmental, allow things to be as they are (can refer to acceptance, or openness)</p>
History & Development	<p>Taught comprehensively and systematically by Buddha for more than 2500 years ago.</p> <p>Regardless of schools or traditions, the teachings of mindfulness remain in an important place in Buddhism across different sects, and continuously being passed down generations after generations.</p>	<p>Generally, it has three waves of influence. The well-known most influential MBSR programme was developed by Jon Kabat-Zinn, adopted the idea of mindfulness in Buddhism in 1979.</p> <p>Later, other MBIs build their basic structures and stems upon MBSR.</p> <p>The concept of mindfulness has been widely applied in many fields, including education, healthcare, research institutes, military and other commercial businesses.</p>
Purpose	<p>Temporary aim: alleviate stress, pains, and sufferings in daily life, gain calm, peace, and happiness and improve health being. Improve quality of life.</p> <p>Ultimate goal: attain enlightenment or realising the true nature of self and world.</p>	<p>Aims to address the unconscious thoughts, feelings, and behaviours thought to increase stress and undermine the health.</p> <p>Alleviate sufferings from chronic illnesses, include but not limited to depression relapse prevention, bias reduction, cognitive improvements. Improve quality of life.</p>
Activities	Formal and informal practices	Formal and informal practices
Posture	<p>For formal practices:</p> <p>Sitting (or Kneeling as an alternative) / Standing / Walking / Lying down</p>	<p>For formal practices:</p> <p>Sitting (or Kneeling as an alternative) / Standing / Walking / Lying down /</p>
Requirement of a certain environment	Yes	Yes

3 – SPACE AND PLACE

3.1 Introduction

This chapter explores and examines the place and space in which mindfulness practice takes place. It focuses on the medium – the environment- the second fundamental part of the research- the outer physical space in which mindfulness activities occur. Hence, this chapter will examine the literature regarding (1) place and space; (2) Buddhist places for mindfulness practice (including both traditional Buddhist places and contemporary Buddhist places); and (3) secular places for mindfulness practice. First, it reviews the relevant key types of spaces chronologically following the timeline of the development of Buddhism, where mindfulness practice used to take place and is currently taking place. The sources of the literature review include: built architecture and landscape architecture, and places and spaces depicted in the doctrines and artworks, after which the chapter will conclude with a summary of characteristics and typology of spaces for mindfulness practice.

3.2 ‘Space’ and ‘Place’

This section briefly overviews the main two definitions of 'space' and 'place,' which are widely used concepts across disciplines such as geography, architectural design, etc. To discuss the concepts more precisely for the purpose of this research, definitions for both 'space' and 'place' are essential.

Space can be defined by everything that one can experience daily, which one can call the visible space or space with physical or objective awareness

(Lipovac, 1997). 'Space' can refer to 'virtual spaces of two-dimensional images, to the social spaces inhabited by art objects, and to the constructed spaces of buildings and other environments' (Guest, 2012:219). The Cambridge Dictionary defines 'space' as 'an empty area that is available to be used', 'the area around everything that exists, continuing in all directions' (Cambridge Dictionary, 2021), it is 'where we determine their shape, their magnitude and the relationships between them' (Guyer, 2006).

'Place' is a word that has been widely used that sometimes people would mix it up with the similar word 'space' but still have very different meanings. According to the Cambridge Dictionary, 'place' bears the meaning of 'an area, town, building, etc.' or a position in relation to other things or people (Cambridge Dictionary). According to Afsharnaderi (1998), the place is the result of the interaction of three components: (1) human behaviours, (2) concepts, and (3) physical features. The place is everywhere where one experiences the meanings and events of existence, and a place is the centre of any physical or mental action or intention (Lipovac, 1997). In short, the definition of 'place' is a still developing complex integration of nature and culture manifested in physical terms. The place contains both tangible and intangible elements and elements that could be fully controlled or partially controlled that could be applied in the later research framework.

After examining the definition regarding space and place, it would be appropriate to use the word 'place' in relation to mindfulness practices, where it involves intangible qualities of environments due to the context mentioned

above. However, this does not mean 'space' would be abandoned altogether. 'Space' will still be used in the following sections when the situation is appropriate and relevant (i.e., involving tangible qualities of environments). Acknowledging both the tangible and intangible dimensions of environments (Pallasmaa, 2015) – space and place - is essential in the context of mindfulness practice because it enables an evaluation of both the objective 'qualities' of a space and the experiences and associations of 'place' that people may hold with such spaces. Nonetheless, to understand the environmental qualities and sense of space, the objective, tangible aspects of the environment must first be identified. In addition, a place can be divided into natural place (natural environment) and man-made place (built environment). Natural and man-made places can be in accordance with the natural environment and man-made environment or built environment. This research focuses on the built environment.

3.3 Buddhist Place for Mindfulness Practices

3.3.1 Introduction

Following the last chapter, which examines the meaning of mindfulness and mindfulness as an activity, this section examines the places and spaces where mindfulness practices take place from the Buddhist perspective. It examines the places and spaces specifically used or designed for mindfulness practice, as defined in the last chapter. This section chronologically reviews the Buddhist places that existed, and places depicted in doctrines, teachings, and other art forms since the birth of Buddhism. It concludes with a summary of the characteristics of those Buddhist places for mindfulness practices.

3.3.2 Definition

To explicitly define the term Buddhist space and place for mindfulness practice for this research. 'Space' has incredibly rich meanings in Buddhism that have invoked countless discussions since the birth of Buddhism. Understanding of the 'space' varies depending on the aspect of Buddhism being discussed. For example, Buddhist cosmology and teachings of the second Dharma wheel on Prajna¹⁷ may have a different emphasis. At the same time, the third Dharma wheel would take the meaning further from different aspects. From a Buddhism point of view, the world is an accumulated formation, impermanent, and dependent co-arising. The nature of the spatial world is understood as an empty, non-self, non-dualistic, illusory, and transformational manifestation (Tsai, 2018) in the Buddhist idea. However, for this research, it would be appropriate to define Buddhist space as where Buddhist activities take place, regardless of whether it is a temple, a shrine room, or other spatial forms. As long as it holds the purpose of a sacred place, including worshipping, practising, and other Buddhist activities, and containing the elements of the three jewels (URI, 2020), it can be defined as a Buddhist space. The term 'place' already implies the aspect of space, which emphasises the tangible aspect as discussed above. Buddhist place henceforth may be a more comprehensive term to include both the tangible and intangible quality of the environment. In this section, Buddhist place refers to both traditional and contemporary Buddhists, such as temples, shrines, retreat centres, and other Buddhist-related spaces for the research.

¹⁷ **Prajna:** Sanskrit for 'wisdom' and 'insight' (Keown, 2004).

3.3.3 Traditional Buddhist places

Considerations have been given to an environment's impact on people's minds traditionally. In traditional Buddhist architecture, for example, Japanese architecture, Vinayak Bharne (2014) described his holistic experience encountering the Byodo-in Temple in Uji in such a way: 'I walked along the pond of the Byodo-in Temple in Uji, across Amida Buddha's Paradise on the other bank. There is a magical moment when you see the golden face of the meditating Buddha through the circular window in the hall's front screen.' This example shows a delicate emphasis on the sequence of space that people will walk through to achieve a particular state of mind (Bharne, 2014). Hence, by reviewing the traditional Buddhist places, we may understand more about the relationship between mindfulness practice and space.

This section will undertake a comprehensive examination of pivotal traditional Buddhist sites, organised chronologically within the framework of Buddhist history, and categorised according to the three principal sects of Buddhism: Theravada, Mahayana, and Vajrayana (the latter being a sub-branch of Mahayana). The propagation of Buddhism across the global landscape over historical epochs, originating from its inception in India, forms the backdrop against which these reviews are conducted. Notably, this review is purposefully delimited in scope, refraining from an in-depth analysis of the specific architectural attributes of the Buddhist edifices. Lall (2014:10) has identified Buddhist architecture into six 'cultural landscapes' which provided a good framework for review:

- 1) the Golden Lands – Cambodia, Indonesia, Laos, Myanmar, Thailand & Vietnam;
- 2) the Heavenly Lands – China, Japan & Korea;
- 3) the Ancient Lands – Bangladesh, India, Pakistan & Sri Lanka;
- 4) the Mountain Lands – The Himalayan Mountains & Plateau;
- 5) the Hidden Lands – Central Asia, outer Mongolia & The Silk Route;
- 6) the Modern Lands – Contemporary Buddhist Architecture.

However, for the convenience of review, the 'Ancient Lands' will be mentioned first before the golden lands.

3.3.3.1 The origin in India

In the early time of Buddhism, Buddha forbade the construction of permanent buildings for the Sangha (Lall, 2014). The first act of architecture in the Buddhist world started the defining habitable space during the Vassavasa (the annual rain retreat) (Lall, 2014). There were three types of functional structures associated with early Buddhist architecture: monasteries (viharas), places to venerate relics (stupas), and shrines or prayer halls (chaityas), which some called it temples later (Pandey, 2015). These three main structures developed into different architectural styles around the world later on, incorporating the local historical, political, cultural, and environmental characteristics.

The Buddhist architecture in India was deeply rooted in Indian soil. The early Buddhist architecture was built on Brahmanist Vedic models (with a simple plan) (Pandey, 2015). As the functions of the monasteries expanded, the style began to evolve and became more elaborate. Monasteries in India also took different

forms, one of which is the cave or grotto (rock-cut monasteries), i.e., the survived Ajanta caves (Figure 3.1), and such form has been exported to China later (famously known as the Dunhuang), decorated with relief carvings, paintings and stone images of the Buddha and the Bodhisattvas. Most of the caves were meant for living, studying, and meditation.

During the Buddha time, Buddhist monks had the habit of using natural caves such as Saptaparni Cave (Saint-Hilaire, 2021; Gwynne, 2018) and Indrasala Cave (Le, 2010) for meditation. The tradition continued as practitioners used natural and man-made caves for their retreats. The caves (both natural and man-made) had the advantage of being remote, more durable, and less visible. In history, many temples, monasteries, and stupas have been destroyed, yet many cave temples were well preserved.



Figure 3.1 The Ajanta Cave, India (National Geographic, 2022).

Apart from the cave temples, free-standing temples or monasteries were also popular in India. One of India's most prominent examples of temple architecture

is the Mahabodhi Temple in Bodhgaya (Figure 3.2), with the Niranjana River nearby. The monasteries served as a dwelling place for the Sangha communities. The Bodhi tree, along with the Mahabodhi Temple, completed the pilgrimage to Bodhgaya (Pandey, 2015). The water element is also present in this place – a lotus pond was said to be adjoining the temple (Pandey, 2015).

The four auspicious Buddhist places in India must not be neglected. These four places were in close association with significant life events of the Buddha – Lumbini (Figure 3.3 – Buddha's birthplace), Bodhgaya (where he gained enlightenment), Sarnath (Figure 3.4, the first turning of the Dharma wheel and the formation of first Sangha), and Kushinagar (Figure 3.5, where Buddha attained Parinirvana).



Figure 3.2 Mahabodhi Temple (UNESCO, 2011).

Apart from these four places, there were two critical mountains in Buddhist symbolism. First is the Vulture Peak, where the Lotus Sutra and the Heart Sutra were taught. These were two fundamental teachings in Buddhism. The second

was Mount Meru, which belonged to Buddhist cosmology. These are all crucial places where significant Buddhist events have taken place. Hence, the environment of these places suggests specific points already. More details will be discussed later after reviewing other Buddhist places across the world.



Figure 3.3 Lumbini, Buddha’s birthplace (UNESCO, 2006).



Figure 3.4 Sarnath (Time of India, 2019).



Figure 3.5 Kushinagar (Nekhor, 2022).

3.3.3.2 Theravada in Southeast Asia

Southeast Asia was where Theravada Buddhism prevailed. Around the 3rd century BC, three structures associated with early Buddhism were also developed. Below are examples of some famous Buddhist sites in Southeast Asia (including countries such as Burma, Cambodia (Figure 3.6), Thailand, Bangar, Malaysia, and so on). Those selected cases are mainly temples, where monks traditionally practise and live. Similar patterns can be spotted across those places. Without too much emphasis, there is a consistency or similarity in their architectural style, which can link back to their origin in India. Natural elements of trees and water cannot be stressed enough. Some cases were built upon the mountain (for example, Figure 3.7 Wat Phra That Doi Suthep of Thailand, and Figure 3.8 Kek Lo Si Temple in Malaysia), with an open view and overview of the nearby environment.



Figure 3.6 Angkor Wat (Glancey, 2017, credit: Alamy).



Figure 3.7 Wat Phra That Doi Suthep of Thailand (Travel Zoo, 2021).



Figure 3.8 Kek Lo Si Temple in Malaysia (Odette, 2021).

Despite each region having its own unique variation, there are common themes and characteristics among Buddhist places in Southeast Asia containing the following (Lall, 2014):

- **Integration with natural environment:** designed to harmoniously blend with the surrounding natural landscape. Temples and monasteries often nestle amidst lush forests, hills, or near water bodies, creating a serene and peaceful atmosphere for contemplation.
- **Open views and courtyards:** providing practitioners with expansive views of the surroundings (e.g., Figure 3.8) which are conducive to meditation, walking meditation, and other mindfulness practices.
- **Sacred trees and gardens:** Sacred trees, such as bodhi trees, and well-tended gardens are common features in Buddhist places. These areas offer shade, tranquillity, and a connection to nature for meditation and reflection.
- **Water elements:** such as ponds, lotus-filled basins, and fountains, as water symbolises purity, renewal, and impermanence, aligning with Buddhist teachings.
- **Stupas and pagodas:** often central to Buddhist places, serving as focal points for worship and meditation. Their elevated structures can offer panoramic views of the landscape.
- **Bell towers and chimes:** Temples may have bell towers that house large bells or chimes. The sound of ringing bells or chimes has a meditative quality and serves as a call to mindfulness.
- **Sculptures and artworks:** Buddhist sculptures, carvings, and artworks often adorn these places, depicting scenes from Buddhist stories and teachings. These artistic representations serve as visual aids for contemplation.

- **Quiet spaces and retreat areas:** provide secluded areas for individual and group retreats, enabling practitioners to engage in intensive meditation and study away from worldly distractions.
- **Architectural symbolism:** The architecture of Buddhist places may include symbolic elements representing different aspects of Buddhist philosophy and cosmology. These symbols enhance the spiritual experience for practitioners.

From the above points, it is evident the commonality between regions despite variation in appearance and style. In short, the same elements have been spotted across geographical differences.

3.3.3.3 Mahayana in China, Japan, and Korea

Due to the tremendous support that King Ashoka provided, Buddhism began to spread beyond India in the 3rd century AD, and it eventually became a worldwide influence (Skilton, 1999). 67 AD was an important year for Buddhism in China. The Indian monks came to China and settled in Luoyang, Henan Province, and they brought Buddhist scriptures and an image of Buddha with them (Bao et al., 2004).

Buddhist architecture started to develop alongside the organised and large-scale translating of Buddhist scriptures and holding Buddhist ceremonies to expound the Buddhist teachings. As Buddhism gained popularity in government and public circles, Buddhist temples began to be built in China to accommodate those activities (Wei, 2012). During the Western Jin (265-317) period, there were 180 monasteries in capitals such as Luoyang and Chang'an. Later on,

more monasteries were built, namely Donglin Temple, Daochang Temple, and Wuguan Temple. Other significant monasteries (and grottoes), such as Dunhuang, Yungang, Longmen, Maiji, and Bingling, also began to be built during the period of Eastern Jin (317-420). Buddhist architecture flourished as Buddhism developed further in the Chinese land. The temples became centres of worship for all classes as Buddhism became a religion that generals could accept.

Since the development of Buddhism in China, Buddhist architecture has been introduced, developed, and adapted to this vast land. Temples, monasteries, and pagodas have been built on towering mountains, near wide rivers, in deep and secluded valleys, and bustling cities and towns. Some were large Buddhist monasteries, and others took the form of small temples and solitary nunneries in relatively remote places (Wei, 2012). Discuss the founding and evolution of the Buddhist monasteries in China, the Baima Temple (White Horse) was an important milestone (Bao et al., 2004). The early version contained the Indian style in its construction, for example, the nine-storey stupa and the mural-decorated halls. Its original design contained storeyed buildings with closed eaves. The diamond throne and other versions of towers were layouts on a vertical axis. The architecture was employed in a traditional wooden structure encased by bricks and stones (Wei, 2012). The influence of Buddhism was merged with the innate traditional culture of China at the time and formed the unique style of Buddhist architecture.

There were a few Buddhist architecture types: temples or monasteries, pagodas (five main types), and stone cave monasteries (grottoes). Due to the scope of the research, the pagodas will not take up much of the discussion. For the example of stone cave monasteries, it would be important to mention the Mogao Cave (part of Dunhuang Grottoes, Figure 3.9).

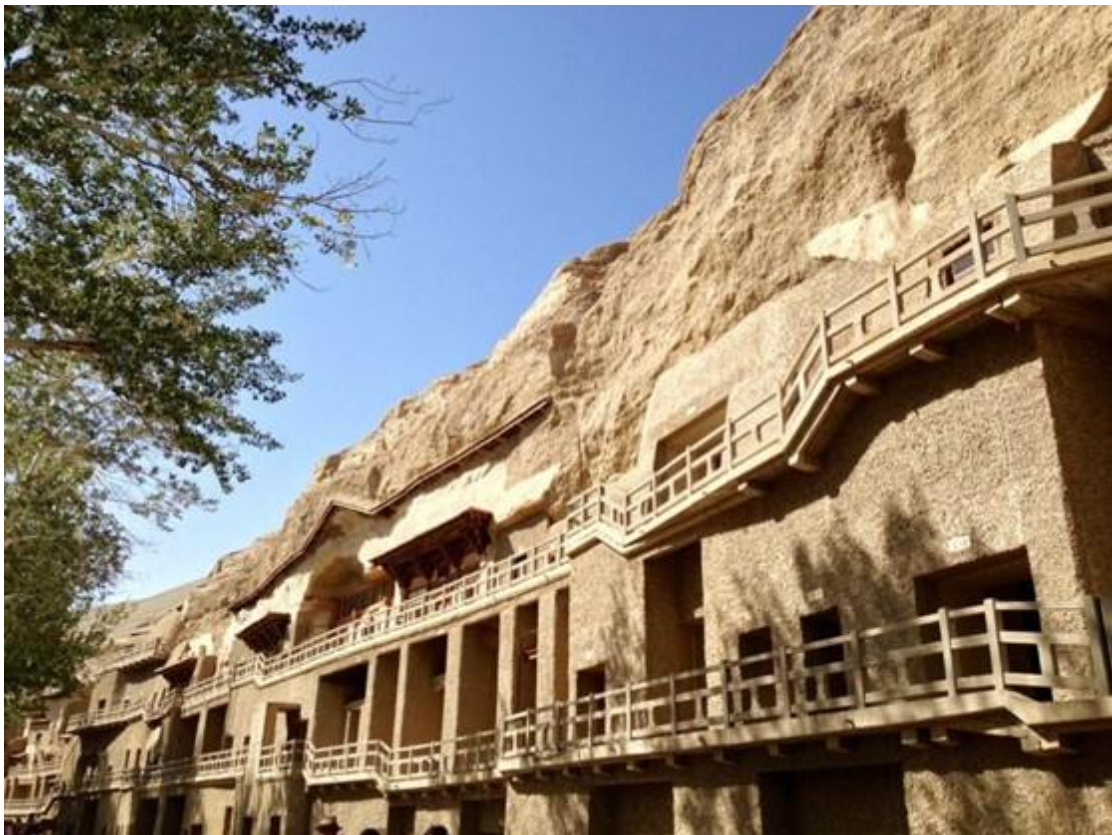


Figure 3.9 Mogao Grotto (National Geographic, 2021).

Mogao grottoes are located between Mingsha Mountain and Sanwei mountain, fifty Chinese miles away from Dunhuang city, containing a river flowing through. The area is not very much populated, and it is very quiet without much distraction. Therefore, the Mogao grottoes of the Dunhuang area naturally became an ideal place for local monks to practice meditation. The grottos of Mogao have three main types: meditation grotto, central pagoda grotto, and

temple grotto. Mogao Grottoes is one of the famous 'three meditation caves' in Dunhuang (Dunhuang Academy, 2020), which has long been an ideal place for local monks to practice meditation. Out of the 248 existing grottoes in the North quarter, 89 can be identified as meditation grottoes, with some remaining to be identified (Dunhuang Academy, 2020; e-Dunhuang, 2020). The other caves can also be regarded as supporting facilities for monks to practice meditation there (Dunhuang Academy, 2020). The Monk Lezun who led the construction of the caves during this period (The Fashionable Truth, 2017) has said the following, 'reside the mind in silence, and (often) hold the walking stick in the wildland' (Li, 698; translated by the author). This shows that he was searching for the silent place. As a result, he picked this place and dug the first meditation grottoes.

Grotto 285 (Figure 3.10) is one of the earliest caves recorded within the Mogao Grottoes. It is a typical meditation cave (e-Dunhuang, 2012; Dunhuang Academy, 2022) and a temple cave which makes it precious in the eyes of Dunhuang scholars. The paintings and the grotto reflect the Buddhist stories and the combination of different cultures in their content and style and the early meditation practice. The top of the cave is surrounded by meditation scenes, where the Buddhist monk sits in a thatched hut surrounded by rolling mountains and green trees. Below the cave are four small meditation caves on the north and south sides that can only accommodate one person each. The central part is also a spot for meditation. Due to the geographical conditions where Dunhuang is situated, it would have been challenging to plant vegetation in the past. Instead of planting real vegetation, the practitioners in the past replicated the natural elements, such as trees that were obviously visible in countries such

as India and Thailand, to the interior of caves, which implies the importance of these elements naturally.



Figure 3.10 Mogao Cave 285 interior view from the entry (Dunhuang Academy, 2022).

Despite the geographical and cultural differences, the characteristics of those Buddhist places are highly coincidental. The selected samples from China (Figure 3.11), Japan (Figure 3.12), and Korea (Figure 3.13), which all have long histories of Mahayana Buddhism, are all traditional Buddhist places, where most of them were built upon the mountain ranges, if not on the top of the mountains where they have an open view of the vast landscape. Such site location ensures a certain degree of remoteness that minimises distraction from the hustle and bustle. For example, the four famous mountains of Chinese Buddhism (Figure 3.11).



Figure 3.11 The four famous mountains in Chinese Buddhism (Rodney, 2019).

These Buddhist places provide both a sense of solitude and protection for the practitioners from the noises and worldly matters. These Buddhist places all have an abundance of natural elements that is in as much accordance with 'Aranya,' the Sanskrit word for a solitary place (Han, 2020). The mountains act as a barrier to block out possible sources of distractions. The places are humble yet outstanding at the same time. Water elements are also significant.



Figure 3.12 Kinkaku-ji (Golden Pavilion), Japan (Pavone, 2020).



Figure 3.13 UNESCO site, Bulguksa Temple, Korea (Seul Pass, 2019).

When actual water sources are unavailable, a representation of water has been applied to introduce this element, for example, in Karesansui. It is both a symbolic representation of the water and a tool of practice for the monks to generate mindfulness.

To summarise, a few key characteristics of Buddhist architecture in China's Han areas existed. It was a blending result of the Western Buddhist culture (from India) and innate Chinese culture:

- **The varied natural settings chosen for the Buddhist monastery sites:** both showed the love for nature, which has long been the tradition, and the devotion which practitioners were given to Buddhist study and practice.
- **Strong axis in the quadrangle plan layout:** which reflected the social order and arrangement at the time.
- **Open views and courtyards:** evident in the cases.
- **Sacred trees and gardens:** also present.
- **Water elements:** also present.
- **Stupas and pagodas:** taking different architectural forms.
- **Bell towers and chimes:** crucial to temples routines.
- **Sculptures and artworks:** present in different styles and forms.
- **Quiet spaces and retreat areas:** also present.
- **Architectural symbolism:** also present.

3.3.3.4 Vajrayana Buddhism regions

In the 8th century, the great Indian tantric master Padmasambhava (Lotus-born) came to Tibet and preached successfully and increased the influence of Buddhism in Tibetan areas. The first of its kind – Sangye Monastery, was built in Chimpu in 766 AD. Buddhist architecture in the Tibetan area also prospered as Buddhism became indispensable in most people's lives. Vajrayana Buddhism was originally populated in the Tibetan-speaking areas. Due to the climatic and historical conditions of the Tibetan plateau, it seems that the practitioner has no choice but to 'go with the flow' and reside among the mountain ranges. The architecture took a different form from the monasteries built in ancient China (nowadays, the Han areas). The monasteries mainly were block-house style (Wei, 2012) and adopted the local ethnic customs and architectural style, the climate and the environment, and the material available in the area. The Buddhist places in Vajrayana Buddhism regions have the following characteristics:

1) The location of the Tibetan Monasteries

Monasteries in the Tibetan area adapted well to the topography and the climate conditions – witnessing the erected thick and solid stone walls from the ground. The buildings were placed around the central courtyard, where the prominent Buddhist building would be richly decorated (Wei, 2012). The outer wall was usually white, with the chief Buddhist halls painted in reddish brown and governmental offices of the Living Buddha yellow. The eaves of the building were also decorated with decorative ribbons, with golden roofs on top of the

buildings. Such strong contrasts marked the characteristics of Tibetan Buddhist architecture.

2) Layout in plan

In contrast to the Han monasteries, the Tibetan monasteries did not emphasise as much on the axis line (Wei, 2012) - buildings in monasteries were freely arranged around the chief temple buildings. The functions of the building could be distinguished by the different colours or decorative objects with which they were furnished. As a result, the Tibetan monasteries were generally large in scale. They would give the impression of a 'densely populated township, with row upon row of buildings in dazzling colours' (Wei, 2012:76), for example, Larung Gar Buddhist Academy (Figure 3.14).



Figure 3.14 Larung Gar Buddhist Academy (China Discovery, 2018).

On another note, areas in Inner Mongolia (where Tibetan Buddhism also flourished) combined the Han and Tibet elements, forming its unique Buddhist architectural style. In 1260, Tibetan Buddhism became the national religion of

Mongolia at that time (Zhang, 2012). There are many influencing factors for the Buddhist architecture style in Inner Mongolia, such as political calls, cultural factors (coming from Tibet, Han, and Mongolia), and natural factors (such as topography, geology, water sources, and climate). Different the Tibetan architecture, where openings (windows and doors) were restricted to a minimum to avoid strong cold snaps and scorching sun with high UV and to minimise the effect of differences in temperature between day and night, Buddhist architecture in Inner Mongolia has a gentler climatic condition. Thus, they have wider openings towards the south to introduce more daylight into the interior. Due to the above reasons, they have a different architectural style to Tibet and Han areas (Figure 3.15).



Figure 3.15 Wudangzhao Monastery, Inner Mongolia (China Discovery, 2020).

The Buddhist architecture in Inner Mongolia has a few common characteristics: diversified layout (axial, centre freestyle, freestyle), types (Han, Tibetan, Han-Tibetan, etc.), Tibetan type-oriented, deformed form and style, extensive

building techniques, approximate regionality (Zhang, 2012). Despite the differences, they still share the central value and commonality with Han and Tibetan Buddhist architecture. In addition, they paid attention to the monasteries' location, the practice's environment was essential, and the Buddhist objects were present. Finally, they aimed to encourage the generation of people's reverence.

3) Inner decoration of Buddhist Buildings

The inner space of Tibetan and Mongolian monasteries was in contrast to the Han-style building, and it was richly decorated with all types of streamers, curtains, and colourful pillars. In these spaces, the Buddha statue and objects of the Three Jewels were prominent for Buddhist followers to show their reverence and support their practice (Wei, 2012).

4) Murals

The interior walls of many monasteries were full of mural paintings. The content of the painting included religious narratives, Buddhist stories, the lives of famous figures, historical events, Tibetan landscapes and social customs, Buddhist monastery architecture, religious festivals, and local legends. In the book *Buddhist Buildings – Buddhist Monasteries, Pagodas and Stone Caves*, there was a paragraph described the following: 'Between these groups of paintings were sections filled with paintings of trees, plants and flowers, coloured clouds, mountains and rivers as well as different patterns' (Wei, 2012:80). Even in the mural paintings, it is evident that Tibetan-Mongolians value the natural elements greatly.

Apart from the formal temples built, there are also many natural caves that predecessors have been practicing diligently. Again, the location of those Buddhist places already implies the elements that would facilitate the practices to a certain degree. More will be discussed after reviewing the doctrines.

3.3.3.5 Traditional Buddhist Places in the West

Although the propagation of Buddhism in Western countries is relatively late in history, there are still some examples of Buddhist places built according to the traditional style. This section selected three significant examples from the three main traditions (Vajrayana, Theravada and Mahayana) following the timeline of the building. The most classic being the Samye Ling, the first Tibetan Buddhist centre in the West, was founded in 1967. The centre is located in a peaceful valley on the banks of the river Esk in Scotland (Figure 3.16-18, Samye Ling, 2020), inheriting the traditional style of the Tibetan Monastery and replicating the ancient Samye Monastery. It is a multi-purposed Buddhist centre holding different Buddhist activities, including various mindfulness meditations. Similar to many previous cases mentioned, Samye Ling also contains the environmental quality of remoteness, which naturally brings a sense of silence and solitude and minimise the distraction for the practice. Again, incredibly rich natural elements were present, including trees, vegetation, water, and wild animals. This selection of the site was from the macro level.



Figure 3.16 Samye Ling in Scotland (Samye Ling, 2022).



Figure 3.17 Samye Ling Main Shrine Building (Samye Ling, 2022).



Figure 3.18 Samye Ling Main Shrine Room (Samye Ling, 2022).

Another example would be the Amaravati Buddhist Monastery in the UK, established in 1980s following the Forest Tradition, inspired by the Theravada Thai Forest Tradition and the teachings of the late Ajahn Chah (Amaravati, 2022). Setting in the typical English rural countryside in Hempstead (Figure 3.19), the purpose-built monastery adopted the local materials whilst introduced the traditional elements of Theravada Buddhist places. Alongside are buildings that were previously used for a school for children with learning difficulties.



Figure 3.19 Amaravati Buddhist Monastery, UK (Amaravati, 2022).

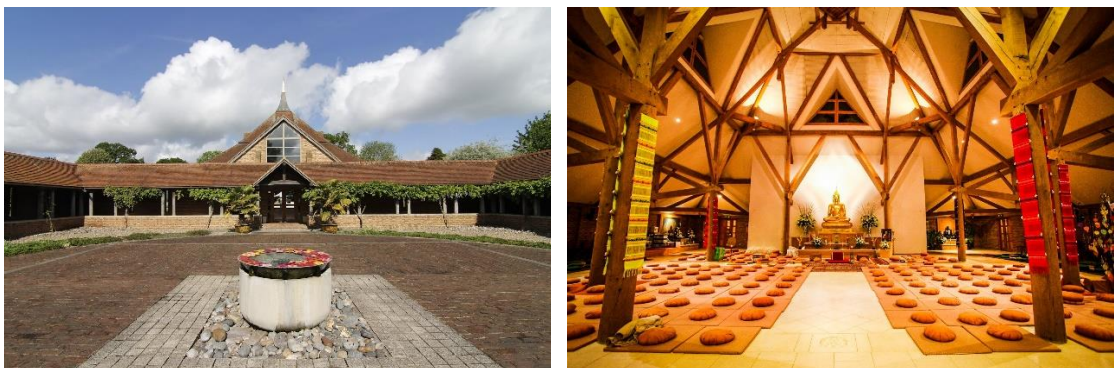


Figure 3.20 Amaravati Main Temple Building, UK (Amaravati, 2022).

The main temple hall consisted of a single open space, pyramidal in shape both internally and externally (Figure 3.20). The roof line has acquired the elegant sweep of a more traditional 'stupa-like' profile (such as Figure 3.2). However, according to Bluck, 'the new Amaravati temple, whose deliberate use of British and Thai architecture gives a visual message of the fusion of the two cultures. Artefacts used in lay groups reflect the aesthetic preferences of individuals rather than copying a Thai style...Despite its Thai iconography, the Amaravati temple is a bold attempt at British Buddhist architecture' (2006:47-48). It was indeed a blend of Thai and English architectural elements. Furthermore, the primary goal was to create a creative environment that, upon entering, would facilitate a sense of tranquility and quietness for the mind, which can reflect true contemplative purpose of the buildings, for the monastic community and for retreats (BuildingBuddhism, 2014).

Lastly, to exemplify traditional Mahayana Buddhist sites in Western countries, the Hsi Lai Temple (Figure 3.21, built in 1986) must be mentioned. It stands as one of the largest Buddhist temples in the Western hemisphere. The name 'Hsi Lai,' meaning 'coming to the West' in Chinese, symbolises the dedication of the Fo Guang Shan Buddhist Order to spreading the teachings of the Buddha to Western audiences (Hsi Lai, 2023). Situated in the hills of Hacienda Heights, the temple features a central courtyard adorned with Buddhist sculptures and figurines (Figure 3.22). Additionally, it houses a sizable bell and drum on either side, which are used to commemorate special occasions. The characteristics of traditional Mahayana Buddhist sites discussed in earlier sections are notably evident in this place.



Figure 3.21 Hsi Lai Temple, United States (Hsi Lai, 2023).



Figure 3.22 Main Shrine Building, Hsi Lai Temple (Logan, 2004).



Figure 3.23 Arhat Garden, Hsi Lai Temple (Logan, 2004).

The Temple also included distinct gardens, namely the Arhat Garden (Figure 3.23) and the Avalokitesvara Garden. The prominent Buddhist figures of the 18 arhats and the Bodhisattva Avalokitesvara served as inspiring presences for practitioners. The waterfall within this landscape symbolises the flow of dharma, purifying people's minds (Hsi Lai, 2023). Once more, the presence of these elements resonated with the key characteristics discussed.

To briefly sum up the characteristics of the traditional Buddhist places, the choices of the site were made delicately. The masters have deliberately chosen these locations to build Buddhist places. Those traditional Buddhist places share many common features, including remoteness brought by the site location, away from the 'urban' environment. This remoteness automatically reduces the amount of external distraction that one may encounter. It has

already screened out the unpleasant noises that are more frequent where there is a crowd. The second common feature is the abundance of natural elements (such as greenery and water). The third feature, which has yet to be discussed before, is the use of rich and bright colours for the buildings. Unlike what some people would perceive meditation or Buddhism as minimalism and has little colour to keep it plain, those built cases, especially ones in Vajrayana, have heavily used various colours, yet the buildings are solemn and harmonious. The interiors were even more generous in applying rich and bright colours. Even with Japanese temples, which more people would associate Japanese Zen with minimal use of colour, the surrounding environment is still full of natural colours, giving the practitioners a strong impact. Han areas have not been reluctantly using pure gold to give the places an extraordinary impression. As for Mogao Grottoes, although the environment is very plain, the interior paintings have made up for it already. In terms of composition and style, all those traditional Buddhist places have a sense of formalness. Such formalness would evoke a sense of respect and naturally remind people that this place has a purpose differentiating itself from mundane matters. This is part of the atmosphere one would like to create for practitioners to facilitate their mindfulness practice.

In addition, sound plays a significant role in Buddhism. Musical instruments (i.e., bell, drum, gong, and horn, etc.) were used extensively in Buddhist mass for various purposes, such as religious services, meals, and group and individual practices. On a more profound level, they also embodied the meaning and action of awakening – to awaken the sentient beings from the darkness of ignorance (Patrul, 2011). As a result, Buddhist architecture also accommodates

such usage of the instrument. In more significant monasteries, bell and drum towers were built (in both Han and Tibetan monasteries). The decoration pattern of Buddhist architecture was often based on Buddhist symbols, namely the lotus flowers, diamond pestle, the Heavenly Kings, and the guardian statues (Dharmapalas – Dharma protectors).

In conclusion, Indian Buddhist architecture had its golden time and presented the world with its unique style; the Tibetan, Han Chinese, and Japanese monasteries, along with others such as Thai, Cambodian, etc. The Buddhist buildings in the West also flourished, adapting to the local context, and presented very distinctive styles of architecture with splendid use of colour and ornamentation – producing rich iconography both architecturally and artistically (Pandey, 2015). They provided living references for how the physical environment can facilitate the practice of mindfulness (and Buddhism).

3.3.4 Contemporary Buddhist places

This section reviews contemporary built cases that did not follow the traditional style of temples but still served Buddhist purposes. Those built mainly for meditations but did not confine to the Buddhist context will be categorised under the secular section. This section has taken a few significant built precedents worldwide to review the common features and differences they have with traditional Buddhist places.

Water Moon Monastery (Figure 3.24, Taiwan, China), designed by Kris Yao, is a typical and well-known case for its design. It is a Buddhist monastery that

serves its purposes. The monastery intended to convey the spirit of Zen Buddhism. When asked of what his vision for the future temple would be, master sheng yen, the founder of the monastery and Dharma Drum Buddhist Group, answered that he 'sees' the temple in his meditation dhyana, 'it is a flower in space, moon in water,' he said, 'name it the water-moon monastery' (Castro, 2013). At first look, the monastery does not resemble traditional Buddhist monasteries. Instead, he used modern design languages and materials to achieve the design intent. The most significant element in this place is the water and the sense of solitude it reflects. It was built on Dharma Drum Mountain, distant from the city centre.



Figure 3.24 Water Moon Monastery (Cheng, 2013).

Similar patterns may be spotted in Tadao Ando's work (Nussaume & Ando, 2009) in Japan (Figure 3.25) - the use of geometries in its plan, sections, and

elevations, the bold use of the water elements, and sharing the same idea of the lotus pond (also visible in Water Moon monastery). Both cases have a certain degree of minimalist style. The element of lotus bears a special meaning than other plants in Buddhism (Sodargye, 2015). The similarities between them suggest the significance of those common features to contemplation and Buddhist practices.



Figure 3.25 Water Temple, Japan (Nussaume & Ando, 2009).

Similarly, Vajrasana Retreat Centre (Figure 3.26, UK), being a recently built Buddhist retreat centre, winning the design award also serves a place in the discussion. Located in rural English countryside (Rojas, 2016), it has the

advantage of maximising the element of remoteness and gaining the sense of solitude. The journey itself already provides the atmosphere for the mind to settle down. This is a case where it is designed by a British architect based on a westerner's understanding of Buddhism (Walters & Cohen Architect, 2017).



Figure 3.26 Vajrasana Retreat Centre, UK (Scott, 2016).

The main noticeable difference between contemporary and traditional Buddhist places is the use of colour. Contemporary Buddhist places (not built according to the traditional style but based on architects' understandings) are prone to use less colour and to keep the style to a minimum, including having much less decoration on the buildings. Still, despite the differences in design details, the main principles remain.

Nevertheless, several cases were built within the urban context worth mentioning. The below pictures are of temples in Japan (Ott, 2019). Unlike the previous cases, these designed temples are situated in the busy city centre. Yet, similar elements can be seen in their design. The presence of the greenery, especially acting as a screen for the Ekoin Nenbutsudo (Figure 3.27) by Yutaka Kawahara Design Studio (Architizer, 2020). In both cases (and other urban examples in Figure 3.28), modern frames and materials have been applied while incorporating the natural element within the urban context. These provide a good reference as they are designed to be built in an urban environment with more distractions.



Figure 3.27 Ekoin Nenbutsudo, Japan (Yutaka Kawahara Design Studio, 2013).



Figure 3.28 Housenji Temple by Meguro Architecture Laboratory, Japan (Torimura, 2015).

From the interior perspective, the contemporary cases reviewed all have Buddhist objects, such as the Buddha statue within the building. They serve as a Buddhist place, even designed in a contemporary style. These elements can remind the practitioners of their purpose and being the object of blessings. Therefore, certain traditional elements from the lineage remain. However, despite the traditional elements depicted, there are drastic differences in the interior of the cases (not all of them). The temples are comparatively plain, keeping the elements, decorations, and colours minimal, especially in the case of the White Temple, where the surrounding walls and ceiling are all in white, without many objects within the space except the archetypal. Despite such contrast between traditional and contemporary Buddhist places, the underline message is clear – to minimise distraction and encourage practitioners to focus on their practices. Such a move provides a

sense of turning inward one's mind to generate the qualities such as mindfulness.

In short, although the architectural form and appearance have changed and evolved through time, the designers paid careful attention to the sequence of space that people will journey through. They share similar features amongst them to encourage the practitioner to seek inwards, and be mindful of the action, speech and thoughts.

- Embedded natural elements in design and in surrounding areas.
- Minimalistic architectural language to keep distractions at a minimal.

3.3.5 Buddhist places in doctrines and arts

According to Buddhist teachings, this section reviews the characteristics or elements and attributes of environments suitable for the practice. The approach includes reviewing the relevant artwork (Thangkas, sculptures, wall paintings, artwork) and doctrinal scriptures and teachings of Buddhist masters. The section will conclude with the findings from the materials briefly. From a Buddhist perspective, dualism is the cause of our suffering. In order to transcend beyond this dualistic mindset, wisdom (Prajna) is the key. Without stillness and calmness, no wisdom would be generated successfully. Therefore, it is suggested that an appropriate environment is essential to cultivate stillness and calmness, especially for beginners. This could be the reason why Buddha and many Buddhist masters have given suggestions on the place that the practitioners should go in order to generate this quality of mindfulness.

Below is the image of the Samatha meditation Thangka (Figure 3.29, Mensink, 2019), showing different stages of the practice. This Thangka depicted the practitioner's mind as the elephant led by a monkey representing the distractions, the practitioner being the monk initially chasing behind the elephant. The painting contains many profound meanings through the metaphors. However, the author would mainly discuss the environmental aspect of this research. Metaphor is a crucial technique used in Buddhism, both in artwork and scriptures, and it is one of the main ways that Buddha delivers the teachings to the beings (Kozak, 2010). There are repeated elements in this Thangka: natural greenery elements such as trees, forests, groves, grassland, water elements, mountains, and wild animals outside the path. Although these elements are not only to be taken literally (and they do embed deeper meanings), their presence also indicates their importance.

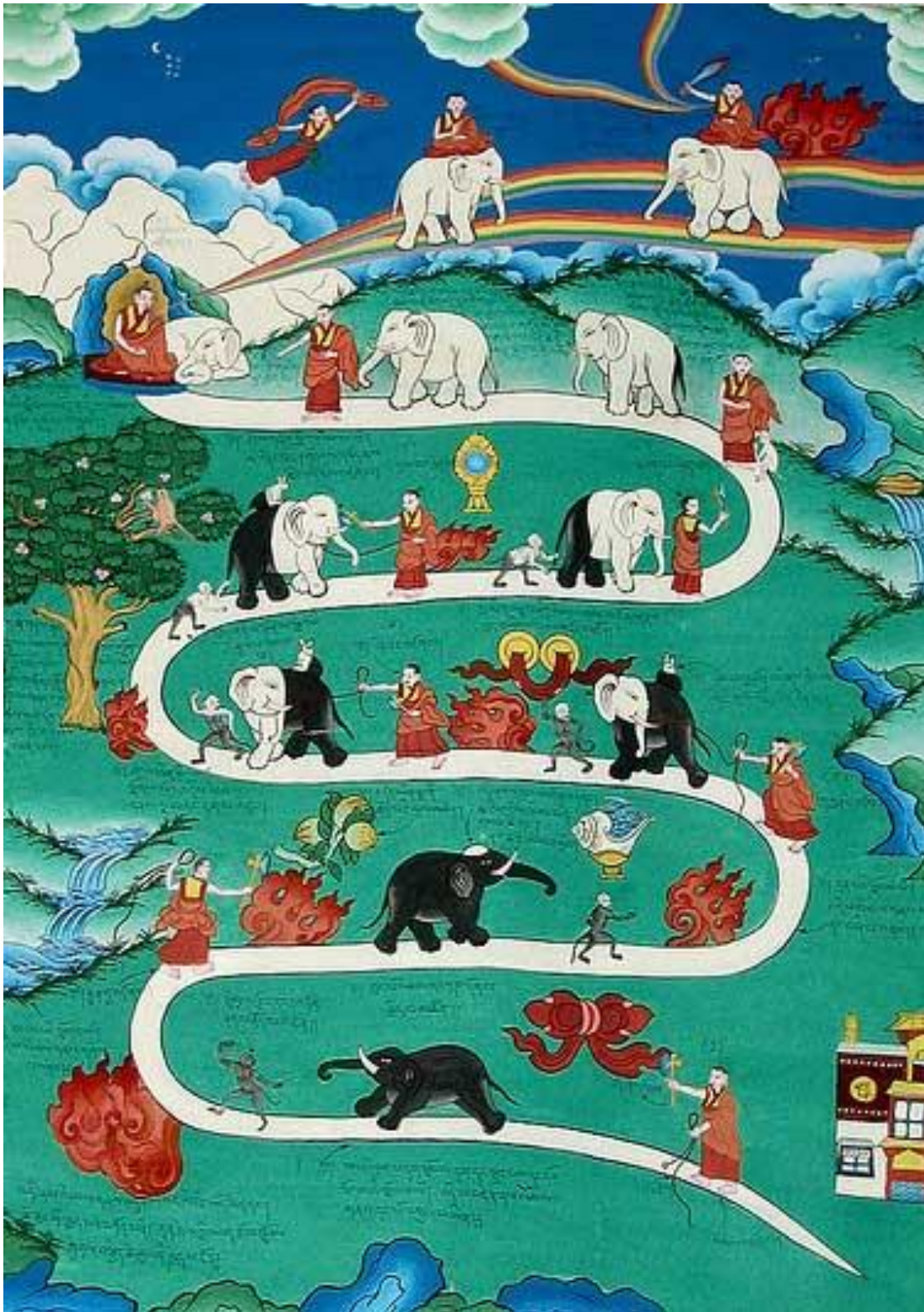


Figure 3.29 Shamatha Meditation Image (Mensink, 2019).



Figure 3.30 Life of Buddha Thangka (Thangka Mandala, 2021).

This image is among the many depicting parts of Buddha's life (Figure 3.30). Interestingly enough, whether it is Thangka drawn strictly according to the sutras or artwork recreated by artists, the same elements have been depicted

repeatedly. The most repeated and obvious element is the tree, including the well-known Bodhi tree under which Buddha attained enlightenment. The ground that Buddha was sitting on top of seems easily overlooked. With this base, it can uphold the rest. It provides a strong sense of stability, which is very much needed. The element of water has also been repeatedly presented in various forms (i.e., waterfalls). Flowers (of different species), open views, and wild animals have been depicted in some of them. Those elements are also visible in sculptures and paintings in different parts of the world.

On the other hand, countless sutras and teachings of the previous great masters all emphasised the importance of finding a suitable environment for beginners the practice. Such an environment is often referred to as the solitary place (Aranya) in Buddhism. The *Yogācāra-bhūmi-śāstra* (*Treatise on the Foundation for Yoga Practitioners*, Vol. 25) also said the following about Aranya, or solitude place: how can it be called residing in Aranya? To live freely in the forest wild, ...away from all city and village settlements, this is called residing in Aranya (Kragh, 2013; Sodargye, 2015). The great Longchenpa said that it is relatively easy to pacify mental dullness on mountaintops where our minds are naturally clearer (which may explain why there are many traditional cases where they were all built on the mountain tops) (Khyentse, 2012). He also said that to contemplate impermanence in rocky places is very beneficial, as it helps a sense of sadness about the sufferings of samsaric life to arise in the practitioner's mind, which suggests caves are good places for meditation practices. Whereas practising by running water can help to develop a sense of urgency about the practice that encourages renunciation and revulsion for

samsara, and to practise in cemeteries brings many blessings and great accomplishments very quickly (Khyentse, 2012).

Shantideva's *Siksa-samuccaya* (Goodman, 2016; Sodargye, 2015) says that the beginner's body must stay away from the bustle and reside in solitude. Only in this way can one's mind be regulated. *The Request of Gongpo* (Longchenpa, 2017; Sodargye, 2015; Wisdom Library, 2017) said that:

'By devotion to places of mountains and forests,

The source of good qualities will be increased.

By our resorting to solitary places,

Attachment to the five desires is abandoned.

Therefore, by being without preoccupation,

Possession of good dharmas will not diminish,

Because no mutual visits and inquiries

And speaking of words are performed in such a case.

Isolation in peaceful empty solitude

Is very highly praised by all the buddhas.

Therefore let aspiring bodhisattvas

Always put their trust in solitude.

Do not produce attachment in the cities.'

All Buddhas very highly praise isolation in peaceful empty solitude. Therefore, let aspiring bodhisattvas always put their trust in solitude.' The Venerable Longchenpa (Khyentse, 2012) further commented that one could improve the practice by seeing seasonal changes. Maharatnakuta Sutra (Sutra of the Great Treasures Collection) (Sodargye, 2015) mentioned that beginners should reside in a solitary place to make their minds quiet and docile. Atisha also said that one should only leave the solitary place once one has reached a stable state (the first Bhumi) (Sodargye, 2015). Before that, practitioners must reside in a solitary place to avoid being distracted by external objects. In short, practitioners should stay away from the chaotic environment and reside in solitary places according to Buddhist teachings. Many other great doctrinal teachings backed this, such as *Finding Rest in the Nature of the Mind* (Longchenpa, 2020), *Words of My Perfect Teacher* (Patrul, 2011), and *The precious treasury of Pith Instructions* (Barron & Rabjam, 2006).

As many sutras and teachings of the previous great masters depicted the significance of solitary place, what qualities and characteristics does the solitary place possess? In the *Commentary of The Way of Bodhisattva* by Khenpo Zhicheng (2018), there were two types of solitary places (verse 27, Chapter 8): (1) one is the direct meaning in the eulogy, which refers to a natural and solitary place far away from the noises, and hustle and bustles of the busy world, with birds singing, fragrant of flowers, such as mountains, forests, valleys. Such an environment is more likely to calm one's mind down. (2) The other is the place dedicated to particular purposes, such as places for hearing, contemplation, and practising, i.e., Buddhist academies, temples, and retreat centres. The

Larung Gar Buddhist Academy is strong evidence for the claim. At first sight, there were thousands of people living and studying there, and many voices were chanting and lecturing, which seemed not to be a solitary place. However, H.H. Khenpo Jigme Phuntsok (Zhicheng, 2018) once said that although there may be many people in this place, everyone's mind is tamed and docile. Because of the people who practice there every day, the environment, and the vibe that the place contains can prevent a lot of distractions and fusses and further facilitate practitioners' practices. Hence, this is also in accord with the definition of a solitary place.

First, to elaborate on the verse itself (Shantideva, 2008):

'When might I abide in such a place,

A place unclaimed and ownerless,

That's wide and unconfined, a place where I might stay

At liberty, without attachment?'

Such a place, unclaimed and ownerless, is also a vast natural place without a little artificial trace (Zhicheng, 2018). Because if a place is deliberately made for the purpose, one is prone to attach to the place after spending money and effort on it. In other words, a natural place would help a practitioner to reduce the attachment to the place. 'Wide and unconfined' implies that the place is vast, which would help one's mind to be open. Open land is, therefore, an element that would positively influence practitioners. This is an example of using the external environment to influence and guide the practice directly.

The second definition of the solitary place seems more relevant and appropriate for contemporary society. Due to the limited conditions, it is difficult for many city practitioners to abandon their families, work immediately, and go to a solitary place to practice alone. Hence, the second definition of solitary place would be more than helpful. In many masters' views, this second solitary place is more practical for most contemporary practitioners (e.g., Khyentse, 2012; Lodro, 2019; Longchenpa, 2017, 2020; Sodargye, 2015; Zhicheng, 2018). This solitary place is especially encouraged by many when the opportunity to practice in the first type of solitary place is not available. Creating a special place for one's practice is also encouraged when the ideal environment is unavailable.

The key here is to divert the mind from all kinds of distractions. The environment, after all, is a tool to help practitioners minimise distractions for the mind. This backbone applies to both solitary places. Arguably, some environments are better at helping achieve such a goal than others, i.e., the solitary place that is naturally vast, away from the hustle and bustle, surrounded by pleasant bird singing. The essence is to help the mind to calm down and reside in the relevant states of mindfulness.

In Vinaya¹⁸, it has been said in the law that the top obstacle to meditation is noise. Hence, the place for meditation should be relatively quiet, preferably without any noise, just as if on the moon (Lodro, 2017), where everything is silent. Silent or quiet is the most frequent word across the teachings regarding meditation practice in general (including mindfulness practice). According to

¹⁸ **Vinaya:** a code of monastic disciplinary rules in Buddhism (Merriam-Webber, 2023).

Dzongsar Khyentse Rinpoche, most people need a quiet place, and the most favourable environment for practice usually reflects the psychological condition one wishes to achieve (2012). Among the numerous Dharma songs of Milarepa, one of them is about a quiet place. He said that in such a quiet place, all the bodhisattvas in the past found what they were looking for; in such a place, Samadhi would naturally arise without much effort (Milarepa, 1999) Buddha and many great masters stressed the importance of silence, quietness, or a solitary place for beginners.

Why are the qualities of solitude and quiet so essential for practice? According to Buddhist teachings, whatever one sees, experiences, and thinks will leave an impression on the mind, which is characteristic of the mind. Then when one suddenly stops meditation after being busy, he or she is more likely to get distracted by the thoughts coming in and out, or it would take a long time for the mind to settle down before entering the state of practice, which would be slow. With the environment being quiet in the first place, the above processes are unnecessary as the mind is empty. This would allow the practitioner to enter the state of practice much sooner than in a very distractive environment.

Although many Buddhist scriptures (for example, *The Way of Bodhisattvas*) also mention places such as charnel grounds and caves as solitary places, beginners are not encouraged to go to those places at the start (e.g., Shantideva, 2008; Sodargye, 2015) due to reasons such as facing dangers alone, or not being able to go due to busy lifestyle, too advanced for beginners. Hence, masters and teachers emphasise dedicating space within one's home

or workspace where available as that is more feasible for contemporary urban people. This act would also remind practitioners of the intention to practice mindfulness.

3.3.6 Summary

In short, many doctrines and teachings discussed above have suggested the most crucial element for facilitating mindfulness practices: the absence of disturbance (regarding the views, sounds, and aromas). Such spaces can be referred to as Aranya. The Buddha and many great masters have first emphasised the importance of residing in Aranya, or solitude place for practice. Then hints were given in the Buddhist commentaries about what a space that would encourage the generation of mindful awareness could be (e.g., Shantideva, 2008).

The instructions on the locations and elements of the environment that a practitioner should abide by indicate certain physical natural elements: woodlands, trees, caves, and empty shrines. From the masters' point of view, those places are ideal for the practitioners to maximise the practice's efficiency and stabilise their state of practice. These are the places where the practitioners are encouraged to go alone, to be in a wild nature, without being disturbed by crowds and other worldly matters. However, as discussed above, the most crucial prerequisite for the practice is isolation (ideally to be both mentally and physically), as then the practitioners are subject to fewer distractions, creating the appropriate atmosphere and environment to generate the qualities such as mindfulness.

In summary, the characteristics that have been mentioned in the Sutras and Buddhist arts and also visible in actual built Buddhist places in history and contemporarily include the following: silence (or quietness), sense of solitude (loneliness, or being alone, away from the crowd), removal of possible distraction sources (i.e., phone), natural elements (including the natural sounds, natural view, natural aroma, natural greenery such as trees, grassland) which would also remind practitioners of impermanence (via seasonal changes for example), openness of the space (especially for certain practices, which may not be applicable to all practices), good ventilation (good air quality, especially important for mindfulness breathing), clean (both environmentally and physically), appropriate timing for the practice (e.g., four times in the day that would be suitable for meditation practices), appropriate lighting level (not too bright, nor too dark), a place dedicated for the purpose available would also be suitable (e.g., a retreat centre, a temple) with a stable ground. Burning certain scents would also help to enter the state of practice more efficiently (including mindfulness meditation). Having objects of focus, such as a Buddha statue, Thangka of Buddhas and Bodhisattvas, or a flower, is also helpful for the practices. There is also one crucial intangible element of the 'blessing' in Buddhist ideology. The teachings have also mentioned that a leading teacher or master would be necessary. However, as this section is about the environmental aspect of the space, this element will not be included in the discussion here.

3.4 Secular place for mindfulness practices

3.4.1 Introduction

Following the last section, which reviews the Buddhist places (both traditional and contemporary ones) for mindfulness practices, this section will review the secular places for mindfulness practices. This section reviews places that existed and were designed after the birth of contemporary secular mindfulness by Jon-Kabat-Zinn (the places and spaces that are specifically used or designed for mindfulness practice as defined in the last chapter) and teaching instructions regarding the environment that would be suitable for the practices. Finally, it concludes with a summary of the characteristics of those secular places for mindfulness practices.

Similar to the last section on Buddhist place, the term 'place' includes both the tangible and intangible aspects of space. Hence, a secular place for mindfulness practice also includes both the tangible and intangible quality of the environment. In this section, the secular place for mindfulness practice explicitly refers to designed spaces that evolved after the birth of secular mindfulness practice in the 1980s. If the space is shared between Buddhist groups and non-Buddhist groups, it would be categorised into Buddhist places as the purpose of Buddhist practices is exclusive in some instances. Therefore, the place here refers to spaces accommodating the mindfulness practice that does not serve religious purposes at the same time.

3.4.2 Contemporary secular places

Since the birth of secular mindfulness practice, architectural designs have boomed to accommodate such purposes. There are many types of places across the world that aim to provide an ideal environment for mindfulness practice. Slightly differentiated from traditional Buddhist mindfulness practice, secular mindfulness instructions should have emphasised more than finding the ideal environment for the practice. Instead, secular mindfulness emphasises more on doing meditation anywhere, anytime. Although a similar message is apparent also in Buddhism, Buddhist teachings equally stress the importance of the appropriate environment for beginners. Despite this, designers, community managers, and practitioners still put efforts into creating or adapting the space for mindfulness practice, which already suggests the importance of the environment in which the practice takes place.

Tadao Ando also designed a building called 'The Meditation Space,' which the photographer Bossi said, 'The Meditation Space is an intense space of silence' 'There is something unclear and magic; it is a space full of emptiness' (Figure 3.31, Frearson, 2020). There is a solitary nature to the space that Tadao Ando created. This is an example of a meditation space that does not serve religious purposes. There is a list of cases similar to this. At first glance, they may seem similar to contemporary Buddhist places, and they share many common features. However, one of the easy ways to distinguish the two is the presence/absence of the archetypal or Buddhist-related objects.

Reviewing the examples of secular mindfulness spaces (Figure 3.32 and 3.33, Mindfulness Project in London), a few spatial qualities can be spotted immediately, for example, the remoteness, or exclusivity of the location, the presence of natural greenery, and simplified design languages with modest design. Both the interior and exterior are kept to a minimum to comply with encouraging the practitioners to turn inward. Especially the interior is very simple in many cases. Not all cases have open views toward the outside. From examining the cases spatially, objective characters can be detected. However, there are other intangible qualities to the space that may only sometimes be spotted straight away through the drawings and photographs. What is also apparent is this connection with the natural world, not just the presence of greenery. Such intention was mainly fulfilled by creating visual connections. The benefits and reasons for such a movement will be further discussed in detail in the next chapter. This section mainly depicts the elements that are present in most cases.



Figure 3.31 'The Meditation Space' by Tadao Ando (Frearson, 2020).



Figure 3.32 Exterior of Mindfulness Project, Fitzroy Sq, London (Google Map, 2022).



Figure 3.33 Interior of Mindfulness Project, London (London Mindful, 2021).

The lighting of the designed project has been carefully controlled to avoid a strong direct gaze for the practitioners. Some tone down the lighting to make the appearance gentler. Details such as come down to personal preference in the end. The essence here is that control of lighting or lighting level is an equally important aspect of the environmental qualities of a mindfulness place.

Apart from the buildings being designed and built, other forms of mindfulness places have also evolved; for example, the meditation pod developed by

Headspace, designed by architecture firm Oyster Wu (Williamson, 2016), offers a carved-out spot for people to practice meditation (Figure 3.34). The pods aim to make meditation practice more tangible, having an innovative approach inspired by natural geological formations. This innovative approach aims to make meditation feel more tangible, as the quality of mindfulness practice is intangible. With its minimalist exterior juxtaposed with an organically layered interior, the pod becomes a tranquil spot inspired by natural geological formations (Williamson, 2016). Similar interventions have been developed to accommodate similar purposes, such as other forms of meditation, 'eggs,' and mobile meditation stations, which all offer a variety of choices to encourage people to take part in meditation practice.

Despite the different shapes and forms of the design, the message is explicit – it is vital to have a dedicated space just for the practice, ideally blocking out mental and physical distractions from daily hassles. These interventions are the tools to create an environment within the limited urban context to facilitate people's meditation, improving their well-being. The pods or stations may not necessarily contain many actual natural elements. However, the act of dedicating the space to practice already implies the fact that space and place matter. The action of taking up these spaces projects this longing for solitude (even just temporarily) corresponds with what has been reinforced by Buddhist teachings over and over again. In short, these interventions providing flexible choices comply with the sense of solitude and minimising the distraction (more from the sense of worldly matters as well as sounds and visual elements) as the key quality of a supportive environment.



Figure 3.34 Oyler Wu's interactive meditation pod (Grozdanic, 2016).

In the instructions given by Mindworks (2022), it suggests five meditation attributes or places of an environment that would be suitable for mindfulness practice: (1) a dedicated space, for example, a meditation room; (2) gardens; (3) holy places; (4) near rivers, streams and fountains; (5) a rooftop, patio or balcony. In this instruction, Mindworks mentioned words such as 'clean, tidy and well organised,' a place that is 'not too noisy'; one is also encouraged to use 'cleansing herbs, incense, and comforting lighting' to make the space 'sacred.' 'Colours and furnishings' are also important as a source of inspiration for cultivating mindful awareness. Natural elements are as equally important as the ones mentioned above. Elements such as 'fresh air, bird song, a keen awareness of interconnectedness and harmony with other living beings', 'grounding', or coming into physical contact with the earth offer both physical

and mental benefits for well-being. The term 'spiritual energy' has also been mentioned, corresponding to the blessings mentioned in the Buddhist place section. In other words, a holy place or sacred space is more likely to have an atmosphere of serenity that encourages introspection and communion, facilitating mindfulness practice.

Similar messages have been delivered in other instructions. Terms include 'a quiet space', 'clutter-free,' 'screen,' 'soft candlelight,' and 'aromatherapy oils and smudge sticks' (Rowland, 2020). More details have been considered in different mindfulness practice instructions, such as 'soothing colours' that promote relaxation and security within the space, also 'warming blankets,' 'cushions,' and 'soft furnishing' for comfort, which to some extent is one of the top priorities. 'Natural lighting' has also been mentioned where available. According to Melanie (Rowland, 2020), these additions are a valuable step in preparing the mind, 'which can actually form part of your practice.' These small acts as a signifier help to get the mind and body ready for the practice, a reminder that one is about to sit in stillness and turn the attention inward. Having a connection with nature has been mentioned repeatedly, for example, by adding a plant to improve air quality and visually and mentally connect to the natural world. More importantly, the instructions also emphasise cutting out the background noises to diffuse distractions. It is worth noting that some people are more sensitive to noise, whereas some are more sensitive to visual distractions or kinaesthetic sensations. Whatever the instruction suggests, the essence of finding the right environment that assists one's practice.

3.4.3 Summary

To sum up, similar environmental qualities have been mentioned in secular mindfulness places and Buddhist places. What has not been emphasised as much is Buddhist archetypal, which is somewhat exclusive to Buddhist traditions. The design styles of secular mindfulness bear similarities with contemporary places. The contemporary secular places designed for mindfulness meditation are prone to minimalist style, minimising the visual distractions for mindfulness practitioners. The use of colours is relatively plain in compare with some styles in Buddhism. They bear similarities and differences to Buddhist mindfulness places.

3.5 Discussion

The keyword for the kind of environments that have been created to support mindfulness meditation practice, Buddhist or secular, is the solitary place, or Aranya, which the name itself already implies many meanings and qualities. There are similarities and differences between the qualities and elements that Buddhist places and secular places mentioned. Traditional Buddhist places have been reviewed across different sects of Buddhism (Theravada, Mahayana, and Vajrayana). There has been variation in the environments where mindfulness is practiced between Buddhist and secular audiences and between traditional Buddhist and contemporary Buddhist places. For example, the rich, bold, yet harmonious use of colour in traditional Buddhist places is less seen nowadays in contemporary designs, in which the minimalist style has been well-populated. There are a few questions remain:

- 1) How does that affect the mindfulness practice of the practitioner?
- 2) What drives the differentiation behind those places?
- 3) Is it possible or preferable to conceptualise mindfulness practice as a spatial activity that can be conducted irrespective of the environment?

The answer still needs to be clarified.

There is a need to investigate this potential relationship, as presently, limited scholarly research links mindfulness practice's inner awareness and outer environments. Notably, a particular definition proposed by the Mindfulness All Parliamentary Group in the UK refers to 'paying attention to what's happening in the present moment in the mind, body and external environment, with an attitude of curiosity and kindness' (MAPG, 2015:5). However, the term 'external environment' (to people) is rarely discussed in the first place. Therefore, the qualities of the 'external environment' concerning mindfulness would be even rarer and harder to be noticed (Porter et al., 2017). In *Mindfulness and design: creating spaces for wellbeing*, it is made clear that 'Despite the different settings in which mindfulness meditation occurs, little work has been done to test whether some spaces work better than others when seeking to attain the benefits of mindfulness therapies' (Porter et al., 2017).

As more and more mindfulness-based therapies have been applied in clinical and educational settings, it is essential to explore how the design of a space both externally (for example, courtyards and gardens) and internally (architecture/interior spaces) may influence mindfulness practice, in order to maximise the therapeutic benefits and efficiency of other general behaviours

and activities that may take place in this space. Ultimately, the aim is to improve the well-being of the people. If a positive relationship between the inner awareness of mindfulness practice and the outer space was discovered by spatially contextualizing the mindfulness practice, a space that is friendly in generating mindfulness space should contain the restorative effect that allows the users to relax and cultivate inner awareness easily.

Table 3.1 Summary of Places for Mindfulness (both Buddhist and secular).

Characteristics	Representation Example	Buddhist	Secular
Integration with natural environment or natural elements	Lush forests / hills / mountain range / cave / near natural water bodies	Important	Optional
Open views and courtyards	Open views of surrounding / courtyard for walking meditation	Important	Optional
Sacred trees and gardens	Bodhi tree / lotus pond / well-tented gardens	Important	Optional
Water elements	River / lake / stream / waterfall / glacier / pond / basin / fountain	Optional	Optional
Stupas and pagodas	Stupa / pagodas (in different forms)	Essential	Optional
Use of bells, chimes and other instrument	Bell / chimes / gong / large cymbals / tingsha / drum / conches / damarus / chod drum / Tibetan trumpet	Essential	Optional
Sculptures and artworks	Buddha statue / Thangka / sculpture / murals / paintings / other statues	Essential	Optional
Architectural symbolism	Shape of building to symbolise significant Buddhist philosophy and cosmology	Optional	Optional
Remoteness and quietness	Remote location / away from urban / relatively quiet	Important	Important

To conclude, this chapter examines a place's tangible and intangible spatial qualities that may support or hinder one's mindfulness practice from practical and theoretical perspectives. Buddhist places (traditional and contemporary) and secular places have been examined to summarise the key qualities that

have repeatedly appeared (Table 3.1). The theoretical aspect of the place has also been reviewed through Buddhist teachings, Buddhist artwork in different forms, and secular mindfulness instructions to provide a foundation for understanding the approaches behind the design decisions. The frequency of the qualities or elements mentioned has already implied the significance order of the elements. Nonetheless, these qualities or elements and attributes extracted will be carried forward to the next chapter for further discussion in combination with environmental psychology to establish a refined version of the research framework.

4 – ENVIRONMENTAL PSYCHOLOGY

4.1 Overview

This section will introduce environmental psychology and the associated design approaches to further understand the relationship between the physical environment and people's activities. In particular, symbiotic relationship between the health and well-being benefits from exposure to nature as evidenced by environmental psychology, and the positive outcomes of mindfulness practices in different forms. This will also explore further how the environment could facilitate the practice of mindfulness meditation. In short, environmental psychology studies how people experience and change the environment and how the environment changes people's behaviour and experiences and forms an intertwined loop. Hence, it is appropriate for the research to include this field of knowledge. This chapter will conclude with an initial research framework from the literature based on mindfulness theories, mindfulness places, environmental psychology, and associated design approaches.

4.2 Development of Environmental Psychology

Being a relatively newly established subject in the 20th century, environmental psychology is a discipline that studies the interplay between individuals and the built and natural environment (Spencer & Gee, 2009; Steg & Groot, 2019:2). This discipline examines 'the influence of the environment on human experience, behaviour, and well-being, as well as the influence of the individuals on the environment' (Steg & Groot, 2019:2). This makes environmental

psychology an appropriate overarching framework to apply when investigating the mind-body-environment relationship as it looks at the core of human activities, which is applicable for mindfulness practice. It is 'the study of transactions between individuals and their physical settings' (Gifford, 2014:2), and it 'primarily interested in the interaction between humans and the built and natural environment; it also explicitly considers how the environment influences behaviour as well as which factors affect behaviour that can help improve environmental quality' (Steg & Groot, 2019:32). It involves the study of the central issue of 'how different types of settings can trigger different affective states in individuals' (Joye, 2007). It concerns environments as the context of behaviour and the environment as a determinant or influence on behaviour and mood. On the other hand, it also concerns the consequences of behaviour on the environment, which deals with broader issues such as pollution, recycling, and ecosystem issues (Bell et al., 2001:2).

The field of psychology known as environmental psychology has been acknowledged since the late 1960s, making it a relatively recent addition to the broader field of psychology (Altman 1975; Proshansky et al. 1976; Stokols 1977, 1978). It emerged in the context of the civil rights, feminist, lesbian and gay, peace, anti-nuclear, and environmental movements during this time (Gieseking, 2014). However, Kaminski (1976), Graumann (1976), and Kruse & Graumann (1987) established that there are two births for this discipline: the first birth at the beginning of the 20th century and the second during the 1960s. Hellpach was one of the first scholars who used the term 'environmental psychology' in the first half of the century (Pol, 2006). Hellpach (1924:11) explicitly defined

environmental psychology; he divided the environment into three circles (see table 4.1) and studied the impact of different environmental stimuli on human activities, including colour and form, the sun and the moon, and extreme environments. Later, urban phenomena such as crowding, overstimulation, continuous change, hurry, and alert state have been studied and different types of environments, including natural, social, and historical cultural environments have been distinguished (Pol, 2006).

Table 4.1 Summary of Hellpach's division of environment (Pol, 2006).

Three circles	Corresponding name	Influences
Geopsychological factors environment	Natural	Influence through the meanings of expression;
Psychosocial factors environment	Community	Influence causing psychological changes in the body.
Technopsychology environment	Built world	

Apart from Hellpach's research, the work of Muchow (last known edition in 1998) should also be mentioned. She introduced this idea of a 'personal world,' which focuses on the dimensions of 'personal space' and 'personal time,' and this concept has become a recurring subject in the second birth of environmental psychology (Pol, 2006). Gestalt psychology also plays a vital role in this process. Bell and his colleagues (1996) consider this as one of the starting points of environmental psychology as it emphasises understanding the environment to account for behaviour from a holistic perspective. However, Brunswik and Lewin were regarded as the 'founding fathers' of modern environmental psychology (Steg & Groot, 2019; Pol, 2006; Levy-Leboyer, 1980). Brunswik was one of the early psychologists who argued that psychology should give equal attention to 'the properties of organism's environment as the organism itself,' and he

advocated research to include all aspects of the environment that one is in (Steg & Groot, 2019:3). In his opinion, the physical environment affects people's psychological process outside their awareness. Lewin. Both Brunswik and Lewin conceptualised the environment as one key determinant of people's behaviour which they believed to be a function of the person and the environment (Lewin, 1951). The ideas of the interaction between the physical environment and psychological processes, as well as studying in real-life settings, were influential many later studies (Steg & Groot, 2019).

As a newly developed field, environmental psychology experienced three phases:

- 1) **'Architectural' Psychology:** this first phase of environmental psychology was guided by political and social context (e.g. post-war challenges) and focused on the built environment and how that affected human behaviour and well-being (Bonnes & Bonaiuto, 2002). This is the most relevant as the field studies how building designs can facilitate behavioural functions (Steg & Groot, 2019) and is most relevant to this research.
- 2) **Green Psychology:** the second phase, which started during the late 1960s. This leads to studies on sustainability issues which explain and changes environmental behaviour to create a healthy and sustainable environment.
- 3) **Current scope:** focus on changing people's behaviour to reverse environmental problems while preserving human well-being and quality of life simultaneously (Steg & Groot, 2019). The third phase recognises

broader environmental issues such as climate change, pollution, deforestation and other significant problems threatening people across the world (IPCC, 2013). The main focus that has been widely adopted is to reverse environmental problems by changing people's behaviour by various means while preserving human well-being and living quality (UN & WECD, 1987).

In summary, environmental psychology is a subject that explores the interplay between people and the external environment. This chapter bridges mindfulness and the environment in that the activity occurs as it establishes the relationship between the place and people. The research in the field of environmental psychology shows that different environments play an essential role in our minds and body. For example, certain types of space can make people feel more relaxed and peaceful (Ochodo et al., 2014), whereas others may lead to more mental health problems than others (Gifford, 2014:250). Hence, environmental psychology is appropriate to become the overarching framework for this research, as it helps explore the relationship between inner awareness of mindfulness practice and the outer physical environment.

4.3 Core Theories Relating to Environment and People

4.3.1 Introduction

This section examines the critical theories in environmental psychology that investigate the relationship between environment and people, or the human-environment interaction, including environmental stress theories, health benefits of nature, restorative theories, biophilia hypothesis, and other relevant

theories. With this foundation of environmental psychology, the research could demonstrate how the environment influences people's behaviour, body and mind, and vice versa. This provides a good source for the initial research framework.

4.3.2 Environmental stress theories

4.3.2.1 Definitions

As initially mentioned in Chapter 1, stress was one significant cause of mental health issues. 'Stress' is referred to the imbalance between environmental demands and human responses capabilities (Evans and Cohen, 2004; McGrath, 1970) that can lead to physiological changes such as increased cardiovascular responses (Steptoe and Kivimaki, 2013), altered immune system (Seegerstrom and Miller, 2004) and inflammatory responses (Miller et al., 2002). These may lead to deteriorated physical and mental health (Staufenbiel et al., 2013). There are different models of stress, including Cannon's flight-or-fight response (1932) and Selye's general adaptation syndrome (1956), which describes a three-stage pattern of response to stress. Cannon found that during an emergency, the Sympathetic-Adrenal Medullary (SAM) system is activated, causing physiological changes that return to baseline after the event. Selye's focus was on how the body adapts to chronic stress.

On the other hand, the transactional model developed based on the psychological models of stress (Lazarus & Folkman, 1987; Lazarus, 1966) accounts for stress as the product of the interaction between a person and the environment, which can arise from the occurrence of an event, from people's

cognitive appraisal of the event, and their coping strategies (Bilotta et al., 2019). McEwen (1998) established a dynamic view of stress, stating that there is no fixed ideal state of bodily functioning. Hence the physiological stress systems of a person would find a new equilibrium in the changed situation that allows one to function. In summary, the scope of stress research has shifted from stability (homeostasis) to adaptive change (allostasis), which allows more flexibility in the mechanism when facing stress (Ganzel et al., 2010). Thus, this creates room for mindfulness and associated physical environment to intervene.

Although different mechanisms of stress have been studied, the central idea is that excessive experience of chronic stress would impact people's physical and mental health significantly (Gatersleben & Griffin, 2016; Stults-Kolehmainen & Sinha, 2013; Schneiderman et al., 2005), manifesting symptoms such as high blood pressure, increased depression, weakened immune systems (Mariotti, 2015). According to Koolhaas and colleagues (Koolhaas et al., 2011), stress has both a physical (objective) and a psychological (subjective) component. From this perspective, the subjective psychological component depends on the individual perception of its predictability and controllability (Koolhaas et al., 2011), which in this instance, is where mindfulness comes in and has its effect. In this case, the objective physical component is more relevant to the outer physical environment that one is in. This echoes the important model of stress – environmental stress theory developed by Lazarus (1966) in psychology, which also has two key elements: an environmental stressor and a subjective cognitive appraisal of that stressor. The theory suggests that stress occurs dependent on contextual factors (the external stimulus) and individual

(the ability to cope with this stimulus), so not all environmental stimuli will cause stress for everyone.

Therefore, on the one hand, mindfulness as an activity reduces stress levels from a person's perspective. On the other hand, creating/adapting an environment that is best / ideal for mindfulness improves the efficacy of the practice. Hence, this would improve people's well-being by reducing stress levels from both the physical and psychological aspects. At the same time, having a supportive environment for the mindfulness practice indirectly improves one's ability to adapt to or cope with different stress levels as it better supports the mindfulness practice, which can effectively help people to reduce stress and perceive stress differently.

4.3.2.2 Environmental Stressors

Environmental psychologists have widely studied environmental stressors to better understand environmental stress and its effect on daily life. Environmental stressors, the 'physical characteristics of the environment that produce stress' (Bilotta et al., 2019:43), can have acute and chronic effects on people's living quality and well-being. As discussed in the earlier chapter, acute stress may not all be negative (Glass and Singer, 1972; Legg and Pietrangelo, 2023; Kandola et al., 2018; Schneiderman et al., 2005). However, chronic exposure to environmental stressors raises both physiological and psychological indicators of stress, which may cause a series of negative aftereffects even when the source of stress is removed (Lepore et al., 1997; McGonagle & Kessler, 1990; Yaribeygi et al., 2017).

Evans and Cohen (1987) distinguished four types of environmental stressors: (1) cataclysmic events, (2) stressful life events, (3) daily hassles and (4) ambient stressors.

Table 4.2 Summarised table of four categories of environmental stressors (Campbell, 1983; Gatersleben & Griffin, 2016).

Types of environmental stressors	Characteristics	Examples
Cataclysmic events	Sudden, infrequent events (catastrophes) that tend to have a major impact on larger groups of people and their environment. It is seldom predictable.	Natural disasters, i.e. floods, major storms, earthquakes, volcanic eruptions, nuclear power plant accidents...
Stressful life events	More personal events that one may experience on a daily basis, that require major individual adaptive responses. The behavioural consequences may be long.	Illness, family problems, major changes in work, moving to a new residential area
Daily hassles	Repeatedly aversive events of ordinary life that one experience everyday	Crowding, stressful commutes, arguments with colleagues
Ambient stressors	Also known as background stressors that are more continuous and intractable, tend to be tolerated for short periods.	Air pollution, noise such as the faint hiss of the central heating system, permanent dust

Different characteristics of environmental stressors affect whether they may cause stress or not. The arousal perspective, outlined earlier, refers to an optimum level of arousal, which has been proposed to be a function of complexity, novelty, incongruity and surprise (Berlyne, 1960; Kaplan and Kaplan, 1989). For instance, this means that sounds that are too monotonous or too complex and changeable are more likely to cause stress. What is 'too' depends on various individual and contextual factors. The phenomena raise

attention in the research on how chronic environmental stressors influence human health and well-being. The most commonly studied environmental stressors are ambient stressors (i.e. noise), and social-environmental stressors (i.e. daily hassles, personal space) (Gatersleben & Griffin, 2016; Hall, 1963), which have been summarised in the table below (Table 4.3).

Table 4.3 Reproduced summary of environmental stressors (Gatersleben & Griffin, 2016).

Stressors	Stressors	Results of the studies	Studies
Ambient environmental stressors	Light	Humans function better in optimum light conditions , i.e. daylight improved feelings of vitality, whereas dim light and priming darkness improved creativity by releasing social inhibitions. Also, participants perform better on cognitive tasks in 'warm' white lighting compared to 'cool' or artificial 'daylight' lighting.	<i>Smolders et al., 2013; Steidle & Werth, 2013; Knez, 2001; Knez & Hygge, 2002;</i>
	Colour	Brightness of a colour can influence performance. Warm colours (i.e., red, yellow) are more 'arousing' in terms of psychological (e.g., anxiety) and physiological outcomes than cooler colours. Rooms with a darker tone of the same colour were perceived to be more crowded than the lighter-toned counterparts. Lighter rooms are also considered more open and spacious.	<i>Pressey, 1921; Jacob and Suess, 1975; Wilson 1966; Acking & Küller, 1972; Dijkstra et al., 2008;</i>
	Noise	Attention can be impaired by many different types of noise . The detrimental effects of noise have been found for different groups after investigating both indoor and outdoor environmental stressors. People may function best under moderate noise levels (or an optimum level of stimulation). For	<i>Moch, 1989; Hygge et al., 2003; Beaman, 2005; Klatte et al., 2013; Rouleau & Belleville, 1996; Mehta et al., 2012 ;</i>

		instance, a moderate (70 dB) ambient noise enhance performance on creative tasks than low (50 dB) level of ambient noise, whereas a high level of noise (85 dB) impaired creativity.	
	Temperature	Rising temperatures have been associated with aggressive behaviours such as assault and car horn honking. An inverted U-shaped relationship between the temperature and aggression was suggested: as temperature increases, so does the likelihood of aggressive behaviour, but only up to a certain point. Participants were less likely to act aggressively in extremely cold (and hot) temperatures. Altruism has also been found to decrease over the summer as temperatures increase but increase over the winter as temperatures increase.	<i>Bell & Fusco, 1989; Baron, 1976; Cunningham 1979; Bell and Baron, 1977;</i>
Social environmental stressors	Privacy	Affording privacy using private rooms has been shown to have beneficial effects for nursing home residents suffering from dementia, especially for elderly people. Whilst visual privacy is important, auditory privacy is also important, and sometimes more important to some people. Also, lacking control of the online privacy could lead to particular concerns.	<i>Kupritz, 1998; Morgan and Stewart, 1998;</i>
	Personal space	Size of personal space, or proxemics, varies between an intimate distance (<1.5 ft), a personal distance (1.5–4 ft), a social distance (4–12 ft), and a public distance (12–25 ft). Optimum personal space varied with attraction, similarity, cultural determinants, gender, age and room shape and size. Personal space invasion can result in flight behaviour, compensatory	<i>Bell et al., 2001; Altman, Vinsel & Brown, 1977; Gifford, 2002</i>

		reactions, and perceptual withdrawal.	
	Crowding	<p>It is the number of people in the environment exceeds the preferred or desired level.</p> <p>Crowding becomes stressful when the individual no longer feels as if they have control over the situation, which would result in negative affective and behavioural outcomes.</p> <p>Crowding may have a negative effect on the physical health and mental health of children and prisoners such as elevated blood pressure, lower psychological well-being and an increased suicide rate.</p>	<i>Paulus et al., 1975; Baum & Paulus, 1976, 1980; McCain et al., 1976; Cox et al., 1984; Evans et al., 2000, 2002; Huey & McNulty, 2005; Haney, 2012; Bilotta et al., 2019 ;</i>
	Territoriality	<p>There are three types of territories: primary (i.e., home), secondary (i.e., classroom) and public (station platform). Threats to territory, especially the primary territory, can cause a series of reactions.</p>	<i>Brown & Robinson, 2011</i>

Research has shown that the above stressors impact people's daily life directly and indirectly. Some stressors have positive effects if within a certain level. Other environmental stressors have been studied for their effect on people, for example, housing quality, neighbourhood quality, and traffic congestion. People who are living with these five top environmental stressors (Bilotta et al., 2019) (together with noise and crowding) tend to display higher physiological indicators of stress both among adolescents (Evans et al., 1998) and adults (Schaeffer et al., 1988), which further leads to mental health problems such as anxiety (Hiscock et al., 2003) and depression (Shenassa et al., 2007). Each environmental stressor has its impact under the overall negative influence.

Among the environmental stressors, noise has been widely studied by researchers. Noise is defined as unwanted sound (Cohen & Weinstein, 1981), 'typically measured as sound intensity by decibels' (Bilotta et al., 2019:43). Whether noise results in negative feelings depends on factors such as volume, exposure time, predictability, the source, attitudes towards those who generate noise, beliefs about its consequences, satisfaction with other aspects of the environment, attitudes towards the noise, and sensitivity to it (Bell et al., 2001). As mentioned in the above table, there are objective standards by which a specific range of noise would impede people's performance. For example, chronic noise creates physiological stress, which leads to a series of significant stress indicators, such as a rise in blood pressure, an increase in heart disease and stroke (Munzel et al., 2014). Chronic noise also affects children's motivation to learn, and tends to achieve less in classrooms (Gilavand & Jamshidnezhad, 2016). Similar deficits apply to crowding and other environmental stressors. The reason to pick the noise up is that it has been richly studied in environmental psychology. However, the Buddhist teachings have also stressed the auditory requirement, which would be more than a coincidence.

In general, environmental psychologists have been widely studying the environmental stressors people are chronically exposed to daily. Such stressful impacts not only have an immediate negative effect on people's physiological condition, but they may also bring a series of negative aftereffects. Hence, environmental psychologists are also researching mitigating the negative impact of those stressors via different means to improve people's living quality and well-being. For example, Fay and Sonnetag (2002) refer to the importance

of avoiding certain stressors in their recommendations for designing healthy residential environments, which include extreme temperatures, air pollution and crowded housing conditions. On this note, the same idea would be appropriate for this research, as it also aims to create an ideal environment that would eventually improve people's well-being.

4.3.3 Health benefits of nature

People started to investigate the health benefits of nature to improve their health and well-being. Due to increased stress and a growing sedentary lifestyle, both physical and mental health issues such as cardiovascular disease, respiratory illnesses, depression, and anxiety are increasing rapidly across the Western world. As a result, western countries have grown the interest and demand for scientific studies of relationships between health and nature and their underlying mechanisms (Van den Berg et al., 2019). However, the relevant definitions should be explicit before investigating the relationship between health and nature.

4.3.3.1 Health

The first ground-breaking concept of 'health' was formulated by the World Health Organisation (WHO) as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (2021). However, this definition was much criticised because it is both 'unmeasurable' and 'unattainable' (Van den Berg et al., 2019). Later, Huber et al. (2011) introduced a new dynamic concept of health, the ability to adapt and self-manage in the face of social, physical and emotional challenges. In contrast, this definition of

health is more realistic and measurable, providing an appropriate starting point for studying the nature-health relationship. Several health indicators measure the health status of an individual and group, including clinical health indicators and public health indicators. Each indicator is based on individual measures, e.g., mortality and morbidity. However, as this is not the main focus of the research, the health indicators would only take up a little space to discuss.

4.3.3.2 Nature

Generally, 'nature' denotes 'a broad category of the natural environment and features of those environments,' for example, a single tree or plant (Van den Berg et al., 2019). Chronologically, the meaning of nature itself has changed and evolved through time. For example, once people regarded nature as a hostile, threatening landscape, it took on a different image to become wilderness with pleasure rather than disdain in the 18th and early 19th centuries (Bell, 2001:27). On the other side of the planet, the meaning of nature in nature in the East was quite contrasting to the West. In eastern traditions, they took on the attitude of having a harmonious relationship with nature rather than conquest. Daoism believes in the 'Harmony between Nature and Mankind', the concept brought up by Lao Tsu.

The convergence between the appreciation of nature and the new realisation that humans were part of an interconnected web of life drew the line at the end of the 19th century (Bell, 2001:30). A new proposition of the relationship between humans and the natural world emerged. In this new understanding, humans are an integral part of nature rather than separated away from it (Bell,

2001), which supports the natural tendency for people to seek natural elements in their surroundings; they tend to prefer natural landscapes over urban scenes when choosing an environment to be in (Bell et al., 2001; Kaplan & Kaplan, 1989; Ulrich, 1993).

There are several terms in close relation with nature. In environmental psychology, environmental conditions are also categorised into natural environments and built environments. The term 'natural environment' was very frequently used and broadly defined as 'any kind of environment, place, or setting where vegetation and other natural elements are dominantly present' (Van den Berg et al., 2019:63). 'Nature area' is defined as 'large-scale natural settings that have developed through natural growth rather than design or planning' (Van den Berg et al., 2019:58). Other related terms include 'green space', is a very frequently used term in multidisciplinary. Historically, it has been used as two words, 'green' and 'space', where green is the description of the space. There are different interpretations of green spaces: green space as nature and green space as urban vegetated space. Taylor and Hochuli (2017) discovered that a majority of research papers considered the urban environment as the context for green space. In environmental psychology, it refers to 'nature in and around urban areas, such as parks, trees along streets, and gardens' (Van den Berg et al., 2019:58). In short, it refers to the environment dominantly occupied by vegetation and other natural elements.

4.3.3.3 Empirical studies on nature

The belief in the restorative and therapeutic effect of nature has appeared as far back as in ancient Rome, where people already noted that contact with nature could be beneficial in alleviating the harmful effects (such as noise and urban congestion) of the city (Wolf et al., 2014; Bratman et al., 2012). The first empirical evidence that exposure to nature may improve human health was provided by Roger Ulrich in 1984. The findings showed that patients recovering from gall bladder surgery in rooms overlooking a natural area with trees require fewer doses of strong painkillers and leave fewer negative comments than patients with a view of a brick wall, especially on days 2-5 after the surgery (Van den Berg et al., 2019). Similar findings also appeared in a Korean hospital when patients were randomly assigned with and without potted plants after surgery (Park, 2006). The results showed that patients in rooms with potted plants stayed shorter in the hospital and required fewer intakes of pain medications than the patients allocated in rooms without plants. Research also demonstrated that Nature-based Therapy (NBT) participants experienced 'a feeling of being shielded and cared for in a supportive setting; this gave them a feeling of safety and freedom, which facilitated physical relaxation and peace of mind' (Sidenius et al., 2017:12). Such differences can assert a particular connection between health and nature, or the presence of plants. Based on the findings, various programs have been developed outside the hospital that provide circumstantial evidence linking nature with health. A substantial amount of research outside the hospital also documented positive health impacts of green care or nature-based therapies, for example, care farming, horticultural therapy, and green exercise programs (Bragg & Atkins, 2016).

More researchers have investigated the relationship between green space and public health. For example, research by Van den Berg et al. (2015) compares the health and well-being of large-scale populations living in green areas and those living in less green areas and the access to green space. The study reported that residents with a high percentage of green space within a 1-3 km radius around their home generally have better mental health than those with a low percentage around their home. Similar studies have been conducted in many countries with different populations, health measures, and green space indicators. These studies strongly supported positive associations between perceived general health (including perceived mental health, all-cause mortality, and other moderate evidence) and the quantity of green space (Van den Berg et al., 2015).

Epidemiological studies also suggested a positive relationship between green space and health, and access to green space may reduce health inequalities between different socioeconomic groups. However, the above studies have mainly focused on the quantity of green space in the living environment rather than the actual quality of green space, which is also important for health (de Vries et al., 2013). The study in two neighbourhoods in a Dutch city demonstrated the importance of quality over quantity (Zhang et al., 2015). Both neighbourhoods are matched for the quantity of green space and socio-demographic composition but differ in the quality of green space, including accessibility and usability. The result from the study showed that residents from the neighbourhood with higher accessibility and usability to the green space

reported better mental health and a higher sense of attachment to the neighbourhood green space than the other neighbourhood.

4.3.3.4 Stress reduction and nature

To investigate the mechanism behind the nature-health relationship, Hartig et al. (2014) discussed four main mechanisms in Nature and Health:

- 1) improvements in air quality
- 2) stimulation of physical activities
- 3) facilitation of social cohesion
- 4) stress reduction.

There are other plausible pathways to link nature directly and indirectly with health (Cleary et al., 2017; Kuo, 2015); nonetheless, the selection of the above four are the most widely studied mechanisms (Van den Berg et al., 2019). From the schematic representation of the relationships diagram, stress reduction is the only mechanism containing solid lines, representing the established relationship (Figure 4.1). Stress reduction builds a direct connection with people's mental health and physical health. Hence, this section will review this mechanism.

A growing number of studies have shown that access to green spaces and being exposed to natural environments can reduce people's psychological stress (Barton & Pretty, 2010; Ewert & Chang, 2018; Haluza et al., 2014; Hansmann et al., 2007; Korpela et al., 2008; Mantler & Logan, 2015; Mayer et al., 2008; Ulrich et al., 1991). Many studies also investigated the relationship between activities engaged in natural environments and urban settings and the

level of benefits in **reducing stress**. Results have shown that physical activity performed in natural settings would significantly **improve mental health** (Barton & Pretty, 2010).

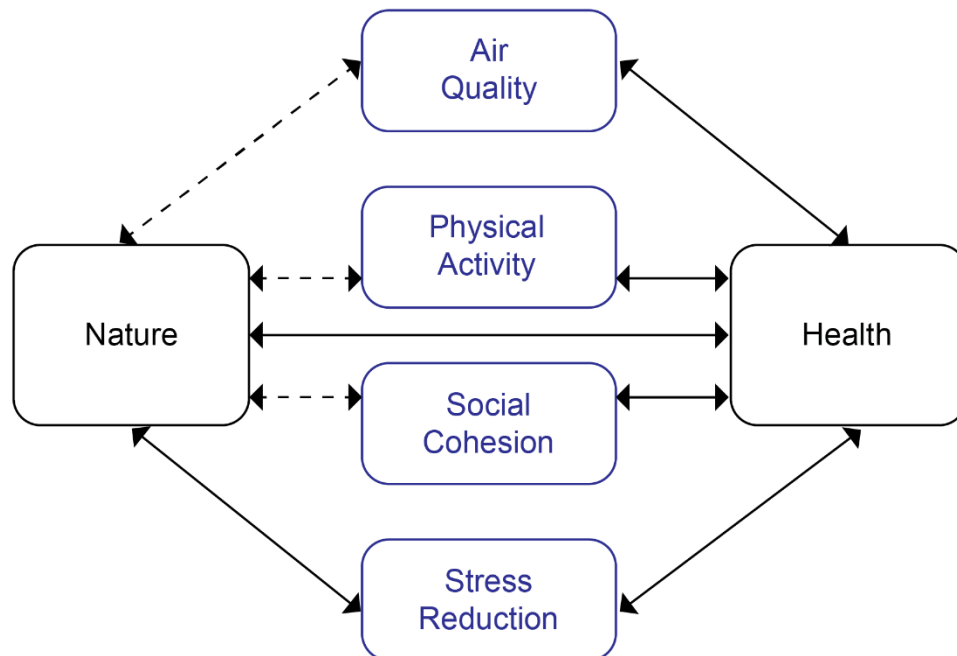


Figure 4.1 Reproduced schematic representation of relationships among nature, health, and underlying mechanism. *Solid lines: established relationships; dashed lines: weaker / inconsistent relationships* (Van den Berg et al., 2019: 61).

For example, walking in a natural environment has a more significant restoration than walking in urban surroundings (Gidlow et al., 2016; Hartig et al., 2003; Hartig et al., 1991). Also, running outdoors reduces negative emotions more effectively than running on a treadmill (Harte & Eifert, 1995). Other activities include visiting a forest environment (Lee et al., 2009), have pointed to reducing stress effectively through exposure to natural environments (Hartig et al., 2003; Hartig et al., 2001; Moses et al., 1989; Ulrich et al., 1991; Ulrich, 1984), which provides evidence of direct and positive impacts on well-being and health (Bowler et al., 2010). These suggest that cities with a natural environment, i.e. urban green spaces, can provide health benefits, for example, a significant

reduction in stress, which can be considered the source of many health problems, as discussed before.

Building on that, Hedblom and colleagues (2019) investigated the link between physiological mechanisms and qualities of urban green spaces where they compare the effects of visual stimuli (360-degree virtual photos of an urban environment, forest, and park) to the effects of congruent olfactory stimuli (nature and city odours) and auditory stimuli (bird songs and noise) on physiological stress recovery. The result shows that a higher level of natural elements (i.e. park and forest) significantly reduces stress with low physiological stress response, which links to high pleasantness ratings of the environment. The study also indicated olfactory stimuli may better reduce stress levels than visual stimuli. The findings demonstrated the importance of olfactory sensory inputs, which suggest that multisensory qualities should be considered rather than emphasising one singular sensory quality to provide a restorative environment. As a result of the abundance of research, the public has paid more attention to the benefits of nature and natural elements. For example, a nature pill was suggested to reduce stress levels in daily life and increase well-being (Hunter et al., 2019). The empirical study suggested that when the duration of the natural experience is between 20-30 min, the gain in benefit is most efficient (i.e. stress reduction, positive mood, well-being, vitality). Others have suggested practical advice to the public about connecting more with nature and natural elements: visit the natural environment, do physical activities in areas with natural elements, bring some plants indoors, have natural aromatherapy,

add natural scenes indoors (paintings, photos) and others (e.g. Larson & Kreitzer, 2016).

In short, nature and natural environments have proven to have many health benefits through abundant empirical studies. They have also been linked to the Attention Restoration Theory (ART), that proposes natural settings possess a particular set of properties that encourages restoration from attention fatigue (Felsten, 2009; Kaplan & Kaplan, 1989; Kaplan & Berman, 2010), which will be reviewed in the next section.

4.3.4 Restorative environment

As discussed above, contact with nature or the natural environment has been widely recognised to have a restorative effect and be effectively beneficial to people's health and well-being through empirical studies (e.g., Bratman et al., 2012; Hartig et al., 2003; Kaplan, 1995; Kaplan & Berman, 2010; Ulrich et al., 1991; van den Berg et al., 2003). Furthermore, many empirical studies have shown that exposure to the natural environment can significantly improve tasks requiring a high level of directed attention. 'Restorative environments' refer to an environment with opportunities for reducing directed attention fatigue (Kaplan & Kaplan, 1989). According to the Attention Restoration Theory (ART, Kaplan and Kaplan, 1989) and the Stress Reduction Theory (Ulrich, 1983), psychological restoration means 'the capacity for natural environments to replenish cognitive resources depleted by everyday activities and to reduce stress levels' (Scopelliti et al., 2019). Both theories emphasised the role of attention and low levels of stress for human survival and adaptation. This

section will review both SRT and ART regarding the restorative environment and its effect (and mechanism) to provide another layer of understanding of the relationship between mindfulness practice (which requires concentration and attention) and the environment that takes place.

4.3.4.1 Stress Reduction Theory (SRT)

In 1991, Roger Ulrich developed Stress Reduction Theory (SRT) based on numerous studies carried out in hospital settings that explained people's emotional and physiological reactions in the presence of natural elements (Ulrich et al., 1991). The SRT theory states that looking at scenery containing natural elements creates positive emotions and feelings (i.e. pleasure, calm) and has a restorative effect that would result in stress reduction, which can improve one's response rapidly and spontaneously (Ulrich, 1983). The theory has been supported by many empirical studies conducted in hospitals (e.g. Ulrich, 1984), prisons (e.g. Moore, 1981), residential communities (e.g. Thompson et al., 2012), offices (e.g. Sop Shin, 2007) and schools (e.g. Ulrich, 1979). Results from the empirical studies demonstrated the improvement in the nervous system activity of visual exposure to nature in the short term, for example, reduction in blood pressure, decrease in heart rate, cortisol levels, and ease of muscle tension. Positive psychological effects have also been observed. For example, decreasing anxiety levels increases feelings of comfort and relaxation. In addition, the findings indicate that recovery from stress and other adverse effects was faster when exposed to a natural environment than an urban one (Ulrich et al., 1991).

In short, this theory explains that being in an unthreatening natural environment or being able to perceive natural elements (such as vegetation or water) visually would activate a positive affective response. Individuals can then experience decreased stress, resulting in reduced levels of negative feelings and reductions in elevated physiological conditions (such as heart rate and blood pressure). The theory suggests that nature has a higher restorative property and potential than built environments.

4.3.4.2 Attention Restoration Theory (ART)

Attention Restoration Theory (ART) (Kaplan, 1989, 1995) is an important theory relating to this research. As mindfulness requires directed attention and concentration, ART suggests that mental fatigue and concentration can be improved by time spent in, or looking at nature, respectively, the attention can be restored. Kaplan & Kaplan (1989) proposed four cognitive states, or states of attention, that demonstrated the process of restoration:

- 1) Clear head or concentration
- 2) Mental fatigue recovery
- 3) Soft fascination or interest
- 4) Reflection and restoration

ART looks into the restorative effect of a natural environment where Kaplan (1995) said that 'evidence pointing to the psychological benefits of nature has accumulated at a remarkable rate in a relatively short period of time'. The restoration effect is the recovery from directed attention fatigue (which leads to stress). When other approaches to recovery are insufficient, being in a natural

environment can assist with the recovery of direct attention (Kaplan, 1995). Directed attention is a precious and fragile resource from the ART's perspective, and it allows one 'to be selective in what one focuses on both in thought and perception' (Kaplan, 2001:482). At the same time, directed attention fatigue can cause substantial impairment in an individual's mental competence. According to ART, four key components that characterise a restorative environment have been raised (Kaplan, 1995:172-4; Kaplan, 2001:482):

- 1) **Being away** – 'frees one from mental activity that requires directed attention support to keep going, 'it is distinct, either physically or conceptually, from the everyday environments', e.g., change view directions;
- 2) **Fascination** – 'involuntary attention, requiring no effort', 'containing patterns that hold one's attention effortlessly'; especially the soft fascination has aspects of the environment that capture attention effortlessly;
- 3) **Extent** – an environment must be 'rich enough and coherent enough so that it constitutes a whole other world', which contains patterns that hold one's attention effortlessly;
- 4) **Compatibility** – 'there should be compatibility between the environment and one's purposes and inclinations', 'fitting with and supporting what one wants or is inclined to do'. This means one can carry out the activities smoothly without struggle.

Building on the theoretical model, Kaplan (1995:174) then considered how nature relates to restoration by looking at how it meets the four requirements for a restorative environment. Natural settings or environments that are an important source for being away and resting one's directed attention are particularly high in compatibility; it is well-endowed with fascinating objects that capture one's attention effortlessly, leaving plenty of opportunities for thinking about other things (Kaplan, 1995). As for the extent aspect, the richness and coherency comes easily, regardless of distant wilderness or Japanese gardens.

Interestingly, Kaplan (2001) also analysed the underlying similarities between meditation and attention restoration theory (ART) that bridges meditation and environmental psychology, providing a basis for studying directed attention. The study provides a common ground between meditation and restoration theory. Directed attention is a precious and fragile resource from the ART's perspective, and it allows one 'to be selective in what one focuses on both in thought and perception' (Kaplan, 2001:482). In the below table, Kaplan (2001) analysed the approaches:

Table 4.4 Comparison of Attention Restoration Theory (Environmental) and Meditation (person-based), approaches to the management of directed attention (Adapted from Kaplan, 2001:491).

Mandate	Environmental	Person Based
Avoid calling on tired cognitive patterns	Being away	Change tasks reasonably often and seek balance in one's activities
Avoid unnecessary effort	Fascination, extent, and compatibility	Learn to recognise, seek, and create supportive environments

The conclusion drawn from the analysis is that mindfulness, one part of meditation that is based on discipline, being a mental training, together with the restoration theory, both aim to avoid the unnecessary use of directed attention 'either through fascination or through the elimination of effortful participation in thought' (Kaplan, 2001:484). Although the goal is the same, the approach requires active practice, focus and skill from an individual, which contrasts with the restorative experience that appears to be effortless. Despite the differences, Kaplan (2001) raised questions about whether the environmental and person-based approaches can be compatible or complementary. Interestingly, a monastery setting in nature has been found to have a restorative effect on individuals, as demonstrated in a study that highlighted its ability to offer 'time to be close to nature and to explore a "wonderful place"' and how 'witnessing the beauty increases the sense of tranquillity and personal competence' (Ouellette et al., 2005:186). This finding is unsurprising, given that a remote monastery provides elements of 'being away' and 'fascination,' which facilitate the occurrence of the restorative effect. Similar empirical studies have been conducted to investigate the relationship between formal mindfulness meditation training. Lymeus, Lundgren, and Hartig (2017) discovered that mindfulness practice can be more effortlessly conducted in natural settings. Lindberg and Hartig demonstrated that restoration skills training (ReST), built on mindfulness practices, can effortlessly stimulate restorative processes during nature interactions (2019).

In short, the theory proposed that spending time in a restorative environment that facilitates recovery from DAF would provide a means of restoring the vital

capacity of directed attention (Cimprich, 1993; Hartig et al., 1996; Kaplan, 2001; Kaplan & Talbot, 1983; Tennessen & Cimprich, 1995). In addition, the idea of a meditative environment has been mentioned to be where one is encouraged to be away from the usual pattern of thought, which echoes the two mandates that Kaplan (2001) proposed.

4.4 Associated Spatial Design Approaches

4.4.1 Introduction

This section will introduce the associated design approaches and assessment tools informed by environmental psychology that intend to benefit people's well-being. The key scopes of traditional and contemporary Buddhist places will also be discussed as it is crucial in understanding the relationship between mindfulness and the physical place. The literature includes various materials such as academic writings, traditional and contemporary artwork, and teachings in the traditional Buddhist doctrines. It concludes with a research framework established from the literature to suggest elements that will influence people's minds, behaviour, and well-being, which would be used as the basis for the subsequent empirical work.

4.4.2 Biophilic design

Biophilic design is a philosophy based on the Biophilia hypothesis, which proposes that humans have an innate connection with the natural world (Wilson, 1984) that encourages the use of natural systems and processes in the design of the built environment (Kellert et al., 2008). The theories suggest that

exposure to nature and interaction with nature is ever more important for human well-being. Hence, the central idea in Biophilic design is to incorporate natural features and systems into the built environment, allowing people to be exposed to nature (Kellert et al., 2008). This Biophilic design approach also led to the origination of two building rating systems that incorporate Biophilic design directly: Living Building Challenge and WELL Building Standard. Details of the two rating systems will be discussed in the next section. In addition, other consulting firms, such as Terrapin Bright Green, have published various white papers on Biophilic design and encouraged discussion around Biophilic design by creating the Human Spaces website. In short, Biophilic design has received growing interest, especially from the building industries globally, and it is becoming ever more important to people's health and well-being in the built environment.

Both SRT and ART suggest that some environments are more restorative that can help people recover from stress and mental fatigue. In contrast, some are more stressful and discourage the restorative effects than others. According to Kaplan and Kaplan (1989) and Ulrich and colleagues (1991), natural environments contain elements that would restore attention more effortlessly by providing the sense of being away, fascination, extent and compatibility (Kaplan, 1995), and promote survival and positive appraisal (Hartig et al., 2003) than stressful and demanding urban environments. The biophilic design suggests that by incorporating natural elements and features into the design, strengthening the biological bond between humans and the natural world, built environments could become more restorative for people (Kellert et al., 2008).

The key milestone in Biophilic design is the recently published document 'The Practice of Biophilic Design', which categorised the biophilic design characteristics into three experiences and twenty-four attributes based on the previous literature on biophilic design (Kellert & Calabrese, 2015) (Table 4.5).

Table 4.5 Reproduced experiences and attributes of Biophilic design (Kellert & Calabrese, 2015).

Experience	Attributes
Direct experience of nature	Natural light
	Air
	Water
	Plants
	Animals
	Weather
	Natural landscapes and ecosystems
Indirect experience of nature	Images of nature
	Natural materials
	Natural colours
	Simulating natural light and air
	Naturalistic shapes and forms
	Evoking nature
	Information richness
	Age, change and the patina of time
	Natural geometries
	Biomimicry
Experience of space and place	Prospect and refuge
	Organised complexity
	Integration of parts to wholes
	Transitional spaces
	Mobility and wayfinding
	Cultural and ecological attachment to place

Gillis and Gatersleben (2015) evaluated the evidence for each of the three experiences distinguished by Kellert and Calabrese to support the theory that the Biophilic design approach is beneficial for psychological well-being (Gillis &

Gatersleben, 2015). It is worth noting that different natural elements often feature together in environmental design, making it difficult to distinguish clearly between different aspects of Biophilic design. The Biophilic design pattern (Table 4.6) provided a good reference point.

Table 4.6 Reproduced Biophilic design patterns (Browning et al., 2014).

Biophilic Design Patterns		Definition
Nature in space	Visual connection with nature	Provision of internal and external nature, ecosystem, and its change.
	Non-visual connection with nature	Provision of auditory, olfactory, tactile, and gustatory stimulation of nature, ecosystems, and their changes.
	Dynamic & diffuse light	Provision of a lively environment with nature through lights and shadows.
	Connection with natural systems	Provision of an environment where visitors can feel the changes of a healthy nature, such as the change of the seasons.
Production of nature	Biomorphic forms & patterns	Symbolism, such as shapes, patterns, materials, and ratios that can be observed in nature.
	Material connection with nature	Minimising processing, and providing natural materials that show the ecological characteristics of the area.
	Complexity & order	Provision of an environment where visitors can sense various forms of sensory information from nature, centred on the hierarchy of natural elements.
Characteristics of space	Prospect (View)	Provision of an open environment to observe, view, and monitor the surrounding environment.
	Refuge (Shelter)	Provision of a place where visitors can feel safe and protected from environmental changes.

In short, Biophilic design, with its root in the Biophilia hypothesis, involves the creation of a built environment that increases people's health and well-being through the use of plants, natural materials, natural light and ventilation or a simulation of these. This shares common ground with places recommended for mindfulness practice especially suggested in Buddhist teachings (e.g.,

Shantideva, 2008). Both disciplines consider nature beneficial for one's health and well-being and practices that facilitate long-term well-being. This unveils a potential interconnection between the benefits of nature and the cultivation of mindfulness practices.

4.4.3 Optimal healing environment (OHE)

The Samueli Institute coined the term Optimal Healing Environment (OHE) in 2004 (Jonas & Chez, 2004) to describe a healthcare system designed to stimulate and support the inherent healing capacity of patients, families, and their care providers. An OHE consists of people in relationships, their health-creating behaviours, and the surrounding physical environment. The OHE framework (Figure) applies to health professionals; patients, their families, and significant others; healthcare organisations; and healthcare systems. As an organising framework, the eight concepts contained in the four environments of the OHE framework provide direction to patients, families, care providers, and organisations to optimise the healing potential. Each of the environments and constructs of the OHE framework works synergistically to support and stimulate health creation and healing (a concept known as salutogenesis).

As boxed in a red rectangle (Figure 4.2), the aspects associated with building healing spaces include nature, colour, light, artwork, architecture, aroma, and music. The principle is to consider how these seven attributes can be designed, modified or adapted to create the optimal healing environment that improves users' well-being.

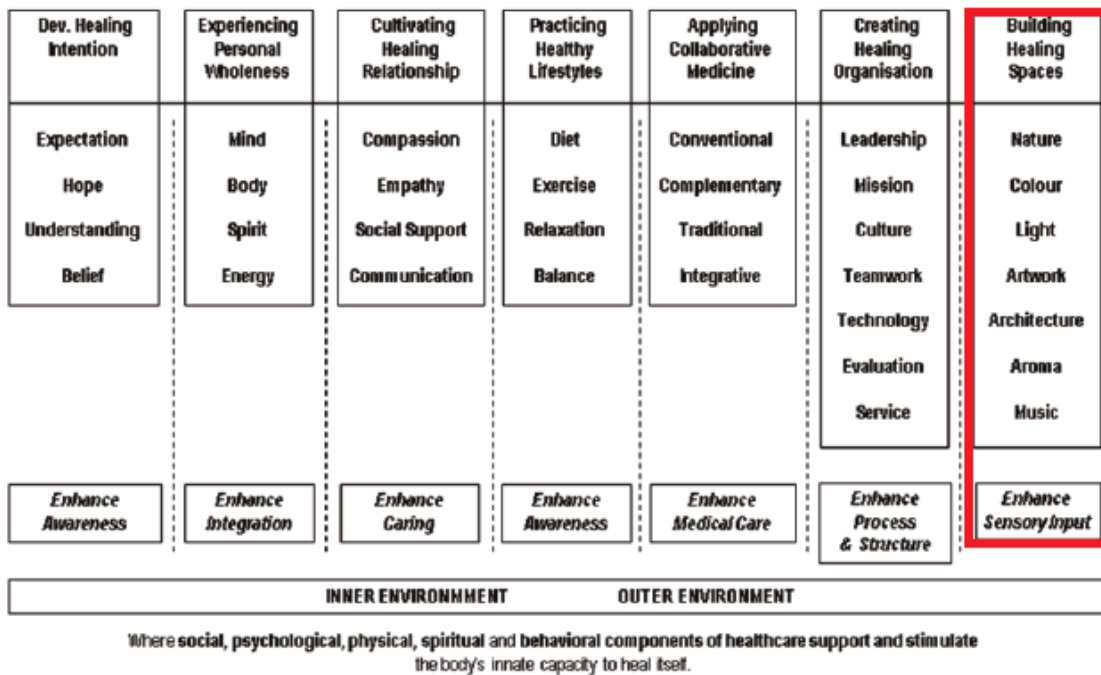


Figure 4.2 The Optimal Healing Environment (OHE) Framework (Ananth, 2008:247).

Notably, both OHE and mindfulness based interventions (including mindfulness meditation) aim to achieve the similar healing and restore people’s health and well-being. Thus, these controllable elements in which people can intervene and positively influence the users could be applied to mindfulness practice environment to consider how the building space can support the mindfulness activities.

4.4.4 Contemplative landscape

'Is a contemplative landscape a place of relaxation, designed to still the mind of thoughts? Is a reductive design vocabulary imperative? Or is it a place that should prompt new insights to emerge - perhaps by providing an intense or unique visual focus?'

These are the questions proposed by Rebecca Krinke (2005:xi) in the book *Contemporary Landscapes in Contemplation*, which collects essays that aim to contribute to those involved with the making of landscapes, including scholars and designers. In this book, definitions, theories, and case studies of contemplative landscapes have been explored. The central idea is to offer a range of observations about selecting sites that facilitate or inspire contemplation (Bowring, 2007).

The idea of a contemplative landscape is relevant to the benefits of people's mental health. According to the Cambridge Dictionary, contemplation refers to 'serious and quiet thought for a period of time', whereas 'contemplative' means 'involving quiet and serious thought for a period of time'. This word is sometimes exchangeable with meditation and often associated with mindfulness. In the aspect of the contemplative landscape, the word 'contemplation' was often used to describe the output of a designed green space (Olszewska et al., 2016). For example, Sidónio Pardal describes his Porto City Park: 'The Park's landscape is an end in itself and expresses its essence. It doesn't attempt to imitate nature and has no other purpose than direct use as a public urban space for recreation activities and contemplation...' (Pardal, 2006).

Olszewska and her team (2016) came up with a framework based on the development and analysis of a contemplative landscape questionnaire (Table 4.7). The aim is to design and create a space of contemplation. They split them into seven categories: landscape layers, landform, vegetation, light and colour, compatibility, archetypal elements, and a character of peace and silence

(Olszewska et al., 2016). The idea is that any reflection on the invented landscape ultimately leads to the concept of contemplation, which is a significant part of passive recreation (Olszewska et al., 2016). The Contemporary Landscapes of Contemplation essays offer a range of observations about how selected sites facilitate or inspire contemplation. The findings from the questionnaire and the literature (Olszewska et al., 2016, collected from different sources) confirmed that contemplative landscapes are a measurable reality.

Different researchers have identified these physical attributes as important elements that make up a contemplative landscape, a setting that would assist in restoring attention and improving mindfulness's efficacy. This checklist could be revised to be appropriately used in the research for a mindfulness space. For example, contemplative landscapes, long-distance views are vital for contemplative landscape as they account for about 70% of the 'weight' of the overall score of a landscape in comparison to other categories. According to many authors, being able to see far away is a feature that significantly improves the quality of the landscape through the visitor's perception capability. In addition, long-distance views stimulate in the observer a sense of personal freedom, mental pleasure, stress reduction, and an improvement in the quality of life in the city (Skalski, 2005; Tuan, 1990). In this case, some aspects of physical space could be found to cultivate people's inner mindful awareness, and those elements could be applied in future designs and practices to improve the well-being of society.

Table 4.7 Reproduced contemplative landscape attributes (Olszewska et al., 2016).

Elements	Attributes
Physical elements	Long distance view ($\geq 400\text{m}$)
	Historica and ideological universalism
	Inward orientation of the spatial composition
	Large space of absence (clearing)
	Smooth land form (mounds)
	Signage elements in the hierachical relation to each other
	Natural asymmetry
	Contrast with surrounding urban landscape
	Openings and closings of views
	Spatial order, harmony, absence of disturbing stimuli
	Physical and visual relations are worked out
	Lack of direct exposition to the sun
	Warm, broken colors
	Stimulation to look up to the sky
	Simplification of forms
	Repetition
	Visibility of shade movements along the daily cycle; sun/moon passage
	Seasonally changing vegetation
	Character of peace and silence
	High degree of wilderness
Biodiversity	
Large-scaled elements in relation to human body	
Signage or symbolic elements with strong connotation to life and death	
Signage or symbolic elements with strong connotation to continuity of life, collective human family	
Archetypal elements	Path
	Still water
	Waterfall
	Single old tree
	Big stone
	Clearing
	Forest
	Grave
	Circle
Psychological elements	Gives sense of solitude
	Invites to rest and relax

4.4.5 Assessment tools

Several assessment tools have been developed to promote building for well-being (Table 1.2). The elements and attributes in relation to specific health and well-being will be summarised into the below table (Table 4.8). They will be examined and integrated with other elements and attributes mentioned before in Buddhist doctrines/teachings, secular mindfulness instructions, Buddhist and secular mindfulness places, environmental theories and design approaches to form the initial research framework.

Table 4.8 Summary of assessments for health and well-being of buildings (BREEAM, 2023; Well, 2023; Fitwel, 2020; Living Future, 2023; LEED, 2022).

Category	Details	BREEAM	WELL v2	Fitwel v2.1	LBC 4.0	LEED v4.1
Air	Air quality	Hea 02	A01	6.3	I09	EQ1
	Smoke-free environment	Hea 02	A02	6.1		EQ1
	Ventilation design	Hea 02	A03		I09	EQ1
Light	Daylight	Hea 01	L01	7.1	I09	EQ9
	Adequate view (out/of nature)	Hea 01		7.2	I09	EQ10
	Appropriate illuminance levels	Hea 01	L02			EQ8
Thermal comfort	Appropriate temperature	Hea 04	T01	7.5	I10	EQ6
	Appropriate humidity	Hea 04				EQ7
Acoustic	Appropriate sound level	Hea 05	S01	6.10		EQ11
Mind	Nature and place	Hea 07	M02		I11	
	Restorative opportunities		M06			
	Restorative spaces		M07			
	Enhanced access to nature	Hea 07	M09		I11	

The above assessment tools include sets of strategies backed by the latest scientific research that aims to advance human health through design interventions, operational protocols, and policies and foster a culture of health and wellness. They drew expertise from a diverse community of users, practitioners, public health professionals and building scientists worldwide and provided an extra layer of design guidance for health and wellbeing (BREEAM,

2023). These elements/attributes will be considered in the initial research framework at the end of this chapter.

4.5 Review

As stated in the introduction, this chapter focuses on the relationship between people and the environment from the perspective of environmental psychology (Gifford, 2014; Spencer & Gee, 2009; Steg & Groot, 2019:2). The aim is to improve the quality of living for people and also, encourage behaviours that change the environment in a more positive and sustained way. The relevant core principles to this research have been selectively presented here after reviewing different aspects of environmental psychology. It begins with a broader understanding of the interplay between people and the environment, establishing that the environment and people influence each other. The factors that influence (negative, neutral, and positive) people are called environmental stressors. Some stressors, such as natural elements, are observed to be more beneficial to people's well-being and, simultaneously, restorative. The review eventually comes into the convergence between the environmental and people-based approaches directed at improving people's physical and mental health.

Different empirical studies in the field have taken place to investigate the effect of different environmental stressors (i.e., light, noise, crowding, temperature, colour and others) that influence human physiological behaviour. This bridges the previous chapters, discussing the environment from a spatial design perspective. It reviewed the relationship between the environment and people and provided the stressors that may work or against people's purpose. Both

environmental and person-based approaches aim to reduce the stress that causes many health problems to people nowadays (which is also the common ground between Buddhist mindfulness and secular mindfulness, which is to provide temporary comfort and ease for people).

From the environmental psychology perspective, researchers have agreed on the restorative benefits of nature or natural elements. The two theories of SRT and ART examined that focus on restorative environment share an evolutionary approach rooted in the Biophilia Hypothesis (Kellert & Wilson, 1993) that postulated humans have an innate tendency to respond to natural environments for adaptation reasons positively. Ulrich's SRT mainly focuses on the visual connection with nature would have a restorative effect. In contrast, more recent research has investigated the beneficial restorative of olfactory, auditory and tactile natural elements, which suggests they may be more important in the stress reduction process (Hedblom et al., 2019). Such important interaction between an individual and the environment aims to restore one's attention and energy and reduce other elevated blood pressure and stress levels by experiencing or viewing nature (Clay, 2001). Whether it is SRT, ART, or other relevant principles, these are all environmental approaches to create a restorative environment that would result in the restoration of directed attention and stress reduction, which further enhance or improves people's well-being. They aim to create an environment that would influence people's behaviour and mental state that requires less effort (Kaplan, 2001). Hence, the perspective of environmental psychology can be viewed as the environmental approach to

stress reduction and other restorative effects that mindfulness is also partially aiming to attain.

In contrast with the passive environmental approach, meditation as a complex domain requires active engagement and effort. According to Kaplan (2001), it acquires skill and capacity to achieve the intended state of mind. He stated that such an approach requires both knowledge and practice, which takes time and effort. Others, such as Cimprich (1993), suggested that one may need more capacity to make such an effort to learn the skill under the sudden urgent need for restoration, which would be the disadvantage of meditation. This may be true to a certain extent, and a philosophical debate could be raised. However, the seeming contradiction between the two can be compatible and complementary with each other.

The focus of this research is similar to Kaplan's hypothesis (2001:500), which

'Consider an individual with little meditation training attempting to meditate in an environment arranged to have only modest restorative properties. That individual would be expected to experience more recovery of directed attention capacity than either the same person in the same environment who is not attempting to meditate or the same person trying to meditate in an environment that offers fewer restorative properties.'

The two approaches do not necessarily need to work against each other or to choose only one at a time. They can work together to achieve the common goal – improve the well-being of people. The approaches share common ground in

terms of the goal (which is to improve well-being eventually), and partially the restorative effect during the process (to restore the directed attention via different means) and the result (reduce fatigue, stress, attention stored), which provide the basis for discussion.

On the one hand, people can experience the 'restorative effect' and other beneficial effects by practising mindfulness actively themselves. On the other hand, providing a restorative environment can also achieve the restorative effect passively. The hypothesis or the research suggests that providing a supportive environment for the person-based approach may lead to improved efficacy of the mindfulness practice with less effort. It is a valuable framework that Kaplan provided. However, because the four components or characteristics that Kaplan (1995, 2001) proposed are not actual elements or stressors in the natural and built environment, these cannot be used as actual attributes to discover 'the rate of mindfulness' of an environment.

Nonetheless, the stressors in natural and built environments can be assessed against the four components within the framework, alongside other criteria, to gain a comprehensive understanding of the environment that would support mindfulness practice. The question then arose: Would a restorative environment facilitate mindfulness practice completely? Or to what extent an environment with a restorative effect can support mindfulness practice?

Notably, there are other influencing factors (Gifford, 2014) apart from the abovementioned elements that will impact people's behaviour in various

settings, such as disasters and toxic hazards. However, they will not be suitable as characteristics for this research's standpoint as they deal with much broader issues than just a local environmental setting in environmental psychology. For instance, it is very unlikely for a place deliberately designed or adapted for mindfulness practice to be located in an area that would experience frequent disasters or have toxic hazards. Hence, some stressors will not be included within the research framework.

To conclude, this chapter has provided approaches and potential stressors that may influence mindfulness practice (positively, negatively and neutrally). It has set the foundation and built the bridge between the chapters. Furthermore, many empirical studies have provided evidence to show the restorative effect and other health benefits of nature, natural elements and natural environments. This suggests that an environment that facilitates the generation of mindfulness is more likely to have more natural elements than others, as it has to have a restorative effect for people to stay calm and relaxed to generate mindfulness. Natural elements may support mindfulness practice better than in other environmental settings. However, this awaits more review, analysis and discussion.

4.6 Initial Research Framework and Discussion

The initial research framework has been established and recategorized the elements based on the literature mentioned above. The literature from Buddhist and secular mindfulness, Buddhist and secular places for mindfulness, environmental psychology principles, associated design approaches, and

assessment criteria have all provided valid perspectives about the relationship between people and physical environment, and how the environment can influence people's mind and behaviour and facilitate their health and well-being. Please see below for the initial research framework (Table 4.9) based on the literature and the process of generating this research framework. Different fields of study proposed many elements and attributes. However, they have been categorised differently according to different purposes. Therefore, it is essential to systematically categorise the elements and attributes for the purpose of this research – to understand how they can facilitate mindfulness practice.

From environmental psychology, it is agreed that people have the ability to perceive and change the environment. This is the basis of the initial research framework. The elements were first categorised by the senses (hearing, sight, smell and touch) and fall under the category '**sound**', '**visual**', '**smell**' and '**touch**', respectively. The 'taste' has not been included in the table as most formal mindfulness practices do not involve tasting. This division is based on people's perception of the space. Noted that an extra column has been added named 'control'. This column indicates whether this element is **fully** or **partially controllable** by people. Elements that were not controllable such as 'time', are not included in the initial research framework. As this research framework will inform the actual practice and design of the mindfulness space, therefore, it only included the elements that were controllable (both fully and partially) by people.

Table 4.9. The initial research framework (Ananth, 2008; Benko, 2016; BREEAM, 2023; Browning et al., 2014; CABE, 2003; CABE, 2011; Čavić & Beirão, 2014; Dijkstra et al., 2006; Fitwel, 2023; Kaplan 2001; Khyentse, 2012; LEED, 2023; Living Future, 2022; Lodro, 2017; Mitchell & Gunning, 2013; Nearing, 2021; Olszewska et al, 2016; Shantideva, 2008; Sodargye, 2009; Stark, 2022; Therachat, 2018; Ulrich, 1983; Well, 2020; Zangmo, 2022).

Item	Senses	Elements	Sub-elements	Controllable	References
1	A SOUND	1 Quietness	1 Absence of sound	Fully	<i>BREEAM, 2023; Kaplan 2001; Lodro, 2017; Well, 2020;</i>
2		2 Natural sounds	1 Sound of water	Partially	<i>Ananth, 2008; Browning, Ryan & Clancy, 2014; CABE, 2011; Čavić & Beirão, 2014; Dijkstra, Pieterse and Pruyn, 2006; Khyentse, 2012; Shantideva, 2008; Well, 2020; Ulrich, 1983;</i>
3			2 Sound of wild birds	Partially	
4			3 Sound of wind	Partially	
5			4 Sound of rain	Partially	
6		3 Artificial sounds	1 Meditation bell	Fully	<i>Mitchell & Gunning, 2013; Nearing, 2021; Sodargye, 2009; Stark, 2022; Therachat, 2018;</i>
7			2 Background Zen music	Fully	
8			3 Clock ticking	Fully	
9			4 Instruction	Fully	
10	B VISUAL	1 View at the practice space	1 View of greenery	Partially	<i>Benko, 2016; Browning, Ryan & Clancy, 2014; CABE, 2011; Čavić & Beirão, 2014; Dijkstra, Pieterse and Pruyn, 2006; Mitchell & Gunning, 2013; Well, 2020; Ulrich, 1983</i>
11			2 Open, unblocked view	Partially	
12		2 Natural lighting	1 Direct natural lighting	Partially	<i>Benko, 2016; BREEAM, 2023; CABE 2011; Dijkstra, Pieterse and Pruyn, 2006; Mitchell & Gunning, 2013; Čavić & Beirão, 2014; Well, 2020; Fitwel, 2023; Living Future, 2022; LEED, 2023</i>
13			2 Indirect natural lighting	Partially	
14		3 Artificial lighting	1 Warm artificial lighting	Fully	<i>Benko, 2016; BREEAM, 2023; CABE, 2003; Čavić & Beirão, 2014; Mitchell & Gunning, 2013; Well, 2020;</i>
15			2 Cool artificial lighting	Fully	
16		4 Focus objects	1 Buddha statue	Fully	<i>Ananth, 2008; Benko, 2016; CABE 2003; Čavić & Beirão, 2014; Mitchell & Gunning, 2013; Olszewska et al, 2016; Shantideva 2008; Sodargye, 2009; Well, 2020;</i>
17			2 A vase with flower	Fully	
18			3 Mandala	Fully	
19			4 Artistic objects	Fully	
20			5 Images of nature	Fully	
21		5 Presence of water body	1 Natural water feature	Partially	<i>Benko, 2016; Brownin, Ryan & Clancy, 2014; Khyentse, 2012; Shantideva, 2008; Mitchell & Gunning, 2013; Well, 2020;</i>
22			2 Artificial water feature	Fully	
23		6 Colour of the room	1 Warm room colour	Fully	<i>Ananth, 2008; Čavić & Beirão, 2014; Well, 2020;</i>
24	2 Cool room colour		Fully		
25	3 Harmonious room colour		Fully		
26	4 Strong contrasting room colour		Fully		
27	7 Feature of time	1 Seasonal changing vegetation	Partially	<i>Benko, 2016; Browning, Ryan & Clancy, 2014; CABE 2011; Čavić & Beirão, 2014; Dijkstra, Pieterse and Pruyn, 2006; Khyentse, 2012; Mitchell & Gunning, 2013; Shantideva, 2008; Well, 2020;</i>	
28		2 Visibility of shade movements	Partially		
29		3 Sun/moon passage	Partially		
30	C SMELL	1 Natural aroma	1 Smell of cut grass	Fully	<i>Benko, 2016; Mitchell & Gunning, 2013; Shantideva, 2008; Sodargye, 2015</i>
31			2 Smell of other natural elements	Partially	
32		2 Artificial aroma	1 Burning incense	Fully	<i>Sodargye, 2009</i>
33	D TOUCH	1 Temperature	1 Warm temperature	Fully	<i>BREEAM, 2023; Browning, Ryan & Clancy, 2014; CABE, 2011; Well, 2020; Fitwel, 2023; Living Future, 2022; LEED, 2023</i>
34			2 Cool temperature	Fully	
35		2 Use of tools	1 Use of cushion	Fully	<i>Goldstein, 2021; Mitchell & Gunning, 2013; Sodargye, 2009; Zangmo, 2022.</i>
36			2 Use of bench	Fully	
37	3 Use of mat		Fully		
38	4 Use of chair		Fully		

This initial research framework provided an understanding of what the elements influencing mindfulness meditation are and, at the same time, amendable. Because human beings can affect, control and change the environment to a certain degree, when they choose to amend the elements in the physical environment from the research framework, the environment will change. The changing environment will then influence back to the mindfulness practitioners and support their meditations.

In short, the essence of the three literature review chapters has been condensed in the research mentioned above framework. This research framework will be applied in the following mixed-method study (quantitative questionnaire and qualitative case study). This initial research framework will be examined to test the elements to see whether the actual situation converges with the literature and to be refined after the empirical study.

5 – METHODOLOGY

5.1 Introduction

This chapter explains the research design of this study and its rationale. By adopting a case study method, this empirical research aims to analyse how particular spatial elements and attributes, as identified in existing literature (Chapters 2 – 4), facilitate mindfulness practice. This chapter defines relevant methodologies and reviews their advantages and disadvantages for this case study approach. The rationale for case study selection, sampling strategy, data collection processes and data analysis methods are presented, along with a description of ethics approvals when conducting work with human participants. The details for the pilot study have also been included. The chapter concludes with the scope and limitations of the research methods that have been applied.

5.2 Selected Research Methodology

This is a case study-based research project – and the rationale will be explained in the following sections. There are three most extensively discussed research paradigms: qualitative, quantitative, and mixed methods (Creswell, 1994; Groat and Wang, 2002). The quantitative research method is defined as a quantitative approach in which researchers adopt the positivist propositions (Creswell et al., 2003), for example, to develop knowledge (i.e., causality) by using research strategies (e.g., experiments and surveys) and collecting data from predetermined tools that generate statistical data. It involves a deductive process which seeks causal explanation (Groat and Wang, 2002:28). At the same time, the qualitative research method requires an inquisitive induction

process to identify multiple key factors that affect the phenomenon (Groat and Wang, 2002:28). Qualitative paradigm refers to a method, or an opinion, or a combination of both, held by inquirers to put forward their knowledge proposition based primarily on the constructivist perspectives or engagement opinions (Creswell, 2003:18). Decision-making about selecting an appropriate research method should be mainly based on three aspects of research problems, the researchers' personal experience, and the report's audience to be written (Creswell, 2003:21).

Yin (2018) said that a case study 'is an empirical method that investigates a contemporary phenomenon in depth and within its real-world context'; it also 'allows an investigation to retain the holistic and meaningful characteristics of real-life events'. There are three criteria to the case study research method (Yin, 2018):

- 1) form of research question (how/why);
- 2) requires control over behavioural events (no);
- 3) focuses on contemporary events (yes).

According to Francis (1999), the case study is a well-documented and systematic examination of the process, decision making and outcomes of a project that is undertaken to inform future practice, policy, theory and/or education. It has also been widely featured in the field of landscape architecture. In this instance, the research is appropriate to use the case study method.

According to Yin (2018), five components are essential to a research design:

- 1) a case study's question

- 2) its propositions
- 3) its cases
- 4) the logic linking the data to the propositions
- 5) the criteria for interpreting the finding.

These will be the essential part of the methodology of the research.

This research involves mixed methods, combining quantitative and qualitative data collection and analysis in one study. On the one hand, quantitative methods provide the research with large sample size, more accurately representing a wider population in real-life situations. On the other hand, Qualitative methods are used to 'answer questions about experience, meaning and perspective, most often from the participant's standpoint. These data are usually not amenable to counting or measuring.' (Hammarberg, Kirkman, and de Lacey, 2016:499) which provides the research with more in-depth insight. There are other techniques, including 'semi-structured interviews' and 'in-depth interviews' to understand a condition, experience, or event from a personal perspective; and 'analysis of texts and documents', such as government reports, media articles, websites or diaries, to learn about distributed or private knowledge.' (Hammarberg et al., 2016:499). Hence, both the quantitative and qualitative methods are suitable for this research as it involves asking questions to the participants in the forms of online questionnaires and semi-structured interviews.

Several methods often applied in environmental psychology have been examined as this research's overarching subject. Yin (2018) has mentioned the

six sources of evidence commonly found in case study research: documentation, archival record, interviews, direct observations, participant observation, and physical artefacts (Yin, 2018). Four out of the six will be deployed in this research to follow the principles of data collection as multiple sources of evidence. They will be summarised below:

Table 5.1 The four sources of evidence.

#	Sources	Form in this research	Notes (Yin, 2018)
1	Documentation	Spatial analysis drawings	Object of explicit data collection plans with a variant form of documentation
		Photographs	
2	Archival record	UK mindfulness centres list	Data file and records
3	Self-report measures	Questionnaire	Easy to administer, produce and distribute. Can obtain a great amount of information. Accommodate for anonymity
		Semi-structure interview	Time consuming, requires more skill and experience.
4	Direct observations	Session attending	First-hand knowledge

Among the four sources, there are a few points that need attention. Firstly, people may not interpret questionnaire questions or respond in the same ways as people may understand the concepts differently. Therefore, conducting a pilot study beforehand is important to see if any adjustments are required. For the semi-structured interview, despite its time-costly property, the participants are more likely to speak honest opinions orally than asking them to write (Bell, 2001). In this research, interviews are planned to focus on the practitioners and the manager of the centre to explore qualitatively how the physical environment can facilitate mindfulness meditation. For direct observation, the evidence helps provide additional information about the studied topic (Yin, 2018).

It is vital to apply the right measurement techniques for data collection that address the questions proposed. Overall, the disturbance to the setting should be kept as little as possible so that it is possible to study real people in real environments. Other methods may not be appropriate because it does not best fulfil the research needs. For example, the experimental method is the only methodology that allows researchers to identify with certainty the variable causing the effects they observe in a study (Bell, 2001). Therefore, it would be high in internal validity. Nonetheless, that reduces external validity. Due to the degree of control required, the findings from the studies are less generalizable to the real world as the experiments are usually done in an artificial situation. In real-life situations, especially in the case of mindfulness practice, many environmental caused effects cannot be easily manipulated. Methods such as task performance will not be required as certain tasks will not be required.

5.3 Research Methods

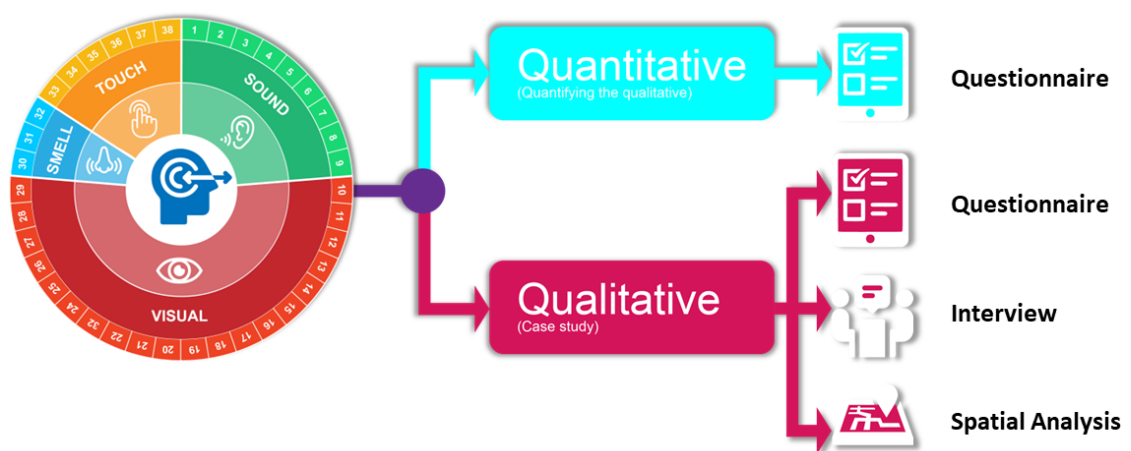


Figure 5.1 Demonstration for research methods.

This comprehensive visual representation (Figure 5.1) outlines the key steps and components of the research approach. It serves as a roadmap to guide through the systematic process to address our research objectives. The following will explain in detail the reasonings for the methods selected and corresponding sampling strategies.

5.3.1 Questionnaire

The questionnaire is the main instrument for collecting data in research, which consists of a set of standardised questions following a fixed scheme to collect individual data about one or more specific topics (Lavrakas, 2008). In addition, the questionnaire involves a standardised conversation governed by the wording and order of questions in the instrument, in the same way as all survey respondents. As a result, responses obtained across individuals can be comparable. According to the Encyclopedia of survey research methods by SAGE (Lavrakas, 2008), questionnaires are usually composed of three main parts: the introduction, the instructions, and the main body. Usually, it would also end with thanking the respondents for the valuable collaboration. All three (or four, including the thanking) parts have been fulfilled in this research.

5.3.1.1 Overview

This study has two sets of questionnaires, taking the form of an online survey using the online platform Jisc online survey (formerly BOS). Set 1 is designed for the UK's mindfulness practitioners to score the importance of each indicator according to their experience of using the places where they practise the most. It has 20 questions aimed at practitioners from the public within the UK. It is

divided into three sections, as mentioned above (introduction, instruction, and main body). Set 2 is designed for practitioners of the case about how the centre facilitates their practice with the same structure. They both aim to investigate the attributes and elements that influence people's practice the most (both positively and negatively). The questionnaire has been conducted and distributed online via email. Noted that, both questionnaires were conducted simultaneously to explore whether mindfulness centre and home have different capability to facilitate the mindfulness meditation.

For this research, the introduction introduces the research as 'Mindfulness and Place' and tries to motivate the respondents to cooperate with the survey task by providing them with information on the aim and future application of the research. It is more encouraging if people understand how their responses may contribute towards the benefits of a broader population now and in the future, which helps to improve the response rate. It also guarantees the anonymity and confidentiality of the respondents. Instructions have also been provided that instruct respondents to answer the questions (e.g., how to check the boxes on the scale from -5 to 5, what each number means, which part of the questionnaire is compulsory or optional, etc.). They were kept as simple as possible and can be categorised as (a) general instructions, (b) section introductions, and (c) question instructions.

The main body contains 20 questions, which consists of three main parts: (a) introductory questions about people's mindfulness practices, (b) actual questions (about their practice experience at the centre or the places that they

practice the most), (c) demographic questions (gender, age, faith, occupation). These elements are crucial to consider the respondents' background characteristics (SAGE, 2008).

In short, the questionnaire ensures the scientific accuracy of the assessment results of this study. It is one of the most affordable and practical ways to gather quantitative data. Furthermore, questionnaires can obtain information from a large audience. People of different occupations, genders, beliefs and ages can be surveyed to obtain a wide range of results. Therefore, the questionnaire is a suitable method for this study. However, the method also has its downsides. Differences in understanding and interpretation may lead to skewed results. Furthermore, due to their standardised format, questionnaires may not allow the researchers to obtain more in-depth information regarding specific topics. Hence, different methods are needed to supplement the shortcomings.

5.3.1.2 Questionnaire design – Part 1 (UK-wide)

Question 1 – Consent: participants must consent to the study before they start. The University of Nottingham Ethics Committee has approved the content of the consent form to ensure anonymity.

Question 2 – Frequency of practice: asked about the practitioner's frequency of mindfulness practice. The more frequently one practises, he/she/they will accumulate practice experiences – and a higher chance to be proficient at mindfulness practice. The choices have been quantified and mutually exclusive. The options fit the survey design provided by National Training Survey (NTS,

2016). The 'Other' option was also provided to accommodate practice patterns not provided in the option.

Question 3 – The total hour of practice: investigated the total hour of mindfulness practice. This was to explore the relationship between total practice hours and the degree of influence of the spatial environment (less/more influenced by the environment or no difference). The divisions for the quantified options came from the Tergar Meditation Community - a recognised international non-profit organisation grounded in the Tibetan Buddhist lineage of the guided teacher Yongey Mingyur Rinpoche – the happiest man in the world (Dube, 2021). The organisation aims to support individuals, practice groups, and meditation communities worldwide and make the programmes accessible to people of all cultures and faiths (Tergar, 2023). They have set a strict standard for different levels of practice by hours. Tergar provided two main programmes – Joy of Living and Path of Liberation. According to their programme, there are three levels of practice for Joy of Living courses: JoL 1 – Calming the Mind (50 hours), JoL 2 – Opening the Heart (50 Hours), and JoL 3 – Awakening Wisdom (75 hours); After the Joy of Living programme, there is one programme called Path of Liberation which consists of 100 hours of practice (Tergar, 2023). The programmes have been tested and practised by many, therefore, backing up such hour division.

Question 4 – The posture adopted for the practice: different postures may affect how practitioners perceive the space. The division for the options came from mindfulness meditation instructions. Due to the scope of this research,

walking meditation is not included as it has a different spatial requirement to other postures in still (such as sitting, standing and kneeling). However, the option 'Other' was provided for participants to be inclusive.

Question 5 – The place one practises the most: sets the foundation for the following questions. It is about people's preferences and the accessibility of the environment in which they practise formal mindfulness meditation. The options provided are the places often mentioned in meditation apps, websites and instructions. The 'Other' option is provided for places not covered in the options.

The above questions are part 1 of the questionnaire about the participants' mindfulness meditation. The divisions provided the foundation for later data analysis to understand further the relationship between mindfulness practice and the physical environment in which they are.

5.3.1.3 Questionnaire design – Part 2 (Case study)

The below questions are Part 2 of the questionnaire, which is about where the practitioners practise mindfulness meditation.

Question 6-9 – Rating of individual elements: options were based on the research framework established from the literature at the end of Chapter 4. The scale from -5 to positive 5 was taken from the 11-point Likert scale. The -5 indicated a very negative influence, whereas the +5 indicated a very positive influence. 0 indicated neutral. The N/A option was also provided for participants if such elements were absent in their practice environments. The Likert scale is

the most widely used rating scale to measure attitudes directly (Likert, 1987). Hence, it is appropriate to deploy the Likert scale here. The free-answering question was also provided if the options did not cover all the elements in their practice space.

Question 10 – Key words describing the atmosphere of the space: aimed to reveal people's perspectives of the space. It showed that such qualities of the space would help support their mindfulness practice.

Question 11-13 – Attitude towards the environment for formal mindfulness meditation: investigated people's attitudes and awareness towards the space where they practised mindfulness meditation. If they deliberately chose to set up an environment regardless of frequency, it showed their awareness of the influences of the physical environment. The action was evidence that the physical environment impacts their practice – hence, they deliberately set up a favourable environment to facilitate the mindfulness practice.

Question 14-15 – Memorable meditation experience associated with a specific location: allow participants to return qualitative responses regarding the environment for their memorable meditation experience.

Question 16 – Free answering questions investigated the impact of COVID-19 on people's mindfulness practice: the lockdown has made this option unavailable for those who regularly visit the centre. It may be more

challenging for those practitioners not to have the ideal environment. If so, the results showed that the ideal environment for the practice is essential.

5.3.1.4 Questionnaire design – Part 3

Below is Part 3 – demographic questions, which provided an overview of the participants' information. The questions also help to set up the groups for later analysis and discussion.

Question 17 – Religious faith. Participants of different religious faith may have different views towards the same elements, such as the Buddha statue. For example, Buddhists may find it favourable to their practice. However, followers of other religions or no religion may find the opposite. The such division also helped to discover religious-specific characteristics between different population groups. The options provided were based on the UK census.

Question 18 – Age. The options provided were in line with the age division in the UK 2011 census (when this questionnaire was designed, the 2021 census was still unavailable). The age bands provided potential group divisions for later analysis and discussion.

Question 19 – Gender. Same as above, the options provided aligned with the UK 2011 census (Census, 2011). This question can be used to explore whether gender influences participants' views towards the physical environment for their mindfulness practice.

Question 20 – Employment status. Same as above, the options provided aligned with the UK 2011 census. Different employment statuses might have different mindsets and living conditions that would affect their perspective towards the physical environment for mindfulness meditation.

5.3.2 Semi-structured interview

5.3.2.1 Overview

The interview has been deployed as another method to comprehensively conduct the study with enough depth and complement the shortcomings of an online questionnaire. In this case, the semi-structured interview is the chosen method. Semi-Structured Interview (SSI) is in which the interviewer asks more open-ended questions, allowing for a discussion with the interviewees instead of strictly following a formalised list of questions (Doyle, 2022; Given, 2008). It has advantages and disadvantages like any other method. SSI is suitable for situations with more than a few open-ended questions requiring follow-up queries. It would meet the need to conduct a formative program evaluation and one-on-one interviews with key program managers, staff, and front-line service providers (Doyle, 2022), which is the case for this research. In mixed methods research, SSI is useful to act as an adjunct to supplement and add depth to other approaches (Given, 2008), for example, needing to conduct some in-depth conversation and discussion before designing a large-scale survey or to effectively address the important questions with more open-ended questions after drafting a standardised survey questionnaire. As the research intended to involve the three general groups: (a) Program recipients (practitioners at the mindfulness centre); (b) Interested parties (designers of the retreat centre); (c)

Administration (managers of the centres), semi-structured interviews would be the suitable research method for this research case.

Despite many advantages, SSI has its downsides. It is time-consuming, labour-intensive, and requires interviewer sophistication, making it unlikely to yield a large sample (Adams, 2015). Preparing for the interviews, setting up the interviews, conducting the interviews and analysing the interviews requires considerable time and effort. It also has a high requirement for the interviewer to conduct a successful interview. It also entails the arduous task of analysing a massive volume of notes and many hours of transcripts. This limits the number of people that can be interviewed due to time limitations. In this instance, this research would only target the proficient practitioners and managers of the centre that cater to mindfulness practices.

The study initially conducted interviews with 15 people in total in English. The interviewees selected were proficient mindfulness practitioners, the designer of the Vajrasana Retreat Centre, practitioners of Vajrasana Retreat Centre and Samye Dzong London. However, due to the change in research scope, only three interviews have remained for discussion. These interviewees can be categorised as professional people. The aim of the SSI with them is to investigate the topic of mindfulness and place in-depth and further discuss the issues that could not be delivered from questionnaires. The interview consists of 8 basic open-ended questions that allow follow-up queries. All interviews are taken online through Zoom and Microsoft Teams and recorded with their permission in advance. All recordings have been transcribed into Microsoft

Word using the University of Nottingham transcribing services and analysed. The data were coded to interpret the data collected through observation and used to modify questionnaires. In short, SSI greatly complements the shortcomings of the quantitative questionnaire and provides an in-depth qualitative discussion on the research topic.

5.3.2.2 Interview question design set 1 – Practitioners

Quick Questions 1 – 6 – basic information about the interviewee. This information provided a background understanding of the interviewee's practice conditions (whether he/she/they is proficient or beginner, participants' opinions towards mindfulness etc.). How proficient participants are at mindfulness practice will significantly impact how much they are influenced by the physical environment in which they are.

Quick Question 7 – interviewee's attitude towards the physical environment for formal mindfulness practice. If the interviewee deliberately set up the environment, then how she/he/she set up the environment indicated the elements that the interviewee considered positively influencing.

Quick Question 8 – this is a case-based question. The frequency of interviewees going to the centre showed the practitioner's recognition of the centre. They were less likely to go there often if they did not recognise the centre. So if the practitioner recognised the centre, there must be a reason.

Longer Question 1 – to confirm whether the centre has influenced one's mindfulness practice, whether positively or negatively. Only if we could confirm the influences and the degree of influence of the centre could we then explore how the centre has helped to facilitate mindfulness practice. Hence, we understand and learn and apply the idea in another context.

Longer Question 2 – to explore the most important positive quality of the space and the reason for that. Whichever quality the interviewee has picked, there must be a reason for that. For example, if the interviewee considered 'quiet' the essential quality, the result corresponds with what the literature has stated. If the interviewee considered other qualities to be the most important ones, then there is also room for exploration.

Longer Question 3 – to raise awareness for the spatial setting and depict the most influencing elements. This question aimed to break down the physical elements contributing to the positive quality that facilitates the interviewee's mindfulness practice.

Longer Question 4 – to understand the differences when practising at a different location (i.e., the centre vs the home). If the interviewee practised more efficiently at the centre, there also must be a reason. Then the focus would be on what elements (both tangible and intangible) of the centre facilitate the formal mindfulness practice.

Longer Question 5 – the element to be replicated at home. If yes, this element indicates the practitioner considered it as positively influencing. The question of why or why not further investigated the reason behind the answer. For example, if one were to replicate the Buddhist objects such as the Buddha status, he or she had a high chance of considering it an important object for the mindfulness practice. That was the reason why they would choose to replicate the feature at the place where they practise mindfulness the most often.

Longer Question 6 – keywords to describe the space. Similar to the previous question in the questionnaire, but with room to explain the reason behind the word choice to describe the environment. Such qualities or keywords describing the atmosphere and quality of the physical space should be the ones that the interviewee considered facilitating the mindfulness practice.

Longer Question 7 – Impact of the COVID-19 pandemic. Similar to the question in the questionnaire, this question investigated the impact of the pandemic. What would be the changes (both mentally and behaviourally) during the pandemic? Would practitioners' practices be impacted negatively or positively or no difference? For example, what strategies would the practitioner take to ensure their mindfulness practices if they could no longer go to the centre due to closure during the lockdown? If they were forced to move the practice online, what differences would it make to their practice? Would it be more or less efficient, or no difference at all? All these questions would reflect the degree of influence of an ideal or favourable physical environment on one's mindfulness practice.

Longer Question 8 – additional question about the most influencing element. The question was, 'if you were in an extreme situation to only keep one physical element within the main shrine room (of the case centre), what would that be?' This hypothetical question investigated the practitioner's essential element (both tangible and intangible). Then questions will be followed to explore why the interviewee chose such an element.

5.3.2.3 Interview question design set 2 – Manager/Designer

Quick Questions 1 – understanding of mindfulness. The outer physical appearance of the space reflected their understanding or philosophy of the concept. For example, if the person in charge of designing/managing the space considered kindergarten to be somewhere kids should have fun and be lively, the atmosphere and appearance are more likely to be colourful and relaxing; however, if the person in charge had a concept to take kindergarten as a military training camp – training the future soldiers from an early age. The physical setting would be very different to the previous one. The setup would aim to facilitate order and obey-ness.

Quick Question 2 – with seven sub-questions. The same as the above interview question set to practitioners.

Longer Questions 1 – whether space would affect the formal mindfulness practice. A simple opening question to understand whether the physical environment would affect mindfulness meditation from the manager/designer's perspective. If the answer is no, then why would that be? If yes, then also why?

Longer Question 2 – the important elements enhancing the formal mindfulness practice from the manager/designer’s perspective. As managers and designers were in different roles from being a practitioner, they might have different opinions or perspectives as to which elements would enhance the formal mindfulness practice the most. They must cater for most people’s needs rather than only considering their preferences as an individual. Their overarching perspective would be a precious insight to cover different aspects.

Longer Question 3 – the differences between practise at home and at the centre. As a manager or a designer of the centre, they could contact a much broader audience. Hence, they had more opportunities to observe and communicate with practitioners who came to the centre. On the other hand, the action of coming to the centre both often or only occasionally, regularly or irregularly in itself was an indication of the exclusiveness of the centre. There must be a reason for people to come to the centre. What they came for would be the focus of the investigation.

Longer Question 4 – the exclusiveness of the centre. From the perspective of the manager/designer, they have their aims in line with the visions for creating and managing this place. They aimed to provide the ‘things’ they considered beneficial to the practitioners. This was what the question was attempting to discover, the exclusiveness provided by the centre that was different to other places such as at home.

Longer Question 5 – the atmosphere created for practitioners. This question may seem slightly similar to the previous question. However, the emphasis for this question was on the atmosphere of the place created for practitioners who come to the centre. Again, it could be part of the exclusiveness but with a more specific scope.

Longer Question 6 – elements that practitioners would take away. If interview question set 1 was from the perspective of an individual practitioner, this question was mainly from the manager's perspective – a broader overview. Again, the elements people chose to take away or replicate at home indicated their recognition of the positive influence of these elements. Moreover, the manager/designer could provide their interpretation of the elements practitioners chose to take away as they have their own experiences for practice/design.

Longer Question 7-8. Same as the Longer Question 7 and 8 from the interview question set 1.

5.3.3 Spatial analysis

Spatial analysis, or architectural analysis, is a method to understand and inform the design of spaces (Bentley, 2015; Ching, 2014; Shandiz, 2014). Here, spatial analysis refers to the analysis of the centre selected as the case study. It investigates how the design responds to the physical and environmental features of the site and, more importantly, how the design has influenced the mindfulness practice. The architectural site analysis looks at issues such as site

location, size, topography, zoning, traffic conditions and climate. It allows one to understand the existing conditions of the site and the building. In this instance, the spatial analysis aims to identify and inform the key elements and attributes that would influence mindfulness practice. The advantages of spatial analysis include not needing to involve human participants. It provides objective information about the site and the building design. However, it does face possible issues of information not being up-to-date. As it is only objective facts and drawings on paper, it does not have the most important element – people cooperating in the research.

Due to the COVID-19 pandemic and national lockdown, site visits were extremely difficult. The study deploys mainly the secondary data from online, such as google Maps and google images, architectural drawings (plans, sections, elevations) from the official website, video clips, and animations of the centre. The analysis data can be split into two main categories: hard data and soft data (FIA, 2022). Hard data looks at more concrete elements such as site boundaries, site areas, utility locations, contours, dimensions, and site features, whereas soft data looks at site conditions that can be changed. From this, one is able to establish which elements that can be considered to have a positive or negative impact on the activities and people who are using the space. This enables the creation of a hierarchy and gives a more systematic approach to understanding the data and developing the research.

All information is collected online or by the author on-site. The information will then be evaluated and consider the implication to the design process. The initial

data will be processed and transformed into analytical diagrams to help with the evaluation. The following aspects will be considered in spatial analysis where applicable:

Table 5.2 Aspects to consider as part of the spatial analysis.

Category	Aspects	Collection	References
Site	Neighbourhood relationships	Google map/on-site	Bentley, 2015
	Access	Google map/on-site	
	Public/private space	Google map/on-site	
	Open space	Google map/on-site	
	History	Official websites	
	Climate	Met office	
Indoor Environments	Scale and proportion	Drawings	Ching, 2014
	Lighting	Drawings	
	Sound	Drawings	
	Views	Photos	
	Thermal	Drawings	
	Architecture detail	Photos	
	Other available elements	Drawings/photos	

The spatial analysis would give an overview of the site, building, and information found. This aims to identify and analyse the existing elements and qualities on site for the case study. It includes some of the key photographs of the case, sketches from the site (if travel-permitted), annotated photographs and drawings, and it gives more detail about the elements of analysis that would be important in this research. Other information will be summarised into charts and tables.

5.4 Sampling strategy

5.4.1 Summary of case study selection

This section provides a detailed explanation of how the case studies were carefully selected, involving a thorough assessment based on four key aspects: historical background, geographical location, religious foundations, and architectural features. The informed decision to include these specific case studies is a result of a rigorous analysis conducted across more than 800 mindfulness-related centres in the UK, encompassing both Buddhist and non-Buddhist centres. Table 5.3 summarised the background information of the case study.

Table 5.3 Summary information of the case study (KSDL, 2021)

Name	Kagyu Samye Dzong London
Location	Central London (Urban context)
Address	15 Spa Rd, Bermondsey, London SE16 3SA
Religion	Buddhist (Tibetan Buddhist – Kagyu Lineage)
Founding Date	April, 1998
Building Open	2010
Tradition	Kagyu lineage (headed by H.H. the 17th Gyalwang Karmapa Orgyen Trinley Dorje)
Resident Lama	Lama Gelongma Zangmo
Contact	ksdlondon@samye.org
No. Interview	3
Interviewees	Practitioner Manager
No. Questionnaire	12
Spatial analysis	Yes
Description from the official website	<ul style="list-style-type: none"> • A place of peace and tranquillity in central London. • Run a programme of courses and workshops focusing on meditation, Buddhism, and holistic therapies. • Provide venues for community activities and holistic practitioners. • Offer a unique place for people to unwind from the stressful pace of inner-city life. • Shrine rooms can be used for personal meditation practice as well as group meditation.
Website	https://www.london.samye.org

5.4.1.1 Unique history of the centre

The selection of Kagyu Samye Dzong London (KSDL) as a case study is underscored by its profound historical significance, stemming from its connection to the first Tibetan Buddhist monastery in the West - Kagyu Samye Ling. Established in 1967 in Scotland, UK, by Dr Akong Tulku Rinpoche and Chogyam Trungpa Rinpoche, this marked a pivotal milestone in the transmission of Buddhism to the West. It was named after Samye, 'the very first monastery to be established in Tibet' (Samye Ling, 2020). It served not only as a monastery but also as an international centre for Buddhist training, fostering a rich spiritual legacy. Kagyu Samye Dzong London was established in 1998, affiliated very closely with Kagyu Samye Ling Monastery in Scotland. Operating under the direct guidance of co-founder Chöje Akong Tulku Rinpoche and the esteemed Abbot of Samye Ling, Venerable Lama Yeshe Losal Rinpoche, KSLD embodies a seamless continuity of tradition and practice. This direct lineage connection underscores its authenticity and makes it an apt choice for in-depth study.

Given its rootedness in this remarkable historical continuum and its close alignment with the guiding principles of its progenitor, Kagyu Samye Dzong London emerges as a fitting subject for investigation. The intricate tapestry of historical heritage and direct lineage affiliation renders it an invaluable case study, providing a window into how mindfulness environments have evolved and adapted while retaining their spiritual essence across changing cultural and geographical landscapes.

5.4.1.2 Location of the centre

KSDL is situated in the vibrant urban Bermondsey of central London, as illustrated in Figure 5.2, catering to a substantial and diverse population. Notably, it has been chosen as a venue for the Mindfulness Association to conduct certified training courses (Mindfulness Association, 2014). The burgeoning growth of urban populations, an ongoing trend, underscores the significance of studying an urban-based case that elucidates how mindfulness environments contribute to the well-being of individuals and surrounding communities, thereby augmenting the potential for future applications.

The inherent stressors linked to urban living, such as the swift work pace, environmental challenges, and other urban-related issues discussed in Chapter 3, often lead to higher stress levels among urban dwellers compared to their rural counterparts. Consequently, the presence of a centre dedicated to supporting mindfulness practice and holistic well-being within an urban setting takes on a paramount role. The city of London, England's capital, and Europe's second-largest city (Census, 2021), represents a microcosm of diverse cultures, activities, and lifestyles. Additionally, Bermondsey, a central district of London, stands as a quintessential example. It boasts a sizable population, characterised by its multicultural communities and ethnic groups. It also holds strong transportation connectivity to other parts of London.

In essence, KSDL, situating in the bustling heart of a cosmopolitan city provides a compelling backdrop to examine the juxtaposition of a tranquil haven for mindfulness within the urban cacophony.

Its unique positioning enriches the exploration of how mindfulness environments can ameliorate the challenges of urban living, presenting an invaluable opportunity to examine the interplay between tranquillity and the urban landscape, and how the centre's environment functions as a refuge from the frenetic pace of city life, offering practitioners a serene oasis for their mindfulness journey.



Figure 5.2 Site plan of Kagyu Samye Dzong London (Google Map, 2022).

5.4.1.3 Religious belief

As mentioned earlier, KSDL serves as a branch affiliated with Kagyu Samye Ling in Scotland, the pioneering Tibetan Buddhist monastery in the Western world. Operating within the distinguished Kagyu Lineage of Tibetan Buddhism, the selection of KSDL for study stems from a thoughtful and deliberate choice, grounded in a multitude of rationales.

The rationale behind focusing on Tibetan Buddhism lies in its widespread and steadily growing presence within Western societies. Notably, the Kagyu Lineage, to which both Kagyu Samye Ling and KSDL belong, boasts a substantial following with practitioners and centres established across the United Kingdom. This lineage like other authentic lineages, is characterised by its genuine and unbroken transmission of teachings and practices through successive generations, offers a wellspring of reliable spiritual insights. Given its credibility and resonance, the decision to select KSDL as a case study becomes inherently fitting.

Furthermore, KSDL transcends religious boundaries by providing a nurturing environment for mindfulness practice that is accessible to individuals with diverse belief systems. This inclusivity affords a unique opportunity to discern potential disparities or influences stemming from religious backgrounds. In essence, the decision to choose KSDL is the result of its well-established presence, its connection to a respected lineage with authentic teachings, and its role as an inclusive space for mindfulness practice across various belief systems. This holistic approach aligns seamlessly with the research's endeavour to comprehensively examine the interplay between mindfulness and the environment, thereby contributing to a more nuanced understanding of the subject matter.

5.4.1.4 Other characteristics of the centre

Another pivotal consideration in the selection of cases revolves around the architectural design of the centre. The centre's aesthetic presentation resonates

with a style to preserve many traditions. A noteworthy exploration lies in discerning the extent to which this traditional architectural essence influences the practice of mindfulness. KSDL's acquisition and transformation of the former Bermondsey library into a purposeful haven for Dharma learning and practice signify the profound impact of spatial design on individuals' body, speech, and mind. It underscores the inherent relationship between architectural layout and the cultivation of a conducive environment for mindfulness practice.

In addition, it is important to recognise that such adaptations of existing structures to suit specific purposes resonate with a broader reality faced by many organisations and centres. Notably, not all institutions possess the means or resources to build entirely new construction projects. Retrofitting and repurposing existing structures emerge as pragmatic solutions, particularly for centres constrained by limitations such as financial resources and available land. This pragmatic approach aligns seamlessly with the real-world scenarios. In this context, KSDL emerges as an apt case study. Its transformation of a pre-existing building underscores the practicality and relevance of retrofitting, which is often a more feasible route for resource-constrained centres and individuals.

In summary, this research aims to take the question further to determine to what extent spatial design influences one's practice, thereby understanding varying degrees of impact associated with different spatial elements. KSDL stands as an exemplary choice for this study. It holds representative historical significance, geographical placement, religious underpinnings, and architectural styles. These facets assume paramount importance when contemplating the effects of

spatial design on the practice of mindfulness. Collectively, they contribute to shaping both the physical environment and individuals' perceptual experiences of the space and the practice itself. The selection of this case study in no way undermines the significance of other centres across the UK. Rather, it is a deliberate attempt to encapsulate a diverse spectrum of conditions and dimensions within the chosen case, in turn enriching the study's breadth and applicability. This choice mirrors an inclusive approach, striving to represent an array of site conditions and aspects while acknowledging the multifaceted tapestry of mindfulness environments present across the UK.

5.4.2 Targeted user groups

There are three categories of participants engaged in this research:

- 1) Mindfulness meditation practitioners within the UK – Online questionnaire**

This group of participants will help to provide a quantitative image of how space would influence people's practices without a context of a particularly dedicated centre. This questionnaire tried to quantify the degree of influence and understand more comprehensively the relationship between formal mindfulness practice and the physical environment in which the meditation was practised. This user group will be contacted through email (provided on the website), Facebook groups, and the author's LinkedIn page, utilising a snowballing effect. Moreover, the message will kindly request them to share the information if it aligns with their capability and appropriateness.

2) Mindfulness meditation practitioners of Kagyu Samye Dzung London – Questionnaire and Interview

This particular group of participants is selected to determine whether a dedicated environment would help facilitate their mindfulness practice and to what extent the centres influence it. Unlike the previous group of participants, the mindfulness practitioners of the case have chosen to come to the centre to practise at the centre. Therefore, it is worth discovering the rationale behind their behaviours, especially for regular attendants who have benefited and chosen to maintain the regular mindfulness practice at the centre. This user group will also be contacted through email (provided on the website) and Facebook group.

3) Manager of the centres – Interview

The manager is part of the organising committees. In this case, the centre's manager is also the centre's leading teacher in charge of teaching and guiding the practitioners on their path. Such roles have a different perspective to the general mindfulness practitioners as individuals. The roles include the responsibility to accommodate the needs of the practitioners as much as possible, as well as adapting to the changes in societal development. As they oversee the daily running of the centres, it would be worth investigating their idea and experiences of the ideal place or space in favour of people's mindfulness practice. The manager of KSDL will be contacted via email (as provided on the website) to schedule a phone interview at her convenience.

5.4.3 Sample methods and size

For the survey, a minimum number of responses are required to obtain a valid and representative result for the mindfulness population. Sample size calculation has been applied to determine the least sample size to ensure the validity of the research. The sample size is the number of participants in a sample (Kadam and Bhalerao, 2010). Sample sizes represent parts of a population chosen for any given survey or experiment. It is a crucial aspect of any empirical study requiring a deduction about a population based on a sample. For this research, the below equation has been applied to determine the minimum sample size for the survey result to be representative.

The equation for calculating sample size is shown below:

$$n' = \frac{n}{1 + \frac{z^2 \times \hat{p}(1-\hat{p})}{\epsilon^2 N}}$$

Where:

z = z score

ε = margin of error

N = population size

ĥp = population proportion

For the online questionnaire targeting UK mindfulness practitioners, all participants must practice mindfulness meditation at least once and have stayed in the UK. Determine the sample size necessary to estimate the proportion of people in the UK that identify as mindfulness practitioner (who has practised

more than once) with 95% confidence and a margin of error of 5%. Assume a population proportion of 0.15 (15% of British adults have practised mindfulness at least once, and 9% were regular practitioners) (Simonsson, Fisher and Martin, 2020) and an estimated population size of 55,380,000. Hence, according to the confidence level table, z for a 95% confidence level is 1.96. The confidence level measures certainty regarding how accurately a sample represents the population being studied within a chosen confidence interval. By carrying out the equation:

$$N = 1.96 \times 0.15 \sqrt{1-0.15} / 0.0025$$

$$N = 196$$

Thus, a sample size of at least 196 people would be necessary for this research. For the semi-structured interview, 3 people were selected as the interviewee. As it is a qualitative method, the quantitative approach has not been applied. Instead, the representative members of the centre have been selected, the proficient mindfulness practitioner and the managers in charge of running and organising the centre. Each represents a different yet crucial perspective towards the research topic of the relationship between mindfulness practice and space. Due to their role in the centre, their focus may be different. Hence, it is necessary to consider different aspects to understand the relationship comprehensively.

5.5 Data Collection and Analysis

5.5.1 Questionnaire

5.5.1.1 Data collection tools

For online questionnaire data collection, Outlook Email, Facebook, LinkedIn and Jisc online survey were used. The Outlook email, Facebook, LinkedIn are for sending out recruitment emails and messages, whereas Jisc online survey is the online survey tool 'designed for Academic Research, Education and Public Sector organisations' (Jisc, 2022). It provides the functionality needed to create, distribute, run, and analyse surveys for the research. In this research, JISC online survey is used to design, distribute and collect all responses for the questionnaire.

5.5.1.2 Data analysis tools

To comprehensively analyse and investigate elements and attributes affecting the formal mindfulness practice, IBM SPSS Statistics (version 27), NVivo (version 11) and Weiciyun (online word cloud generator) are adopted to conduct analysis based on the initial research proposed from the existing literature. The analysis is used to determine strongly correlated classifications and factors. The controllable elements within the space affecting the formal mindfulness practice should be covered as much as possible in the questionnaire design. Eventually, the assessment factors and weight distribution are summarised in a table. The online questionnaire also contains free-answering questions which allow participants to provide their opinions outside the given options – this will be analysed using NVivo 11. Repetitive keywords have been extracted from all

valid answers. The Weiciyun is used to produce the cloud diagram according to the frequency of words mentioned in the free answering questions.

5.5.1.3 The Analysis of Mean (ANOM)

The Analysis of Mean (ANOM) is 'a common statistical procedure in quality assurance for comparing several treatments means against an overall mean (grand mean) in a variety of experimental design and observational study situations' (Pallmann and Hothorn, 2016:1541). The means will be calculated for each element in the research framework based on the questionnaire responses. The means will be compared in groups against each other and be used for arranging the orders for refined research framework. The means will be calculated using IBM SPSS Statistics (version 27).

5.5.1.4 Exploratory Factor Analysis (EFA)

Out of the variety of different analyses, factor analysis is a statistical method for modelling observed variables and identifying which underlying factors are measured by the number of observed variables (Pallant, 2020). Factor analysis was first proposed, used and developed by Charles Spearman to make inferences about the nature of intelligence (e.g., Spearman, 1904). Since then, researchers in various disciplines have widely used exploratory factor analysis (EFA) to 'understand statistical associations among constructs such as personality traits, mental abilities, biological characteristics, and workplace performance' (Griffiths, 2014). The essence of factor analysis is to 'describe the relationships between different variables under study (observable variables) with new variables called factors, where the number of factors is less than the

number of original variables' (Alkarkhi and Alqaraghuli, 2019). It contained two categories: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is used mainly in the initial data analysis stage when 'it is not known how many factors there are between the items and which factors are determined by which items' (Orçan, 2018:414). It involves assessing the suitability of data for factor analysis. There are two main aspects to consider regarding the suitability of data: sample size and the strength of the relationship among the variables (Pallant, 2020). It should have **at least 150 sample sizes** to conduct the factor analysis (Fidell & Tabachnick, 2003). Exploratory factor analysis (EFA) is 'a classical formal measurement model that is used when both observed and latent variables are assumed to be measured at the interval level' (Fontaine, 2005). The EFA contained the following steps (Table 5.4):

Table 5.4 Steps for conducting EFA (Pallant, 2020).

Step	Actions
1	Checking the suitability of the data set using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value above .6 and Bartlett's Test of Sphericity value is significant (i.e., .05 or smaller).
2	Determine the factors to extract using Kaiser's criterion – to extract factors with an eigenvalue of 1 or more . This step will produce a Total Variance Explained table to be inspected.
3	The scree plot will also be checked for the change in the shape of the plot to double confirm the number of factors extracted.
4	Examine the component matrix and the unrotated loadings of each item on the components.
5	Make the final decision about the number of factors using the rotated component matrix .
6	Present the results from factor analysis and compare the means against the revised factors .

5.5.2 Semi-structured interview

5.5.2.1 Data collection tools

The following tools have been used for SSI data collection (Table 5.5):

Table 5.5 Data collection tools for Semi-Structure Interviews.

Tools	Actions
Laptop	To conduct the SSI.
Microsoft Teams	For the interview with recording functions.
Zoom	For the interview with recording functions.
Phone	For interviews conducted via phone calls.
Notebook	To quickly jot down the key ideas from the conversation to develop further discussion with the interviewees.

5.5.2.2 Data analysis tools

To analyse the interview data, NVivo will be deployed to conduct the thematic analysis using NVivo. There are six main steps to do so (Table 5.6):

Table 5.6 Six steps to perform NVivo analysis for SSI (Lumivero, 2023).

Step	Actions
1	Interview recording transcription: interview recordings (MP3 and M4A files) will be imported into NVivo and use NVivo Transcription with the latest automation technology. The function provides verbatim transcription with 90% accuracy from quality recordings (Allsop et al., 202). The author will then review the transcript again to make any appropriate amendments.
2	Group the responses to each question. The transcript can then be imported directly into NVivo and prepared for analysis. As this research used semi-structured interviews (with the same set of questions), the heading styles will automatically organise the responses into groups. Again, automatic coding will be applied.
3	Find and catalogue themes to make sense of the data. The thematic analysis involves understanding what the interview participants are expressing, i.e., their main points and perspectives and what the differences and commonalities among their points are. A word Frequency query will be run to discover which words the interviewees used most often. The resulting word cloud will provide an early insight into emerging themes. The emerging themes will then be coded.

4	Explore the connections between themes and progress with further analysis. A list of codes will be developed as the interview materials are coded by theme. These themes will be explored to see if they are related and grouped in a hierarchy. This step will help to see the connections between emerging themes which is crucial in the analysis process.
5	Comparison study between participants (also apply to online questionnaire participants). Participants can be compared based on demographic attributes (age, gender, religious beliefs) and attributes related to their mindfulness practice, such as total practice hours and practising frequency. The 'case' can be created for each participant and assigned the appropriate attributes. The matrix can be created based on cases to understand how different groups respond to selecting themes.
6	Refer back to the research question. Organising the materials into theme codes and in an appropriate hierarchy.

In short, these tools will provide a good base for data collection and analysis to comprehensively understand how the physical element can facilitate mindfulness practice and enhance the health and well-being of people.

5.5.3 Spatial analysis

5.5.3.1 Data collection tools

The following tools have been used for data collection (Table 5.7):

Table 5.7 Data collection tools for spatial analysis.

Tools	Actions
Camera	To take first-hand photos of the centre where necessary, to record the key elements, decorations, lighting, and other elements of those key spaces (depending on the COVID-19 situation).
Video camera	Activities, behaviours, elements, and internal and external conditions of the centres will be recorded to obtain on-site evidence about using the mindfulness centre (if centre permitted).
Notebook and sketchbook	During direct observation, on-spot recording and drawing will provide more information about the mindfulness space (depending on the COVID-19 situation).
Google Earth	To obtain the aerial view of the cases, the elevation of the buildings, and relevant neighbourhood information when necessary. It is also essential when a site visit is not possible.
Google Map	To obtain reliable street views around the site

Digimap	To obtain an accurate street and building plan (if available) of the mindfulness centre.
Official website	To obtain the official drawings of those chosen centres (including plans, sections, elevations, and photos and videos of the case if available)

5.5.2.2 Data analysis tools

The spatial analysis in this research refers to the set of site analysis tools for analysing an architectural space, i.e., a retreat centre or the room within the retreat centre. It included architectural site analysis, which considers the site location, size, topography, zoning, plans, sections, elevations and others (Bentley, 2015). This is a crucial stage of understanding the physical spatial environment where mindfulness is practised from an architectural design perspective, which complements the questionnaire and interview results which mainly took from the user's perspective. The spatial analysis is also applied using a research framework derived from the literature in Chapter 4.

5.6 Pilot Study

For this research, a pilot study was conducted to test the original version of the research framework and practice interview and analysis skills in advance. A pilot study or preliminary research can be defined as small research used to test research protocols, data collection tools, sample recruitment strategies, and other research techniques in preparation for larger research (Hassan et al., 2006). However, it is one of the crucial stages of research projects as it can report on the feasibility of testing project proposals, subject recruitment, and research tools and data analysis process. Thus, it is necessary and useful in providing a foundation for research projects.

The pilot study was conducted with the University of Nottingham Buddhist Society in 2019 to test the feasibility and validity of the methods. The pilot study was a trial of the original research framework (before the initial research framework), data collection methods and data analysis. The pilot study in this research includes two parts:

- 1) **Online questionnaire.** It was based on the previous version of the research framework to explore the form of the questionnaire in an experimental way. It targeted practitioners of the University's Buddhist Society to test the feasibility of the online survey, and the feasibility of the existing indicators in a space dedicated to mindfulness practice, for which corresponding adjustments can be made. The way to ask the questions is also one element to be tested in the pilot study.
- 2) **An in-depth interview.** It was also conducted to test the effectiveness of this research method and demonstrate the author's ability to conduct such activities in the future.

Thus, both questionnaire and interview can be further improved by testing issues of the form itself and the indicators of the research framework.

5.6.1 Online questionnaire

The questionnaire was designed to collect the following statistical information: the experience of mindfulness practitioners in the Portland Building, University of Nottingham, and the degree of influence for each element in that space in correspondence with the initial research framework. The questionnaire was

designed based on objective questions derived. In line with a scoring system, interviewees rated all questions based on their own experience. Based on their answers, the author asked some additional open-ended questions in the questionnaire to complement the objective scoring system. The target population is set to be the members of the University of Nottingham Buddhist Society. The survey received a total of 9 responses from the society (out of around 15-20 people for each society session). The results were transferred to Microsoft Excel, and simple data analysis was conducted.

5.6.2 Semi-structured interviews

The semi-structured interview was conducted with one committee member of the University of Nottingham Buddhist Society. The entire interview was conducted in English via WeChat and audio recorded with permission granted in advance. The interview was based on the initial version of the interview questions. The recording was scripted into Microsoft Word and analysed.

5.6.3 Summary of pilot study

The pilot study conducted served as a foundation aimed at establishing an initial grasp of the research inquiry. This preliminary investigation aided in assessing the practicability of the chosen research methods, refining data collection instruments, and identifying potential areas requiring further improvement. Moreover, it facilitated the acquisition of essential interview skills, vital for effective participant engagement and for drawing insightful perspectives on how the environment influences mindfulness practice.

The insights gleaned from the pilot study, while preliminary in nature, shed light on the intricate dynamics inherent within the selected context of mindfulness and place. These initial findings allowed for an alignment between research objectives and methodological strategies, facilitating a more coherent and informed progression. As a result, the research framework has been refined, as presented at the end of Chapter 4, and both questionnaire and interview questions have been revised for clarity and explicitness. In conclusion, the insights derived from the pilot study provide a foundation for the next stage. With an augmented understanding of contextual nuances, a state of readiness is achieved to engage with heightened discernment and acuity, thereby ensuring a thorough empirical study of mindfulness and place.

5.7 Ethics Consideration

Regarding informed consent, participants should be informed of all aspects of a research project whenever possible. This will give them the right and respect to decide whether they wish to participate. Freedom of choice will be restricted (Bell, 2001). It is essential to protect people's right to privacy, and invasion of privacy should be carefully avoided. It is our responsibility to weigh ethical and methodological validity questions when designing this study. The research has been approved by the Research Committee, University of Nottingham (Appendix A).

5.8 Limitations

There are limitations as well as challenges and concerns for this research project. Due to the COVID-19 pandemic, restrictions were posed upon centres with limited access during the data collection stage. Not only the author has difficulties travelling to different cases, but the participants were also limited to accessing the centre and participating in relevant mindfulness physical activities. The national lockdown has posed pressure and only allowed limited access to the data available during the course in which data was being collected. Time constraints were another limitation of this research. The validity of data analysis depends on the quality of the data obtained. For the questionnaire design, the validity of the Likert scale attitude measurement (which is one major measurement method) can be compromised due to the subjectivity of the participants. There may be an insufficient sample size for the interview for the case study. Only three individuals were interviewed. This may limit the representativeness of the interview result as individual experiences may vary from person to person. For spatial analysis, no ready-to-use accurate building plan was available online. Therefore, the accuracy of the self-drawn architectural plan based on Google Maps may be compromised.

5.9 Conclusion

To sum up, in short, this chapter explains in detail the research methodology, research methods, and research design. This study has taken the case study approach with mixed methods, which allows an in-depth study of how the physical environment can facilitate mindfulness meditation practice. The initial

research framework will be examined through the quantitative study of questionnaires and the qualitative study of spatial analysis and SSI. The quantitative survey will produce a refined research framework based on the empirical evidence. The combination of ANOM and EFA will help determine the order of new categories and elements within the categories. Such refined research framework will provide people with priorities in changing the environments. In addition, the research can quantify the qualitative and produce a relatively objective result without losing too much on the qualitative side.

6 – MINDFULNESS AND PLACE SURVEY

6.1 Introduction

After discussing the methods in Chapter 5, the author conducted the data collection (online questionnaire) and data analysis (SPSS) accordingly. This chapter contains the result from the online questionnaire for the UK general public (over 18s) who ever practised mindfulness. There were 203 responses in total, meeting the minimum requirement for data validation. The analysis followed the order of:

- 1) overview of data
- 2) sound elements
- 3) visual elements
- 4) sensual elements
- 5) remaining questions.

There were three main comparisons between two main groups of the population:

- 1) beginners and more proficient practitioners
- 2) non-Buddhist (including secular) and Buddhist mindfulness practitioners
- 3) frequency of practice
- 4) gender

The overall discussion took place after the above sections. The chapter concluded with a summary analysis of a refined research framework and reflection on the above data.

6.2 Data Overview

6.2.1 Demographic information

The online questionnaire was produced and distributed via Jisc Online Survey (formerly BOS), and participants were recruited via email contacts. There were 203 responses, and all gave consent to participate in the online questionnaire. The participants spread across different age bands, which provided a good variety of responses (each band has more than 5% of participants). The ratio of non-Buddhist (including no religion and other religions) versus Buddhist population was 51.2% (104 participants) against 48.7% (99 participants), almost half to half. There were 64% of females and 33% of males, which reflect the ratio of female practitioners (Upchurch & Johnson, 2019). For the employment state, there was a good ratio between employed participants (both full-time and part-time), unemployed participants, students, and others (such as retired). Please see below for the demographic statistics (Figure 6.1-6.3)¹⁹:

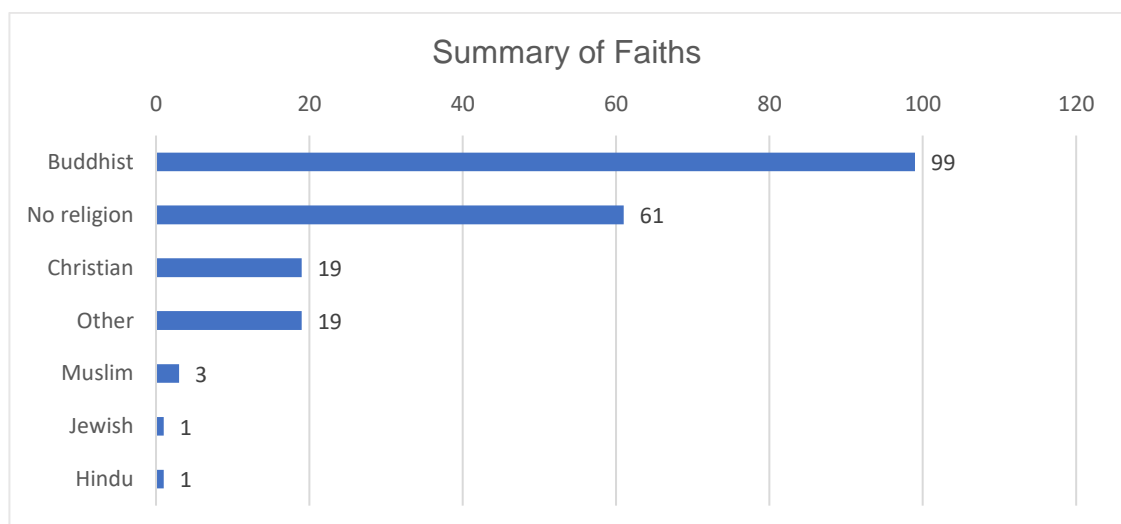


Figure 6.1 Bar chart for summary of faiths.

¹⁹ For the original table, please see Appendix G.

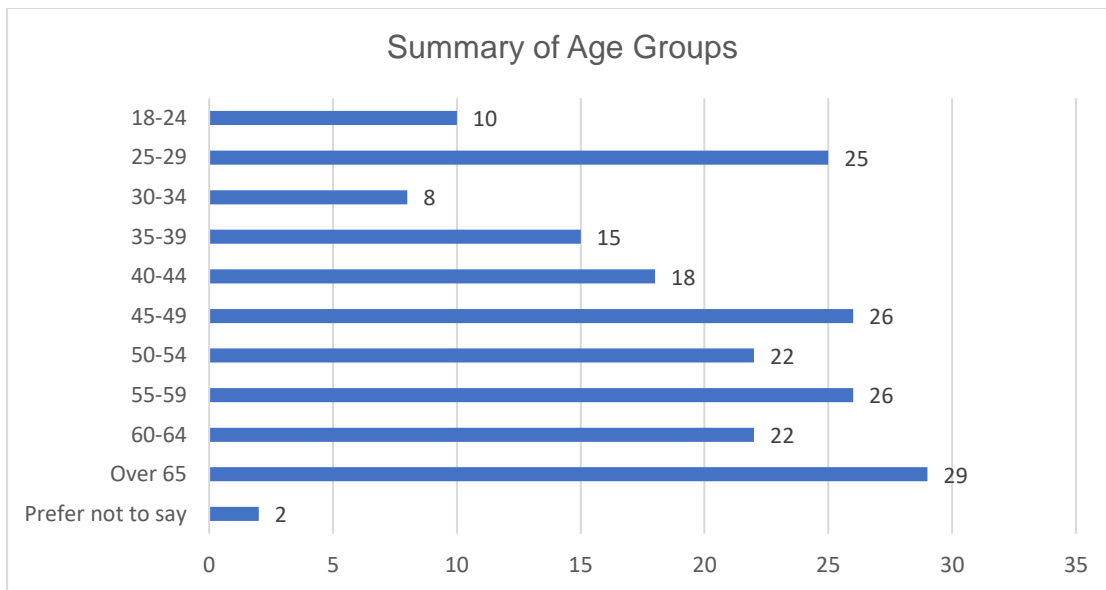


Figure 6.2 Bar chart for summary of age groups.

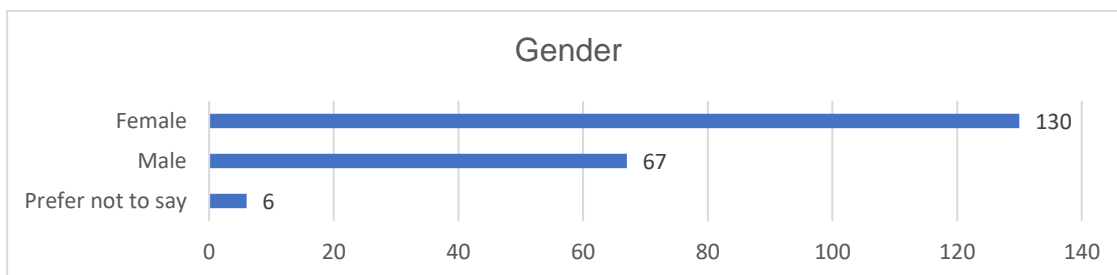


Figure 6.3 Bar chart for summary of gender.

While age (Figure 6.2) can play a role in the proficiency of mindfulness practice, it is not the sole determining factor. Although age can contribute to the accumulation of experience, it's important to note that mindfulness is a skill that can be developed at any age. Younger individuals can also become highly proficient in mindfulness with dedicated practice and proper training. Therefore, age is not within the scope of this research. However, future research endeavours may choose to focus more closely on whether the aspect of age contributes to the enhancement of mindfulness practice.

6.2.2 Information on the formal mindfulness practice

Below are the descriptive statistics about the participants regarding their formal mindfulness practice (Figure 6.4-6.7):

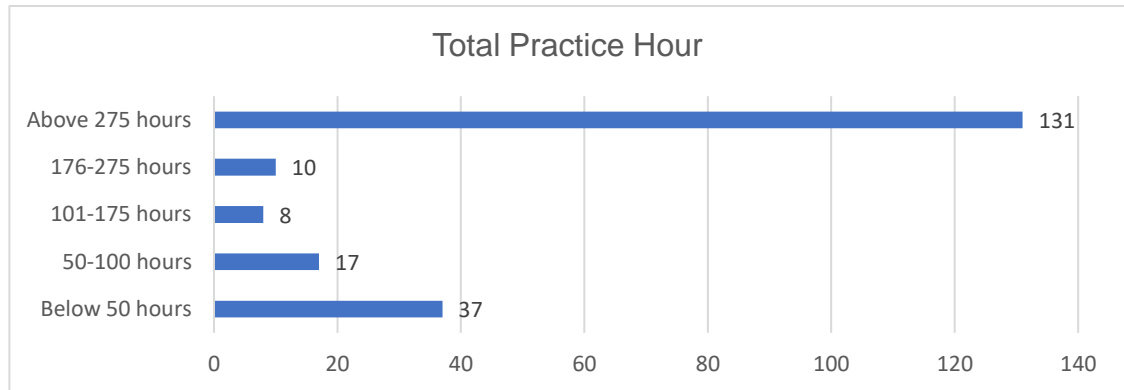


Figure 6.4 Bar chart for summary of total practice hour.

From the survey result, over half of the participants practised over 275 hours (64.5%), and 18.2% were complete beginners who practised below 50 hours. There were also some participants in the band of '50-100 hours', '101-175 hours' and '176-275 hours' (Figure 6.4). This provided a good range of participants and a reasonable basis for later comparisons between complete beginners and more proficient practitioners who have practised over 275 hours.

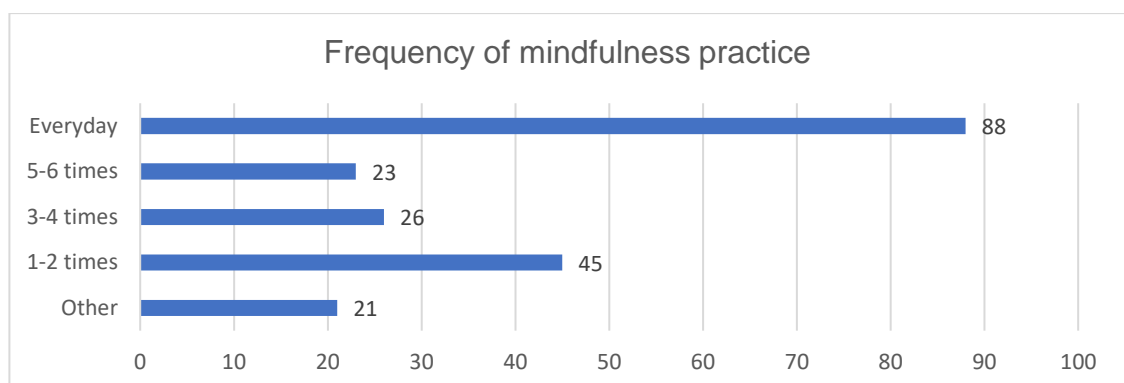


Figure 6.5 Bar chart for the summary of frequency of practice.

88 participants practised formal mindfulness meditation daily (43.3%). In total, there were nearly 90% of practitioners would at least practise once a week (Table 6.5). This also provides a good basis for comparing the frequency of practice. 161 participants reported the most frequent posture adopted as 'sitting' (79.3%), the second as 'kneeling' (Figure 6.6).

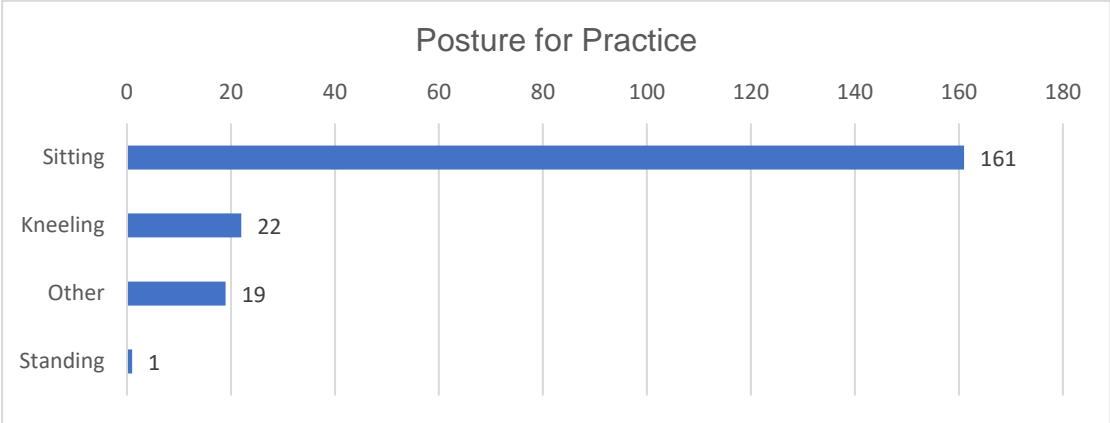


Figure 6.6 Bar chart for summary of posture for practice.

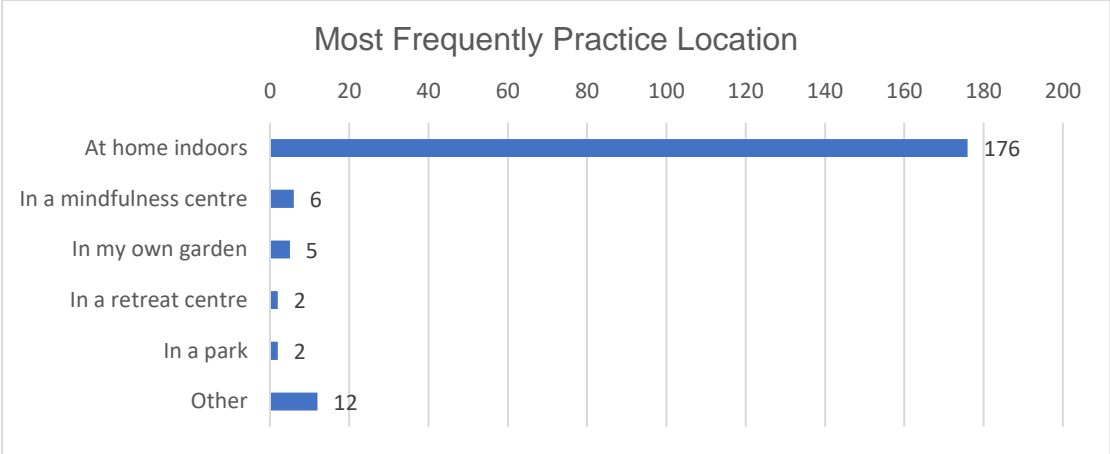


Figure 6.7 Bar chart for summary of most frequently practice location.

For the question 'Where do you practise formal mindfulness meditation the most?', 177 participants (87.2%) reported to practise 'At home - indoors'. There were 6 reported in a 'mindfulness centre', 5 reported 'In my own garden', and 2

reported in a 'retreat centre' and 'In a park' respectively²⁰. The least popular options were 'In the office' which had no selections. For those who selected 'Other', 3 participants reported 'Outdoors' but did not specify where. 2 participants reported 'Anywhere' or 'Everywhere'. The indoor space at home was the most frequently practised location as it is more convenient for most practitioners, especially those who was not close to mindfulness centres and monasteries. In addition, many centres were closed due to the COVID-19 pandemic. For that reason, many regular practices have been shifted online, encouraging practitioners to continue the practice at home.

6.3 Sound Elements

6.3.1 Overview

This section analysed the result for the sound elements from the questionnaire. The overall result compares different groups by the total hour of mindfulness practice, Buddhist vs non-Buddhists, and other relevant groups. Higher mean number (closer to 5) indicates the higher positive influences. Lower means (closer to -5) indicates the negative influences on mindfulness meditation. The elements with an average score closer to 0 mean that they have little or no influence on the mindfulness practice. For the means of the sound elements, please see below for Table 6.1 (descending means).

²⁰ **Mindfulness centre vs retreat centre:** Mindfulness centre can be in urban areas and accommodation various activities, whereas retreat centre is remote and dedicated to retreat purposes only.

Table 6.1 Summary table for sound elements (Descending means).

Sound Elements (Overview)*			
	Mean	N	Std. Deviation
Absence of sound	2.1753	194	2.55311
Meditation bell	2.0169	177	2.24235
Wild birds	1.9947	187	2.15401
Sound of water	1.8333	150	2.34711
Sound of rain	1.8075	187	1.96347
Sound of wind	1.3389	180	2.07987
Instruction	.8824	170	2.59910
Background Zen music	.1067	150	3.18585
Clock ticking	-1.3810	168	2.31581

***Question:** Please rate whether the following physical elements have a positive, negative or neutral influence on your mindfulness meditation practice, where $-5 =$ very negative influence, $0 =$ neutral, and $+5 =$ very positive influence.

The element on the top has the highest positive influence – which is ‘absence of sound’ in this case. The sound element with the highest negative influence is ‘clock ticking’.

6.3.2 Beginner vs more proficient practitioners

The Table 6.2 below shows the comparison between beginner and more proficient practitioners. The results show quite a difference by comparing the group of above 275 hours and below 50 hours. The top influencing element will be coloured in green, and the most negatively influencing element will be colour in red. For the 275+ group, they value the ‘Absence of sound’ the most highly, scoring 2.411. For the 50- group, the ‘Sound of water’ had the highest average score of 1.917 (Note that in the 50- group, all sound elements had mean scores below 2.000).

Table 6.2 Comparison summary for total practice hour.

Sound Elements - Total Practice Hour Comparison						
Practice Hour	275+	176-275	101-175	50-100	50-	Total
Mean	N = 131	N = 10	N = 8	N = 17	N = 37	N = 203
Absence of sound	2.4113	2.0000	2.7500	1.5000	1.5833	2.1753
Sound of water	1.7303	2.0000	3.2000	1.6667	1.9167	1.8333
Wild birds	2.0588	2.0000	3.3750	1.0000	1.8889	1.9947
Sound of wind	1.5478	1.6667	2.0000	1.2000	.5143	1.3389
Sound of rain	1.7119	1.5000	3.0000	2.1875	1.7714	1.8075
Meditation bell	2.1081	3.1111	2.2857	2.4667	1.2000	2.0169
Background Zen music	-.6364	.8750	1.5000	.6154	1.3714	.1067
Clock ticking	-1.0660	-3.1250	-2.8333	-1.2143	-1.7647	-1.3810
Instruction	.5385	1.6250	2.0000	2.2941	.8235	.8824

Other groups (hours below 275) had different elements as the most positively influencing element (Table 6.2). This may be because of the stage of their practice. The most negative influencing element, the overall being the ‘clock ticking’. This is the same for all groups regardless of their practice hour. Please see any related charts in Appendix G – section Figure for the mean bar chart across the groups. This provides a more straightforward comparison between groups with different total practice hours.

Noted that the 101-175 group has a much higher rating for all elements than other groups. This may be due to the relative sample size that this group contains (8 participants only). Hence, this distribution of participants across the group has reduced the validity of the comparison. Thus, the group comparison by total practice hour will not be included in the further discussion in Chapter 8.

6.3.3 Buddhist vs non-Buddhist

The overall top three sound elements for positively influencing the formal mindfulness meditation from the questionnaire are: 'Absence of sound' scoring 2.175, 'Meditation bell' scoring 2.017, and 'Wild birds' scoring 1.995. Conversely, the top negative influencing sound elements is: 'Clock ticking', scoring -1.381. The other two elements with the second and third lowest scores were 'Background Zen music' (0.107) and 'Instruction' (0.882).

Table 6.3 Comparison summary by faiths.

Mean	Sound Elements (Faiths)		
	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Absence of sound	2.3548	2.0099	2.1753
Sound of water	1.2254	2.3797	1.8333
Wild birds	1.4091	2.5152	1.9947
Sound of wind	1.0455	1.6196	1.3389
Sound of rain	1.3295	2.2323	1.8075
Meditation bell	2.0581	1.9780	2.0169
Background Zen music	-0.8769	.8588	.1067
Clock ticking	-1.1899	-1.5506	-1.3810
Instruction	.6053	1.1064	.8824

Among the Buddhist practitioners (Table 6.3), 'Absence of sound' has the highest average score of 2.355, higher than the overall average. Second is the 'Meditation bell' of 2.058, about the same as the overall average, followed by 'Wild birds' of 1.409, lower than the overall average. Finally, the sound element with the lowest mean score is 'Clock ticking', -1.190 higher than the overall average, followed by 'Background Zen music' of -0.877 and 'Instruction' of 0.605.

For non-Buddhists (Table 6.3), the pattern differed slightly. The top three sound elements for positively influencing the formal mindfulness meditation were: 'Wild birds' scoring 2.515, 'Sound of water' scoring 2.380, and 'Sound of rain' scoring 2.232. These were all related to nature or natural elements. Conversely, the sound elements with the lowest mean scores were: 'Clock ticking' scoring 1.551, 'Background zen music' scoring 0.859, and 'Instruction' scoring 1.106.

From the comparison result, Buddhist practitioners value the 'Absence of sound' with higher importance than non-Buddhist practitioners. Instead, 'Wild birds' were most important to non-Buddhist participants of this online questionnaire. Both groups agreed on the negative influence, choosing 'Clock ticking' as the most negatively influencing element for their formal mindfulness practice.

6.3.4 Frequency of practice

The below Table 6.4 compares the mean value by the frequency of practice. The comparison between different groups of total practice hours reveals an uneven distribution (Figure 6.5), which reduces the validity of the results. Consequently, the final discussion will not incorporate the groups categorized by frequency of practice. However, this chapter will proceed with the mean analysis based on this group division to present the obtained results.

The 'Others' group consists of frequencies lower than 1-2 times per week and frequencies lower than 3 times per week, but higher than others in the 'Others' group. The group with the largest score differences is the 5-6 times per week group. There was no particular pattern to be observed here.

Table 6.4 Comparison summary by frequency of practice.

Sound Elements by Frequency of Practice						
Mean	Everyday	5-6 times	3-4 times	1-2 times	Other	Total
	N = 58	N = 23	N = 16	N = 45	N = 21	N = 203
Absence of sound	2.6024	2.7727	2.0000	1.4884	1.4500	2.1753
Sound of water	1.7119	1.7333	1.7000	2.0000	2.1111	1.8333
Wild birds	2.1282	1.6818	1.7083	1.7907	2.6000	1.9947
Sound of wind	1.5270	1.0476	1.3182	1.1860	1.3000	1.3389
Sound of rain	1.7013	1.3043	1.9583	1.8372	2.5500	1.8075
Meditation bell	2.0000	2.8261	2.4348	1.5122	1.7000	2.0169
Background Zen music	-.8333	-.2000	.3043	1.0000	.9474	.1067
Clock ticking	-1.1014	-1.1579	-.7500	-2.0769	-2.0588	-1.3810
Instruction	.5797	.7222	1.4348	1.0000	1.2105	.8824

The results do not suggest that those who practice more frequently will place more or less importance on the setting where they practice. The average score sits in between different groups. Those with lower practice frequency do not mean they have higher physical setting requirements either.

6.3.5 Gender

For the valid responses, there were 130 females (64.0%), 67 males (33.0%), and 6 'prefer not to say' (3.0%). The results by gender have been summarised as below to observe whether there was any pattern or differences between genders (Table 6.5). Due to the 'prefer not to say' sample size being too small, the result for this category may not be valid to include. Female and male groups had different top influencing elements, but both agreed on the most negatively influencing elements 'clock ticking'. One interesting phenomenon here is that females have a higher average score for each element than males. On the positive end, females tend to rate elements more positively than males.

Table 6.5 Comparison summary by gender.

Sound Elements by Gender				
Mean	Female N = 130	Male N = 67	Prefer not to say N = 6	Total N = 203
Absence of sound	2.2358	2.0769	2.0000	2.1753
Sound of water	2.2323	1.0851	.7500	1.8333
Wild birds	2.2857	1.6290	.0000	1.9947
Sound of wind	1.4474	1.2000	.6667	1.3389
Sound of rain	2.0756	1.3871	.8333	1.8075
Meditation bell	2.2895	1.6379	.2000	2.0169
Background Zen music	.6931	-1.1136	-1.0000	.1067
Clock ticking	-1.3241	-1.3818	-2.6000	-1.3810
Instruction	1.3565	-.2800	1.6000	.8824

Due to the small sample size, the 'Prefer not to say' sample will not be included in the discussion. There were two contrary results between males and females: 'Background zen music' and 'Instruction', which both have been rated negatively by males but rated positively by females. Apart from these two, females rated all other elements more positively than males.

6.3.6 Free answering question

Although it has been stated clearly in the question that '*Please state any other SOUND elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively on a scale from -5 to 5?*' responses did not all strictly follow this format. Some answers only have the sound elements without the number on the scale, whereas others only have the number from -5 to 5 without stating the sound elements they refer to. In addition, some answers returned descriptions of different effects of sound elements without the scale. However, the frequency

mindfulness meditation and only 1 reported as being neutral ('not a problem') The average score for 'Traffic' was -2.83, slightly lower than the 'people'. The third is the 'machinery', including sounds from garden equipment, ventilation system etc. – 7 mentions, with 5 reported as negative and two as neutral. The average score for this element is -2.33.

The above-presented elements were the top-mentioned sound elements that participants consider to be influencing their formal mindfulness meditation, which is most negatively influencing. Looking at the positive range of elements reported by participants, these elements may not have as high a number of mentions as the top three, but still worth noting. The top three positive elements mentioned in the free-answer text question were: silence (which corresponds to the 'absence of sound' in the research framework), music, and instruction. Chanting was also reported as a 'positive' influence on their formal mindfulness meditation.

6.4 Visual Elements

6.4.1 Overview

This section presented the data set for visual elements and analysed the data by groups, i.e., length of practice (beginner vs more proficient practitioners), Buddhist vs non-Buddhist, frequency of practice and gender. The free-answering questions were also analysed to provide an additional layer of information. The data analysis includes the average score rating for each element and the score differences to study the comparisons in more detail. The correlation between the elements and different groups was also analysed.

Table 6.6 Summary table for visual elements (Descending means)

Visual Elements (Overview)*			
	Mean	N	Std. Deviation
View of greenery	2.6424	165	2.16387
Open, unblocked view	2.3049	164	2.12314
Direct natural lighting	2.0829	181	2.06526
Buddha statue	1.7917	168	2.42209
Indirect natural lighting	1.6685	184	1.92875
Natural water feature	1.6207	145	2.17009
Sun/moon passage	1.5488	164	1.88082
Harmonious room colour	1.5263	171	1.75672
Seasonal changing vegetation	1.3988	168	1.97329
Images of nature	1.2975	158	1.94022
Warm room colour	1.2024	168	1.71837
Warm artificial lighting	1.0889	180	1.72814
A vase with flower	1.0732	164	2.01089
Visibility of shade movements	.6813	160	1.85096
Mandala	.6809	141	2.00827
Artificial water feature	.6528	144	2.20400
Artistic objects	.5912	159	1.92325
Cool room colour	.2822	163	1.69789
Cool artificial lighting	-.2857	161	1.97303
Strong contrasting room colour	-1.1218	156	2.01396

***Question:** Please rate whether the following physical elements have a positive, negative or neutral influence on your mindfulness meditation practice, where $-5 =$ very negative influence, $0 =$ neutral, and $+5 =$ very positive influence.

The above table showed that (Table 6.6) there were three elements scoring an average above 2: view of greenery (2.642), open, unblocked view (2.305), and direct natural lighting (2.083). The elements with negative influences were: strong contrasting room colour (-1.122) and cool artificial lighting (-0.286).

6.4.2 Beginner vs more proficient practitioners

The mean is compared between groups with different total hours of mindfulness practice for further understanding of how the visual elements influence their

mindfulness meditation (Table 6.7). For the top element, the 50-, 176-275 and 275+ groups shared the same element: the 'View of greenery'. All groups except the 101-175 group agreed on the 'Strong contrasting room colour' for the most negative element. The elements on the opposing ends have been marked in different levels of red, whereas the positive ends have been coloured in green.

Table 6.7 Comparison summary for by total practice hour.

Visual Elements – Total Practice Hour Comparison							
	Practice Hour	275+	176-275	101-175	50-100	50-	Total
Mean		N = 131	N = 10	N = 8	N = 17	N = 37	N = 203
View of greenery		2.3962	3.8571	3.4286	2.7857	2.9677	2.6424
Open, unblocked view		1.9320	3.1429	3.1667	2.9333	2.8485	2.3049
Direct natural lighting		1.9310	2.6000	3.6250	1.9286	2.1515	2.0829
Indirect natural lighting		1.6667	2.6000	.8750	1.9333	1.4706	1.6685
Warm artificial lighting		1.0439	1.2000	.6250	1.0000	1.3636	1.0889
Cool artificial lighting		-.1000	-1.5000	-1.5000	-.7692	-.0625	-.2857
Buddha statue		1.6762	2.7500	2.3333	2.7333	1.4118	1.7917
Vase with flower		1.2095	1.8571	.8571	-.1538	1.0000	1.0732
Mandala		.5227	1.1429	.8333	1.3333	.7500	.6809
Artistic objects		.5859	.8571	1.4286	-.2308	.6970	.5912
Images of nature		1.0510	2.1250	2.4286	1.1538	1.6563	1.2975
Natural water feature		1.4886	2.2857	2.3750	1.5000	1.7143	1.6207
Artificial water feature		.5412	.1429	1.1250	.1429	1.2000	.6528
Warm room colour		1.0849	2.3750	1.8571	1.7857	.9091	1.2024
Cool room colour		.3265	.3333	-.1250	.1429	.2941	.2822
Harmonious room colour		1.5556	2.4444	2.1250	1.2857	1.1250	1.5263
Strong contrasting room colour		-1.1146	-1.8889	-.4286	-0.8571	-1.2000	-1.1218
Seasonal changing vegetations		1.4811	1.6667	2.0000	1.0769	1.0312	1.3988
Visibility of shade movements		.5800	1.7500	1.1250	.1538	.8387	.6813
Sun/moon passage		1.4902	1.7500	1.4286	1.7857	1.6061	1.5488

The 275+ group generally has a lower average score, ranging from -1.20 to 2.07 (3.27 differences). The 176-275 group has the most extensive average score range from -1.50 to 4.0. The average score differences increase from 50- group to 176-275 group, then drop to the lowest at the 275+ group. For the 275+ group,

it is less 'extreme' than other groups, which could be interpreted as not affected by the environmental visual elements as much as the rest. However, the phenomena from other groups still require explanation.

In short, most groups agreed on the most negatively influencing elements. Although they did not agree on the top positive element, the 'view of greenery' obtained a higher average score across all groups with two above 3.

6.4.3 Buddhist vs non-Buddhists

For Buddhist participants, the element with the highest average score (Table 6.8) is the 'Buddha statue', hitting the score of 2.780, which is the highest average score for the elements. This element was ahead of the second top element, 'View of greenery' (with a score of 2.218), with nearly one extra score. The third top visual element was 'Open, unblocked view' (2.000), just slightly higher than the 'Direct natural lighting' (1.932). For the top negative elements: 'Strong contrasting room colour' was leading with a score of -1.173, followed by 'Cool artificial lighting' scoring -0.117.

For non-Buddhist participants, it was clear that they valued different elements differently. The top three positive visual elements with the highest average scores were: 'View of greenery' (3.02), 'Open, unblocked view' (2.58), and 'Direct natural lighting' (2.23). Conversely, the top negative visual elements for non-Buddhists were: 'Strong contrasting room colour' (-1.07), and 'Cool artificial lighting' (-0.44).

Table 6.8 Comparison summary for faith groups.

Visual Elements - Faiths			
Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
View of greenery	2.2179	3.0230	2.6424
Open, unblocked view	2.0000	2.5882	2.3049
Direct natural lighting	1.9318	2.2258	2.0829
Indirect natural lighting	1.5955	1.7368	1.6685
Warm artificial lighting	1.1264	1.0538	1.0889
Cool artificial lighting	-.1169	-.4405	-.2857
Buddha statue	2.7802	.6234	1.7917
Vase with flower	1.4146	.7317	1.0732
Mandala	1.1029	.2877	.6809
Artistic objects	.4800	.6905	.5912
Images of nature	.8933	1.6627	1.2975
Natural water feature	1.0313	2.0864	1.6207
Artificial water feature	.2187	1.0000	.6528
Warm room colour	1.0000	1.3908	1.2024
Cool room colour	.4359	.1412	.2822
Harmonious room colour	1.5122	1.5393	1.5263
Strong contrasting room colour	-1.1733	-1.0741	-1.1218
Seasonal changing vegetations	1.2317	1.5581	1.3988
Visibility of shade movements	.5769	.7805	.6813
Sun/moon passage	1.4875	1.6071	1.5488

From the comparison result, Buddhist and non-Buddhist groups value visual elements differently. The Buddha statue was the most important for Buddhists, scoring the highest average up to this point. However, apart from the Buddha statue, the rest three elements down the line were the same as the non-Buddhist group: 'View of greenery', 'Open, unblocked view', and 'Direct natural lighting' (just slightly behind) – the order of these three elements was the same as a non-Buddhist group. Visually, the two groups chose the positive influencing elements more alike. On the negative end, both groups agreed mutually on the

most negative element being the ‘strong contrasting room colour’ and ‘cool artificial lighting’.

6.4.4 Frequency of practice

The below table (Table 6.9) and summarised the average score for the groups by frequency of practice. Similar to the sound element by frequency of practice analysis, the higher frequency does not suggest that one would be more or less reliant on the physical space.

Table 6.9 Comparison summary by frequency of practice.

Visual Elements - Frequency of Practice						
Mean	Everyday N = 58	5-6 times N = 23	3-4 times N = 16	1-2 times N = 45	Other N = 21	Total N = 203
View of greenery	2.4118	2.3684	2.4091	3.1538	3.0000	2.6424
Open, unblocked view	1.9846	1.6842	2.1739	2.7561	3.3750	2.3049
Direct natural lighting	1.8243	1.9000	2.1154	2.4884	2.3333	2.0829
Indirect natural lighting	1.7763	1.2857	1.3600	1.8864	1.5556	1.6685
Warm artificial lighting	.9459	1.1500	1.1538	1.1628	1.3529	1.0889
Cool artificial lighting	-.1250	-.0625	-.3750	-.7317	.1250	-.2857
Buddha statue	2.1143	2.2222	1.6500	1.2750	1.4500	1.7917
A vase with flower	1.4030	1.7222	.4583	.6579	.8824	1.0732
Mandala	.6964	.5333	.7222	.7778	.5000	.6809
Artistic objects	1.0159	.8235	-.1304	.2308	.5882	.5912
Images of nature	1.2459	1.1765	1.0000	1.1500	2.3529	1.2975
Natural water feature	1.6981	1.2308	1.2400	1.5676	2.3529	1.6207
Artificial water feature	.7000	.2667	.0833	.6579	1.6471	.6528
Warm room colour	1.1618	.9524	1.4800	1.3784	.8824	1.2024
Cool room colour	.2462	.9375	.2500	-.1250	.7778	.2822
Harmonious room colour	1.7101	1.2500	1.9167	1.3000	1.1111	1.5263
Strong contrasting room colour	-1.2188	-.8750	-.6522	-1.0000	-1.8824	-1.1218
Seasonal changing vegetation	1.4030	1.4118	1.3846	1.4146	1.3529	1.3988
Visibility of shade movements	.4762	.4706	.7917	.8718	1.0588	.6813
Sun/moon passage	1.6000	.8333	1.9167	1.4359	1.8333	1.5488

However, this time participants with lower practice frequency reported higher score differences. This may suggest that these elements have stronger influences on their formal mindfulness practice regardless it is positive or negative.

6.4.5 Gender

Interesting, males tend to be less influenced by visual elements. This set of results (Table 6.10) showed that visual elements, in general, are less influential than the sound elements presented in the last section. On the contrary, the female participants were more reactive towards the visual elements. Apart from 'Strong contrasting room colour', 'Cool artificial lighting', 'Artistic objects' and 'Cool room colour', female participants rated all other visual elements more positively than male participants (80% of elements from the list).

Female participants had three elements achieving an average score over 2 (Figure 6.16): 'View of greenery', 'Open, unblocked view', and 'Direct natural lighting', whereas male participants did not have an average score over 2, the highest average score is only 1.86 compared to female highest 3.05. Male participants showed less impact from the visual element by calculating the average score differences – 2.70, one point lower than the sound elements (3.75). On the contrary, female participants have a larger average score difference for the visual elements, reaching 4.01 compared with 3.60 from the previous section.

Table 6.10 Comparison summary by gender.

Visual Elements - Gender				
Mean	Female N = 130	Male N = 67	Prefer not to say N = 6	Total N = 203
View of greenery	3.0476	1.8750	2.7500	2.6424
Open, unblocked view	2.7383	1.4528	2.0000	2.3049
Direct natural lighting	2.2373	1.7288	2.7500	2.0829
Indirect natural lighting	1.7479	1.5082	1.7500	1.6685
Warm artificial lighting	1.2672	.8500	-.5000	1.0889
Cool artificial lighting	-.3750	.0377	-2.2500	-.2857
Buddha statue	1.8611	1.7719	-.3333	1.7917
A vase with flower	1.2037	.9057	-.6667	1.0732
Mandala	.9022	.1957	1.3333	.6809
Artistic objects	.5849	.5306	1.5000	.5912
Images of nature	1.4952	.8776	1.2500	1.2975
Natural water feature	1.9271	.9333	2.0000	1.6207
Artificial water feature	.7938	.3023	1.0000	.6528
Warm room colour	1.4273	.7736	.8000	1.2024
Cool room colour	.2547	.3654	.0000	.2822
Harmonious room colour	1.7522	1.0926	1.0000	1.5263
Strong contrasting room colour	-1.2079	-.7800	-2.8000	-1.1218
Seasonal changing vegetation	1.6239	1.0000	.7500	1.3988
Visibility of shade movements	.7282	.5472	1.2500	.6813
Sun/moon passage	1.7642	1.0566	2.2000	1.5488

For the distribution charts, please see Appendix G.

6.4.6 Free answering question

Similar to sound elements, the questionnaire asked the participants ‘*Please state any other VISUAL elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively on a scale from -5 to 5?*’ Responses did not all strictly follow this format either. However, the frequency has been calculated based on their answer and transformed into an image based on their frequency (Figure

6.9) using Weiciyun. The word with higher frequency (more participant mentions) will be bigger on the image.

Out of all the 'valid' responses to this question, the most reported positive visual elements were: 'candles'. On the contrary, 'cluttered' and 'people' were on the negative side of the scale. Many natural elements gain a positive score, such as 'bodhi tree', 'sunlight' and 'nature'.

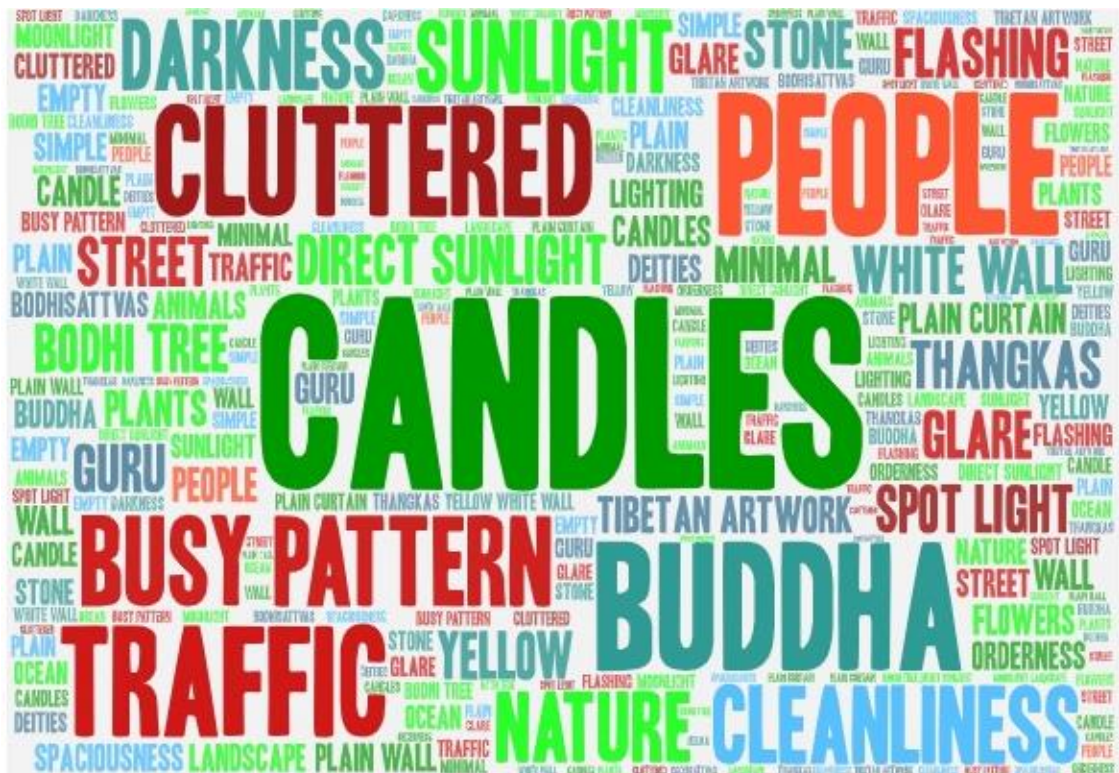


Figure 6.9 Word frequency image for visual elements (Warm colours for negatively associated words, green/blue colours for positively associated words).

6.5 Sensual Elements

6.5.1 Overview

This section presented the data set for other sensual elements and qualities. The data was analysed by groups as previous sound and visual elements, i.e., length of practice (beginner vs more proficient practitioners), Buddhist vs non-Buddhist, frequency of practice and gender. The free-answering questions were also analysed to provide an additional layer of information. The data analysis includes the average score rating for each element and the score differences to study the comparisons in more detail (Table 6.11). The correlation between the elements and different groups was also analysed.

Table 6.11 Summary table for sensual elements.

Sensual Elements (Overview)*			
	Mean	N	Std. Deviation
Use of cushion	2.9840	187	1.92459
Use of matt	2.4059	170	2.09394
Use of chair	1.7029	175	2.37146
Smell of other natural elements	1.4643	168	1.79785
Use of bench	1.4383	162	2.42385
Warm temperature	1.2398	196	1.89700
Burning incense	1.1444	180	2.64495
Smell of cut grass	.7853	163	2.09273
Cool temperature	-1.1579	190	2.20781

***Question:** Please rate whether the following physical elements have a positive, negative or neutral influence on your mindfulness meditation practice, where -5 = very negative influence, 0 = neutral, and $+5$ = very positive influence.

From the table, 'use of cushion', 'use of matt', and 'use of chair' were the top three positive influencing sensual elements. They all associated with the use of tools to support the mindfulness meditation. The only element with negative influence is the 'cool' temperature.

6.5.2 Beginner vs more proficient practitioners

For the overall result (Table 6.12), the sensual elements with the highest average scores were: 'use of cushion' (2.984), 'use of matt' (2.406), and 'smell of other natural elements' (1.703). Conversely, the top negative sensual element (or least significant elements) with the lowest average scores was: 'Cooler temperature' (-0.158). The elements with the highest and lowest average scores for each group have been highlighted in green and red, respectively.

Table 6.12 Comparison summary by total practice hour.

Sensual Elements - Total Practice Hour							
	Practice Hour	275+	176-275	101-175	50-100	50-	Total
Mean		N = 131	N = 10	N = 8	N = 17	N = 37	N = 203
Cool temperature		-0.1613	0.0000	.3750	0.6667	-0.6765	-0.1579
Warm temperature		1.3386	1.0000	0.1250	1.8750	.9143	1.2398
Burning incense		1.0180	1.6667	2.3750	1.2500	1.0833	1.1444
Smell of cut grass		.5700	.2222	2.1429	1.1333	1.1562	.7853
Smell of other natural elements		1.1238	1.5556	3.1250	2.5714	1.6563	1.4643
Use of cushion		3.1271	2.9000	4.0000	3.5000	2.0571	2.9840
Use of bench		1.8990	1.4444	.2500	.5385	.6970	1.4383
Use of chair		1.8378	2.0000	2.7500	1.3571	1.0606	1.7029
Use of matt		2.5421	3.8889	2.5000	2.6429	1.4062	2.4059

All groups value the use of cushion highly (all above the score of 2). For the element with lowest score (cool temperature), not all groups rated it negatively. Although it is on the negative side of the scale, the influence level was minor (all below +/-1) (Table 6.19).

6.5.3 Buddhist vs non-Buddhist

To break down the average score into groups (Table 6.13), for Buddhist participants, the element with the highest average score is the ‘use of cushion’, hitting a high score of 2.879. The second top element was the ‘use of matt’, scoring 2.687, and the third was the ‘use of bench’, scoring 1.429. For the least significant impact elements, the three elements with an average score below 1 were ‘warm temperature’ (0.979), ‘smell of cut grass’ (0.816), and ‘cool temperature’ (0.154). It is worth noting that the average score for Buddhist groups were all on the positive side of the scale.

Table 6.13 Comparison summary by faiths.

Sensual Elements - Faiths			
Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Cool temperature	.1538	-.4444	-.1579
Warm temperature	.9792	1.4900	1.2398
Burning incense	1.3864	.9130	1.1444
Smell of cut grass	.8158	.7586	.7853
Smell of other natural elements	1.2727	1.6264	1.4643
Use of cushion	2.8791	3.0833	2.9840
Use of bench	1.4286	1.4471	1.4383
Use of chair	1.2989	2.1023	1.7029
Use of matt	2.6867	2.1379	2.4059

For non-Buddhist participants, the top two positive sensual elements with the highest average scores were the same as Buddhist groups: ‘use of cushion’ (3.083) and ‘use of matt’ (2.138). The third was also relating to the use of tools, which is the ‘use of chair’ (2.102). The three least significant elements for sensual category were similar but with a variant – ‘burning incense’ (0.913), ‘smell of cut grass’, and ‘cool temperature’ (-0.444).

One interesting phenomenon from the comparison was that Buddhist participants' average score for many elements (60%) tended to be higher than the non-Buddhist participants (Appendix G – Figure 10). So, does the environment influence Buddhist practitioners more than non-Buddhist practitioners? Or would it be because they pay more attention to the environment and how the environment may facilitate their practice?

Comparing the most significant and least significant elements, both groups agree with each other. Both groups notably valued the 'use of cushion' as the shared elements. The 'use of cushion' contributed towards the comfortableness during the practice – a more pragmatic approach. For the least significant (negative-positive) elements, both groups agreed again on the top two elements. The difference again occurred for the third element – Buddhists chose 'Warm temperature' over non-Buddhists' 'Burning incense'. In some Buddhist traditions, practitioners would be encouraged to burn particular incense to prepare and facilitate the practice – resulting in a higher average score for 'Burning incense' for the sensual elements. On the contrary, non-Buddhist groups may not necessarily value the same.

6.5.4 Frequency of practice

It is evident that all groups (Table 6.14) value the 'use of cushion' and 'use of matt' highly – contributing towards the comfortable posture for the practitioners. All groups agreed upon the 'cooler temperature' for the top negative influencing element. Overall, the 'Smell of cut grass' has the second lowest influential score out of this category.

Table 6.14 Comparison summary by frequency of practice.

Sensual Elements - Frequency of Practice						
Mean	Everyday N = 58	5-6 times N = 23	3-4 times N = 16	1-2 times N = 45	Other N = 21	Total N = 203
Cool temperature	.1325	-.4545	-.0800	-.6585	-.1053	-.1579
Warm temperature	1.1628	1.4762	1.6538	1.5349	.1500	1.2398
Burning incense	1.0278	1.4000	1.8400	.4651	1.9000	1.1444
Smell of cut grass	.3016	.9474	1.0800	.9231	1.6471	.7853
Smell of other natural elements	1.0758	1.1667	1.7308	2.0500	1.5000	1.4643
Use of cushion	3.0933	3.6957	3.0000	2.7955	2.1053	2.9840
Use of bench	1.6615	2.4118	1.5417	.7250	1.1250	1.4383
Use of chair	1.8611	1.4000	1.8261	1.5000	1.7222	1.7029
Use of matt	2.7571	3.1667	2.3333	2.0256	1.2632	2.4059

6.5.5 Gender

Despite the differences, both female and male participants agreed on the top element for the positive influence of ‘use of cushion’. The pattern continued from the previous section – females tend to rate elements more positively than male practitioners as for their influences towards their formal mindfulness meditation (Table 6.15).

Table 6.15 Comparison summary by gender.

Sensual Elements - Gender				
Mean	Female N = 130	Male N = 67	Prefer not to say N = 6	Total N = 203
Cool temperature	-.7059	.8308	.0000	-.1579
Warm temperature	1.6129	.5606	1.0000	1.2398
Burning incense	1.2000	1.0909	.4000	1.1444
Smell of cut grass	.8774	.5577	1.2000	.7853
Smell of other natural elements	1.6091	1.0943	2.2000	1.4643
Use of cushion	3.1901	2.5645	3.2500	2.9840
Use of bench	1.3143	1.7358	.7500	1.4383
Use of chair	1.7544	1.5862	2.0000	1.7029
Use of matt	2.3333	2.5410	2.2500	2.4059

Both groups have two elements achieving a score higher than 2. Female group prefer 'warmer temperature' than 'cool temperature'. In contrast, male group rated 'cool temperature' slightly higher than the 'warm temperature'. In short, practitioners value use of tools (especially cushion and matt) highly and considered them as positively influencing element for the mindfulness meditation.

6.5.6 Free answering question

Similar to sound and visual elements, the questionnaire asked the participants '*Please state any other SENSUAL elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively on a scale from -5 to 5?*' Responses did not all strictly follow this format either. However, the frequency has been calculated based on their answer and transformed into an image based on their frequency (Figure 6.22) using Weiciyun. The word with higher frequency (more participant mentions) will be bigger on the image.

Out of all the 'valid' responses to this question, the most reported positive visual elements were: 'candle' (incense candles), the same as the visual elements which people enjoy the focus of the candle. Other positive elements include 'shawl' as use of tool. On the contrary, 'smell' associated with unpleasant, strong, and cooking smells was mentioned the most on the negative side of the scale. Reasons being, these will distract them from the mindfulness practice.

between, the 'Suburban environment' scored an average of 0.782, with 74 participants (36.5%) on the positive end, 87 participants (42.9%) choosing neutral, and 14 participants (6.9%) on the negative end.

Table 6.16 Summary for the preferable environment.

Summary of Preferred Environment*			
	Mean	N	Std. Deviation
Rural remote environment	2.6612	183	2.02592
Suburban environment	.7821	179	1.88504
Busy urban environment	-2.0347	173	2.17784

***Question:** Please rate whether the following elements have a positive, negative or neutral influence on your mindfulness meditation practice, where -5 = very negative influence, 0 = neutral, and +5 = very positive influence.

The environments ranging from positive to negative were: 'Rural remote environment' (2.661), 'Suburban environment' (0.782), and 'Busy urban environment' (-2.035).

From the result (Table 6.17), both groups rated 'Rural remote environment' as the most positively influencing element and 'Busy urban environment' as the most negatively influencing. Due to the uneven spread of groups in other category, the Buddhist vs non-Buddhist comparison will be remained for further discussion.

Table 6.17 Summary for the preferable environment by faiths.

Preferred Environment - Faith			
Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Rural remote environment	2.6667	2.6562	2.6612
Suburban environment	.8941	.6809	.7821
Busy urban environment	-1.9036	-2.1556	-2.0347

Both groups highly valued the 'Rural remote environment' and 'Busy urban environment' of negatively impacting their practices. For the 'Suburban environment', both groups put in in-between the other two elements. Therefore, there were no distinct differences between the two groups.

6.6.2 Deliberate setup of an environment

In general, most participants would pay attention to setting up a certain environment when they practise formal mindfulness meditation, evidencing in the table below (Table 6.18), it is evident that over 75% of practitioners would deliberately set up a certain environment for their formal mindfulness meditation (33.5% of them chose 'Yes, always' and 41.9% chose 'Sometimes'). Both options have higher percentage of people than those who deliberately not choosing it. This indicates that over three quarters of practitioners have spatial requirements for their mindfulness meditation.

Table 6.18. Summary for the question: 'Do you deliberately set up a certain environment when you practise formal mindfulness meditation?.'

Do you deliberately set up a certain environment for mindfulness practice?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	68	33.5	33.5	33.5
	Sometimes	85	41.9	41.9	75.4
	No	50	24.6	24.6	100.0
	Total	203	100.0	100.0	

In the question '*Do you deliberately set up a certain environment when you practise formal mindfulness meditation? For example, changing the colour of lightings, lighting up a candle, burning a scent, etc.*', 39.4% of Buddhist practitioners (Table 6.19) chose 'Yes, always', 44.4% chose 'Sometimes', and 16.2% chose 'No'. From this result, around 83.8% of Buddhist practitioners

would pay attention and try to set up the environment for their practice, whether always or sometimes. In contrast, non-Buddhist group have a much higher percentage of choosing 'No' (32.7%). For non-Buddhist groups, they have a lower proportion of participants choosing 'Yes, always' than the Buddhist group. The proportion choosing 'Sometimes' were also lower – 27.9%. The proportion for choosing 'No' was also higher than the Buddhist group – more than double of the Buddhist group – 32.7%. The overall number of practitioners that would deliberately set up an environment for the formal mindfulness practice was around 75.4%, lower than that of the Buddhist group.

Table 6.19 Deliberate setup of an environment by faiths.

Deliberate setup of an environment by faiths					
		Buddhist	B Percent	Non-Buddhist	N-B Percent
Valid	Yes, always	39	39.4	29	27.9
	Sometimes	44	44.4	41	39.4
	No	16	16.2	34	32.7
	Total	99	100.0	104	100.0

The result reflected the attitude of the two groups towards the environment for the formal mindfulness practice. Buddhist participants would pay more attention and effort to where they practise, whereas non-Buddhist participants were less likely to deliberately set up the environment for their formal practices.

6.7 Mean Analysis of Survey Results

The mean analysis was conducted using IBM SPSS Statistics (version 27) to examine how each element influence mindfulness practices. See below (Table 6.20) for the overall mean for all elements/qualities of the environment. The higher the mean (closer to 5), the more positively influencing the element is.

Conversely, the lower the mean (closer to -5), the more negatively influencing the element is. The table was revised to remove items in orange italic and reordered according to the value of means (Appendix G - Table 8). Due to these items' properties, which were not fully nor partially controllable, and not strictly an element, but rather qualities or descriptions of the place consisting of many elements. Hence, it is not appropriate to apply them for further factor analysis. Please see Table 6.20 for the revised table in the descending order. This prepares the 38 elements for the EFA in the next section.

Table 6.20 Revised summary table for mean of controllable elements.

Summary Table for Controllable Elements

	Mean	N	Std. Deviation
Use of cushion	2.9840	187	1.92459
View of greenery	2.6424	165	2.16387
Use of matt	2.4059	170	2.09394
Open, unblocked view	2.3049	164	2.12314
Absence of sound	2.1753	194	2.55311
Direct natural lighting	2.0829	181	2.06526
Meditation bell	2.0169	177	2.24235
Wild birds	1.9947	187	2.15401
Sound of water	1.8333	150	2.34711
Sound of rain	1.8075	187	1.96347
Buddha statue	1.7917	168	2.42209
Use of chair	1.7029	175	2.37146
Indirect natural lighting	1.6685	184	1.92875
Natural water feature	1.6207	145	2.17009
Sun/moon passage	1.5488	164	1.88082
Harmonious room colour	1.5263	171	1.75672
Smell of other natural elements	1.4643	168	1.79785
Use of bench	1.4383	162	2.42385
Seasonal changing vegetation	1.3988	168	1.97329
Sound of wind	1.3389	180	2.07987
Images of nature	1.2975	158	1.94022
Warm temperature	1.2398	196	1.89700
Warm room colour	1.2024	168	1.71837

Burning incense	1.1444	180	2.64495
Warm artificial lighting	1.0889	180	1.72814
A vase with flower	1.0732	164	2.01089
Instruction	.8824	170	2.59910
Smell of cut grass	.7853	163	2.09273
Visibility of shade movements	.6812	160	1.85096
Mandala	.6809	141	2.00827
Artificial water feature	.6528	144	2.20400
Artistic objects	.5912	159	1.92325
Cool room colour	.2822	163	1.69789
Background Zen music	.1067	150	3.18585
Cool temperature	-1.1579	190	2.20781
Cool artificial lighting	-1.2857	161	1.97303
Strong contrasting room colour	-1.1218	156	2.01396
Clock ticking	-1.3810	168	2.31581

This produced a table of 38 elements that are controllable by people, and they will be used for EFA in the next section. The order of the impact of elements were also presented. There are seven elements in total with an average score over 2: (1) use of cushion, (2) view of greenery, (3) use of matt, (4) open, unblocked view, (5) absence of sound, (6) direct natural lighting, and (7) meditation bell. These were considered to be supportive of mindfulness practitioners according to the survey.

6.8 Factor Analysis

The 203 questionnaire data sets have been imported into SPSS Statistics for Exploratory Factor Analysis (EFA). The numeric data has been coded, i.e., the rating from -5 to 5 has been assigned with the following numbers for analysis (Table 6.21). Only 38 elements (Table 6.20, or Appendix G – Table 9) were chosen from the research framework as they belong to the controllable spatial

element category. The quality elements (such as calming and welcoming atmospheres) did not belong to the former category; thus, they were removed from the list.

Table 6.21 Value exchange for EFA.

Original Score	-5	-4	-3	-2	-1	0	1	2	3	4	5
Value for SPSS	1	2	3	4	5	6	7	8	9	10	11

The first step (discussed in chapter 5) was to examine the suitability of the data. There were 203 questionnaires, meeting the minimum standard of 150 samples for the factor analysis. Before performing the actual EFA, the suitability of data for factor analysis was assessed (Table 6.22). The correlation matrix reviewed many coefficients of .3 and above. The Kaiser-Meyer-Olkin value was .814, exceeding the recommended value of .6 (Kaiser, 1970, 1974), and Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix (Pallant, 2020).

Table 6.22 KMO and Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.825
Bartlett's Test of Sphericity	Approx. Chi-Square	3722.970
	df	703
	Sig.	.000

The EFA revealed the presence of ten factors with eigenvalues exceeding 1, explaining 29.9%, 6.6%, 6.2%, 5.2%, 4.2%, 4.1%, 3.8%, 3.3%, 3.1% and 2.8% of the variance, respectively. The scree plot was also inspected to reveal that there was a change of shape in between factor 9 and 10 (Figure 6.11). The 10 factors explained 69.2% of the variance. The varimax rotation was performed

to aid the interpretation of the ten factors (Appendix G - Table 10). It revealed the presence of a simple structure (Thurstone, 1947) with all variables loading substantially on mostly one factor. Note that a scree plot is a line plot of the eigenvalues of factors or principal components in the analysis. It is used to determine the number of factors to retain in an EFA (Pallant, 2020).

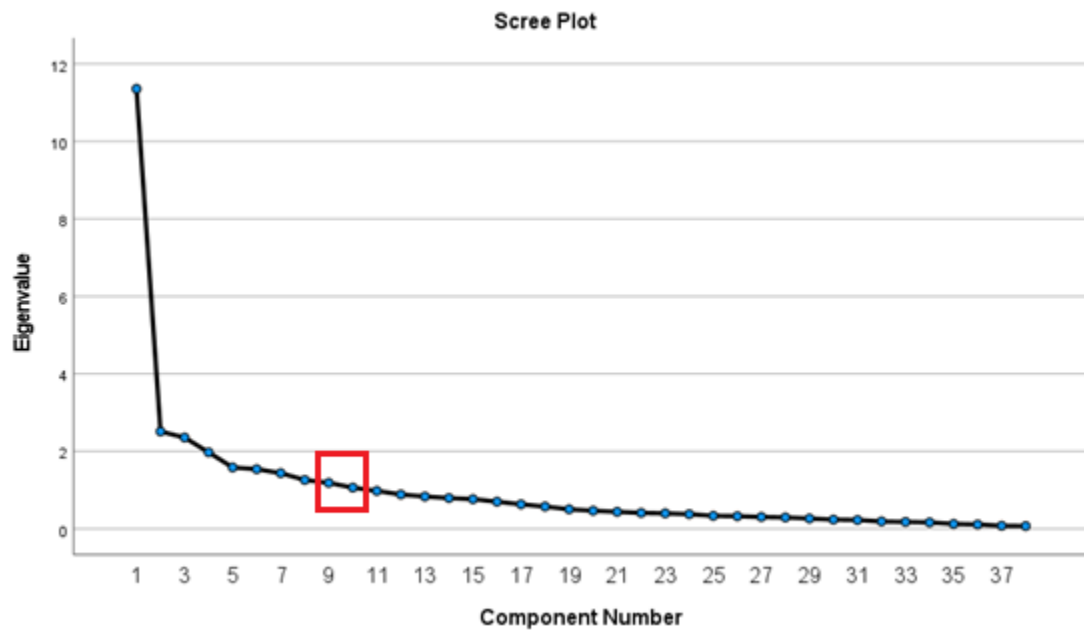


Figure 6.11 Scree plot results.

It is visible that 'use of chair' has not been categories comfortably into a factor (Appendix G - Table 10). Thus, it is necessary to adjust the number of factors and variances that fall under it. The 'use of chair' could be with other tools to support mindfulness meditation (with matt, cushion, and bench). Hence, by re-categorising this variance, the number of factors has been reduced to nine (Table 6.23).

Table 6.23 The nine factors framework after EFA.

F.	Name	Variances	Mean
1	Views in/of the room	View of greenery	2.6424
		Open, unblocked view	2.3049
		Natural water feature	1.6207
		Sun/moon passage	1.5488
		Seasonal changing vegetation	1.3988
		Images of nature	1.2975
		Visibility of shade movements	0.6812
		Artificial water feature	0.6528
2	Meditation objects	Buddha statue	1.7917
		A vase with flower	1.0732
		Mandala	0.6809
		Artistic objects	0.5912
3	Cool room ambience	Cool room colour	0.2822
		Cool temperature	-0.1579
		Cool artificial lighting	-0.2857
		Strong contrasting room colour	-1.1218
		Clock ticking	-1.3810
4	Natural sounds	Wild birds	1.9947
		Sound of water	1.8333
		Sound of rain	1.8075
		Sound of wind	1.3389
5	Warm room ambience	Direct natural lighting	2.0829
		Indirect natural lighting	1.6685
		Harmonious room colour	1.5263
		Warm temperature	1.2398
		Warm room colour	1.2024
		Warm artificial lighting	1.0889
6	Use of supportive tools	Use of cushion	2.9840
		Use of matt	2.4059
		Use of chair	1.7029
		Use of bench	1.4383
7	Smell in/of the room	Smell of other natural elements	1.4643
		Burning incense	1.1444
		Smell of cut grass	0.7853
8	Meditation sounds	Meditation bell	2.0169
		Instruction	0.8824
		Background Zen music	0.1067
9	Quietness	Absence of sound	2.1753

These nine factors will provide a basic spatial framework for practitioners and communities to consider how to change the environment to facilitate their mindfulness practices. Please see below the rationale for naming the factors in Table 6.23. The table is also reordered according to the value of mean.

Factor 1 – Views in the room: after conducting the EFA, the visual elements have been re-categorised. This factor contained the variances that belong to the views in the room or out of the room. Other visual elements, such as lighting, and focus objects, have been moved under other categories.

Factor 2 – Meditation objects: this factor contained variances similar to the previous category, 'focus objects' (but on visual focus objects). What has been changed is that the 'image of nature' has been moved under Factor 1.

Factor 3 – Cool room ambience: in contrast to the previous factor, this factor contained cooler variances to produce a different room ambience. These were rated more negatively in the questionnaire. The result of EFA did not categorise the lighting into cool room ambience. A room without lighting tends to have negative connotations and associations with darkness, and coolness. The 'clock ticking' has been added to this category, increasing the negativity of this factor.

Factor 4 – Natural sounds: this factor/category contained natural sound variances that individuals could perceive in their spatial environment for mindfulness practice.

Factor 5 – Warm room ambiance: the room colour variance, lighting (both natural and artificial lighting) and temperature of the room have been included under this factor. The factor contains the variances that have been rated positively by participants. Warm room colour, warm room temperature, and direct/indirect natural/artificial lighting all contribute towards a warm room ambiance.

Factor 6 – Use of supportive tools: this factor contained the variances from the initial research framework, which are the tools to support the sitting/kneeling and postures of the mindfulness practitioners.

Factor 7 – Smells in/of the room: this factor contains both the natural and artificial smells one can perceive. For further consideration, other variances could be added under this category (i.e., incense oil, etc.).

Factor 8 – Meditation sounds: this factor contained the audio variances related to meditation. Both background Zen music was the typical music some people might use in their meditation practice, and the (meditation) instructions were in the form of audio. The variance 'meditation bell' was also in this category. Hence, it is appropriate to name it the meditation sounds.

Factor 9 Quietness: this factor contained only one variance – the absence of sound, which some may be referred to as 'silence'. The absence of sound is one physical form contributing towards 'silence', but silence contains a quality that is more than the absence of sound.

Table 6.24 The nine factors framework after re-order.

F.	Name	Elements	FC/PC	Mean	Factor Mean
1	Quietness	Absence of sound	FC	2.1753	2.175
2	Use of tools	Use of cushion	FC	2.9840	2.133
		Use of matt	FC	2.4059	
		Use of chair	FC	1.7029	
		Use of bench	FC	1.4383	
3	Natural sounds	Wild birds	PC	1.9947	1.744
		Sound of water	PC	1.8333	
		Sound of rain	PC	1.8075	
		Sound of wind	PC	1.3389	
4	Views in/of the room	View of greenery	PC	2.6424	1.518
		Open, unblocked view	PC	2.3049	
		Natural water feature	PC	1.6207	
		Sun/moon passage	PC	1.5488	
		Seasonal changing vegetation	PC	1.3988	
		Images of nature	PC	1.2975	
		Visibility of shade movements	PC	0.6812	
		Artificial water feature	FC	0.6528	
5	Warm room ambience	Direct natural lighting	PC	2.0829	1.468
		Indirect natural lighting	PC	1.6685	
		Harmonious room colour	FC	1.5263	
		Warm temperature	FC	1.2398	
		Warm room colour	FC	1.2024	
		Warm artificial lighting	FC	1.0889	
6	Smell in/of the room	Smell of other natural elements	PC	1.4643	1.131
		Burning incense	FC	1.1444	
		Smell of cut grass	FC	0.7853	
7	Meditation objects	Buddha statue	FC	1.7917	1.034
		A vase with flower	FC	1.0732	
		Mandala	FC	0.6809	
		Artistic objects	FC	0.5912	
8	Meditation sounds	Meditation bell	FC	2.0169	1.002
		Instruction	FC	0.8824	
		Background Zen music	FC	0.1067	
9	Cool room ambience	Cool room colour	FC	0.2822	-0.533
		Cool temperature	FC	-0.1579	
		Cool artificial lighting	FC	-0.2857	
		Strong contrasting room colour	FC	-1.1218	
		Clock ticking	FC	-1.3810	

The above category then went through another round of reordering by comparing the means of the factors. The revised research framework comprise of nine factors is as below (Table 6.34).

6.9 Discussion

To conclude, the 203 samples of the questionnaire have been collected and analysed using EFA by IBM SPSS Statistics and NVivo to comprehensively study the relationship between the spatial environment and mindfulness meditation from a different range (all age groups, different occupations, gender, faiths, practice hour, practice frequency etc.) of participants. Thus, the results provided different insights from many different individuals. The spatial variances have been categorised into nine main factors using EFA: (1) quietness, (2) use of supportive tools, (3) natural sounds, (4) views in/of the room, (5) warm room ambience, (6) smell in/of the room, (7) meditation objects, (8) meditation sounds, and (9) cool room ambience. In addition, other aspects should not be ignored, for example, the environment/location of the practice place (i.e., urban/suburban/rural) and other intangible qualities such as calming atmosphere, welcoming atmosphere, and sense of security which were associated with people's perceptions. The questionnaire also discovered many elements not included in the initial research framework. Many reported harmful elements, such as noises produced by people, traffic noises, and construction noises, which undermine quietness and other qualities. On the other hand, some participants reported the positive effect of being in a group meditation. These will all be further discussed in Chapter 8.

In short, this chapter analysed the questionnaire distributed to UK-wide mindfulness centres and individuals. The result showed that 'quietness' is the most important element for their mindfulness practice. However, by inspecting the average scores for individual elements, the 'absence of sound' directly linked with quietness did not achieve the top. Different groups (faiths, total practice hours and frequency) have reported similarities and differences for each element. The 'Buddha statue' was the top element for Buddhist groups, followed by the 'use of cushion' and 'absence of silence'. For non-Buddhist groups, the 'use of cushion' was the top, followed by 'view of greenery' and 'open, unblocked view', suggesting that they value the 'views' more than the sound. Regardless of the differences, participants share some commonalities in their preferences. For the preference of location/environment, the 'remote rural environment' gained a much more favourable rating than the other two (see Figure 6.21). A total of 75.3% of participants reported that they would deliberately set up a particular environment for practice – this showed that where the mindfulness meditation took place matters to the majority of practitioners, and this revised research framework could provide references for practitioners to change their environments accordingly.

7 – CASE STUDY: KAGYU SAMYE DZONG LONDON

7.1 Introduction

In a similar order, this chapter contains the following: 1) questionnaire result, 2) semi-structure interview and teachings at the centre, and 3) spatial analysis and other observations on site for Kagyu Same Dzong. The main shrine room where the mindfulness meditation took place was investigated using mixed methods. The chapter explored centre's environment based on the questionnaire and conducted qualitative interview and spatial analysis. It concludes with a summary analysis and reflection on other observations from the above data.

7.1.1 Background information



Figure.7.1 Street of Kagyu Samye Dzong London, UK (JSCM, 2021).

History: As mentioned in Table 5.3, KSDL is a branch of Kagyu Samye Ling Monastery in Scotland, established in 1967 under Dr Choje Akong Tulku Rinpoche and Choje Lama Yeshe Losal Rinpoche. It offers many meditation classes, including beginners' meditation and mindfulness courses, along with more specialised Buddhist teachings on a pure donation basis. The use of the shrine rooms for personal meditation practice and group meditation is free of charge. With regular group meditation, meditation retreats and prayers, the centres' activities are dedicated to peace, harmony and happiness in the world – and contributing to the well-being of the society (KSDL, 2021)

Building information: The former Bermondsey library was bought and adapted to become the permanent home for KSDL in June 2009, and the centre was officially opened in June 2010. The original Bermondsey central library was a three-storey building in terracotta and red brick with pale stone trimmings (Figure 7.1 and 7.2). This building makes Buddhist meditation and Buddhist teachings readily accessible to Londoners and beyond, especially meditation for beginners. KSDL also has a Tibetan Tea Room with a small reading library attached and comfortable seating to enjoy a moment of relaxation. It also has a shop offering a wide selection of Buddhist books and meditation books from all traditions and a variety of related items, such as incense, meditation cushions, statues and malas. There is also a back garden as both a buffer zone and a relaxation area.



Figure 7.2. Street of Kagyu Samye Dzong London, UK (Google Maps, 2022).

7.1.2 Drawings and Images

This section contains drawings and photographic images which later discussion will refer to. The architectural drawings are key to conduct spatial analysis of the indoor environment of the mindfulness meditation space.

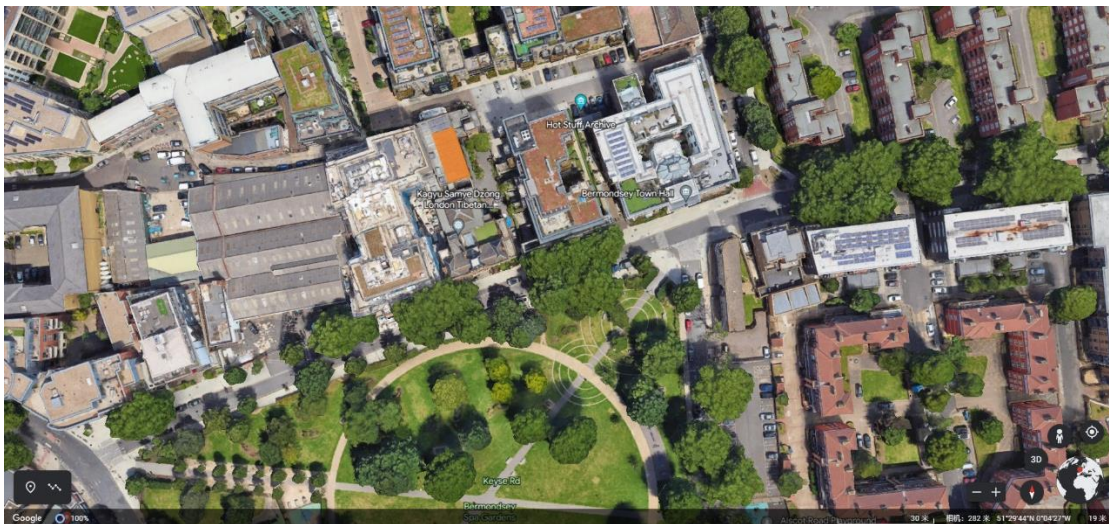


Figure 7.3. The Shrine room coloured in orange (Google Earth, 2022).



Figure 7.4 Site plan of Kagyu Samye Dzong London (Google Maps, 2021).



Figure 7.5 Elevation of Kagyu Samye Dzong London (Maber, 2020).

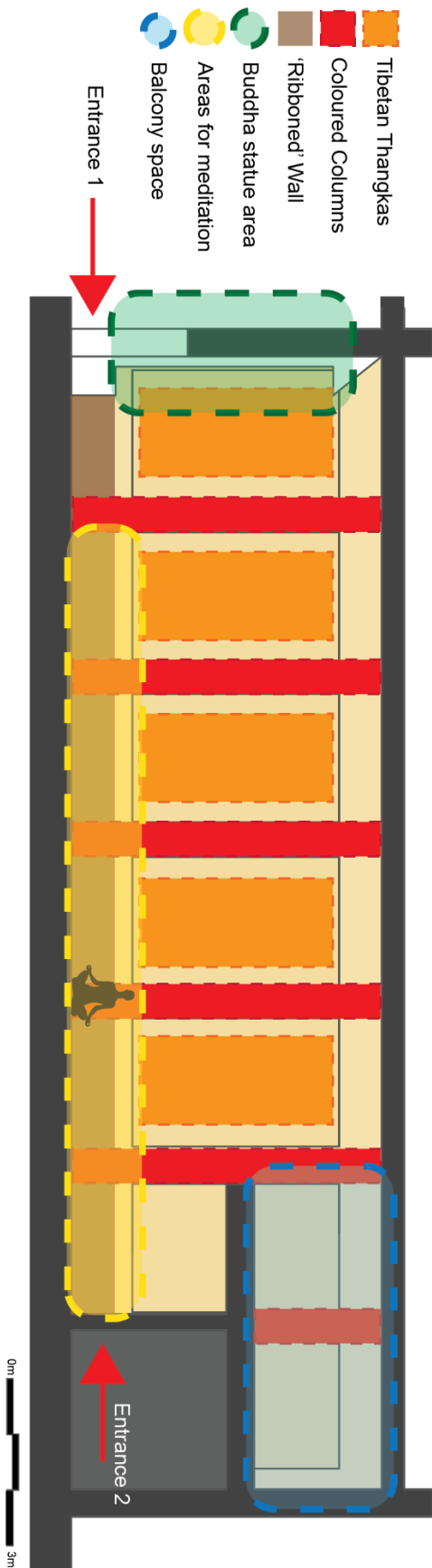


Figure 7.6 Section of Kagyu Samye Dzong London.



Figure 7.7 The main shrine room (interior view).



Figure 7.8 View of the balcony of the main shrine room.



Figure 7.9 Windows of the main shrine room (Author).



Figure 7.10 Thangkas at the side of the main shrine room (Author).



Figure 7.11 Ceiling of the main shrine room.



Figure 7.12 The Auspicious Knot pattern on the wall.



Figure 7.13 View from the back of the shrine room.



Figure 7.14 Photos of the garden space.

7.1.3 Summary of sessions at the centre

7.1.3.1 Visit 1 - October 2021

The author visited the centre twice in total. The first site visit took place in October 2021 after the lockdown had been eased in England. The author attended two-afternoon sessions on Wednesday, 6th October and Saturday, 9th October 2021. Due to COVID-19 regulations at the time, the centre only opens from 14:00 to 16:30 on Wednesday and Saturday afternoons. These may be subject to changes due to pandemic conditions. For the routine of practice, please see Table 7.1. Four sessions took place in total (two sessions per afternoon). People who attended the two days were different. For Wednesday, 23 people attended, whereas 27 attended the Saturday session.

Table 7.1 Meditation routines at Kagyu Samye Dzong London during the site visit 1.

	Wednesday 6th October 2021	Saturday 9th October 2021
14:00	Light offering	Light offering
14:30	Short recitation of prayers	Short recitation of prayers
14:35	40 minutes guided session without verbal instruction from Lama Zangmo with dedication of merits afterwards	40 minutes guided session with brief instruction from Lama Zangmo with dedication of merits afterwards
15:15	15 minutes break	15 minutes break
15:30	40 minutes unguided session	40 minutes unguided session

As attendants arrived at the gate, they were introduced to participate in the light offering in the garden space. After that, the attendants then entered the main shrine room through the back door. Before the meditation, there was a short recitation of prayers to the lineage masters. The resident teacher Lama Zangmo then marked the start of the meditation session by ringing the gong. On Wednesday, the first 40-minute meditation session was guided by her without verbal instruction. The second session was on our own, without Lama Zangmo's

presence. On Saturday, there was a slight change - the first 40-minute session was given a brief instruction on meditation as more new beginners (some were the first time in the centre) attended. Both first sessions ended with the dedication of merits to all sentient beings. The second session on Saturday was the same, in which attendants practised without guidance for this session. During the break, whoever was at the centre had the chance to speak to each other and the resident teacher if they had any questions or doubts about the practice or issues in life.

Due to the COVID-19 pandemic, access restrictions were placed for health and safety concerns. As a result, only the garden space, the main shrine room, and the toilet were open to the public. In addition, the main entrance was closed, so people had to enter the centre through the back garden gate facing towards the neighbouring residential area. Access to other areas within the centre was not allowed.

7.1.3.2 Visit 2 - November 2022

The second site visit took place in November 2022, where there was teaching for beginners alongside guided mindfulness meditation sessions. This time, the COVID restrictions have been eased, and more people were welcome to the centre. Many beginners attended the session in an attempt to learn about mindfulness meditation. The comprehensive teaching provided evidence from Buddhist doctrines and Buddhist masters' pith instructions. It instructed the beginners about all the aspects that they should know, for example, the purpose of mindfulness meditation, the meditation postures, and different ways to

practise mindfulness meditation (for example, focusing on the breath, focusing on bodily sensations, focusing on other objects), the environment for meditation, the timing (time of the day and the length of each session), obstacles during the meditation practice and their antidotes. With the teaching, practitioners could then go away and practise on their own. This teaching provided a good reference for this research as this centre followed the authentic lineage in Buddhism yet adapted to the Western context to serve the communities nearby and beyond.

7.1.4 Summary of case study

Below is a table (Table 7.2) of the information collected based on the site visit to KSDL. The structure also followed the order of themes (sound, visual, sensual, and others) based on the initial research framework. The case study will discuss in the following order:

- 1) Spatial analysis
- 2) Questionnaire
- 3) Interview and teaching

Table 7.2 Overview of Kagyu Samye Dzongs London using research framework.

Category	Elements	Status
General	Location	London (urban residential area)
	Open to all religious faiths or none	Yes
	Has mindfulness as a practice	Yes
	Face to face / online practice	Both
	Garden be part of the property	Yes
	Green space nearby	Yes
Sound	Sound level	Average to noisy (subjective)
	Presence of any water element	No
	Presence of animals	Yes
	Uses of meditation bell	Yes
	Uses of zen music	No
	Mindfulness practice instruction	Yes

Visual	View of greenery	At the garden and outside the centre. Within the shrine room, there is a peek of the trees in the garden
	Open, unblocked view	Yes within the shrine, no blockage of eyesight. No open view towards the outside.
	Direct natural lighting	Yes
	Indirect natural lighting	Yes
	Warm artificial lighting	Yes
	Cool artificial lighting	Outside the shrine room, within the building
	Buddha statue	Yes
	A vase with flower	Yes
	Mandala	Yes, within the Thangkas
	Artistic objects	Thangkas, but also religious
	Images of nature	No
	Warm room colour	Yes
	Cool room colour	Yes (for other rooms within the centre)
	Harmonious room colour	Yes
	Strong contrasting room colour	Yes
	Seasonal changing vegetation	Yes, in the garden, also flowers in the shrine room
	Visibility of shade movements	Yes
Sun/moon passage	Yes	
Sensual	Temperature	Appropriate
	Burning incense	Yes
	Smell of cut grass	Not if within the shrine room
	Smell of other natural elements	Season-dependent
	Use of cushion, bench, chair, matt	Yes, all available
Others	Posture for meditation	Depending on individual
	Welcoming atmosphere	Yes
	Calming atmosphere	Yes
	Environment	Busy urban environment
	Buddhist rituals	Yes, short ones before and after the practice
	Practice instruction	Yes
	Community	Yes
	Sense of community	Strong
	Extras	Light offering

The study will focus on the main shrine room (Figure 7.7) as it is where most open and public events were taking place. It is the largest within the KDSL to host events and activities. As a result, it has accommodated a huge amount of practitioners in the past – making it an appropriate space to study.

7.2 Questionnaire

7.2.1 Overview

The purpose of this questionnaire is to provide comparisons between home (Chapter 6) and mindfulness centre environment. An online questionnaire was distributed during lockdown in the UK in 2020. Due to the difficult access and communication during the lockdown time, only 12 responses were collected in total. As this questionnaire was conducted simultaneously with the questionnaire for UK-wide mindfulness practitioners, it would be appropriate to discuss it using the initial research framework. Due to small sample size, only mean analysis can be conducted. Please see the following tables and figures for the detailed information of the mean values for elements (Table 7.3 and 7.4).

Table 7.3 Basic information of questionnaire participants (a. faiths, b. frequency of practice, c. total practice hour, and d. posture)

a. Faiths

		Frequency	Percent	Valid Percent
Valid	Buddhist	7	58.3	58.3
	Christian	2	16.7	16.7
	No religion	2	16.7	16.7
	Other	1	8.3	8.3
	Total	12	100.0	100.0

b. Frequency of Practice

		Frequency	Percent	Valid Percent
Valid	Everyday	4	33.3	33.3
	5-6 times	3	25.0	25.0
	3-4 times	2	16.7	16.7
	1-2 times	3	25.0	25.0
	Total	12	100.0	100.0

c. Total Practice Hour

		Frequency	Percent	Valid Percent
Valid	Above 275 hours	10	83.3	83.3
	Below 50 hours	2	16.7	16.7
	Total	12	100.0	100.0

d. Posture

	Frequency	Percent	Valid Percent
Valid Sitting	8	66.7	66.7
Other	3	25.0	25.0
Kneeling	1	8.3	8.3
Total	12	100.0	100.0

Table 7.4 Summary of mean values for all elements.

Mean for All Elements (Descending)

	Mean	N	Std. Deviation
View of greenery	3.6000	10	1.34990
Open, unblocked view	3.2222	9	1.64148
Use of cushion	3.0833	12	1.67649
Indirect natural lighting	2.6000	10	1.64655
Meditation bell	2.5000	12	1.83402
Wild birds	2.4545	11	1.86353
Direct natural lighting	2.3333	12	1.87487
Use of chair	2.3000	10	2.16282
Use of matt	2.2500	12	2.37888
Seasonal changing vegetation	2.1250	8	1.45774
Sound of rain	2.0909	11	1.22103
Absence of sound	2.0909	11	1.92117
Sun/moon passage	2.0000	10	1.33333
Sound of wind	2.0000	11	1.61245
Natural water feature	1.8750	8	2.10017
Image of nature	1.8000	10	1.47573
Warm room colour	1.8000	10	1.47573
Visibility of shade movement	1.6000	10	1.50555
Buddha statue	1.5455	11	1.86353
Instruction	1.5000	12	2.61116
Harmonious room colour	1.4545	11	1.29334
Artificial water feature	1.3333	9	1.41421
A vase with flower	1.3000	10	1.41814
Sound of water	1.2857	7	1.97605
Warm artificial lighting	1.2000	10	1.31656
Artistic objects	1.1818	11	1.32802
Use of bench	1.1250	8	1.45774
Warm temperature	1.0000	12	1.59545
Smell of other natural elements	.8889	9	.78174
Cool temperature	.6364	11	1.91169

Cool room colour	.5556	9	1.58990
Strong contrasting room colour	.5556	9	2.55495
Burning incense	.4444	9	2.06828
Mandala	.1667	6	.40825
Smell of cut grass	-0.3750	8	1.76777
Background Zen music	-0.4286	7	2.69921
Cool artificial lighting	-0.7778	9	1.64148
Clock ticking	-1.8889	9	2.14735

From the limited responses to the survey (Table 7.4), the top three elements with positive influences are ‘view of greenery’ (3.600), ‘open, unblocked view’ (3.222), and ‘use of cushion’ (3.083). These three are the only three elements with an average score higher than 3. The elements with negative scores were ‘smell of cut grass’ (-0.375), ‘background Zen music’ (-0.429), ‘cool artificial lighting’ (-0.778), and ‘clock ticking’ (-1.889).

7.2.1.1 Sound elements

Table 7.5 Summary of mean values for sound elements.

Sound Elements			
	Mean	N	Std. Deviation
Meditation bell	2.5000	12	1.83402
Wild birds	2.4545	11	1.86353
Sound of rain	2.0909	11	1.22103
Absence of sound	2.0909	11	1.92117
Sound of wind	2.0000	11	1.61245
Instruction	1.5000	12	2.61116
Sound of water	1.2857	7	1.97605
Background Zen music	-0.4286	7	2.69921
Clock ticking	-1.8889	9	2.14735

Out of all the sound elements in the questionnaire (Table 7.6), the highest scoring element is the ‘meditation bell’ (2.500), and the lowest score was the

'clock ticking', with only one practitioner choosing positively 1.000. In the free answering section, people have provided the following options and scores: traffic noises with four mentions (aver. -1.50), people with three mentions (aver. -3.00), machinery with two mentions (aver. -4.00), building site (-3.00), dogs barking (-2.00), chanting (+3.00). Interestingly, one person mentioned the inner background city sound (traffic, birds) as +2, opposite to other practitioners who responded to the same question. From the result, quietness 'absence of sound' did not achieve the highest score, which responded to the situation of the KSDL.

Table 7.6 Sound elements comparison by faiths.

Sound Elements - Faiths			
Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Absence of sound	2.2857	1.7500	2.0909
Sound of water	1.5000	1.0000	1.2857
Wild birds	2.1667	2.8000	2.4545
Sound of wind	2.0000	2.0000	2.0000
Sound of rain	2.1667	2.0000	2.0909
Meditation bell	2.4286	2.6000	2.5000
Background Zen music	-3.0000	1.5000	-4.286
Clock ticking	-5.0000	-3.0000	-1.8889
Instruction	.4286	3.0000	1.5000

The comparison between Buddhists and non-Buddhists displayed a distinctive results. Buddhist groups valued the 'absence of sound' 30% higher than the non-Buddhist groups. Non-Buddhist group valued the sound of 'instruction' the most (3.000). The differences continued to the most negatively influencing sound element. The Buddhist group valued 'background Zen music' as the least favourite element (-3.000), whereas the non-Buddhist group rated it positively. The least favourite sound element for non-Buddhist groups was 'clock ticking'.

7.2.1.2 Visual elements

For visual elements (Table 7.7), the top three visual elements with positive scores were: view of greenery (3.600), open, unblocked view (3.222), and indirect natural lighting (2.600). Noticed that two out of the three top positive elements were related to nature or natural elements. Other elements with a score over 2 were: direct natural lighting (2.333), seasonal changing vegetation (2.125), and sun/moon passage (2.000). Five positive elements with a score above 2 were related to nature or natural elements. The only element with negative scores were: cool artificial light (-0.778).

Interestingly, one participant entered 'natural wood +2' in the free answering section, again related to nature. And one participant entered 'the presence of resident teacher +5'. This coincides with the author's self-observation. Of course, the presence of the resident teacher itself is beyond the visual effect, but this answer notifies the significance of this element.

Table 7.7 Summary of mean values for visual elements.

Visual Elements			
	Mean	N	Std. Deviation
View of greenery	3.6000	10	1.34990
Open, unblocked view	3.2222	9	1.64148
Indirect natural lighting	2.6000	10	1.64655
Direct natural lighting	2.3333	12	1.87487
Seasonal changing vegetation	2.1250	8	1.45774
Sun/moon passage	2.0000	10	1.33333
Natural water feature	1.8750	8	2.10017
Image of nature	1.8000	10	1.47573
Warm room colour	1.8000	10	1.47573
Visibility of shade movement	1.6000	10	1.50555
Buddha statue	1.5455	11	1.86353
Harmonious room colour	1.4545	11	1.29334

Artificial water feature	1.3333	9	1.41421
A vase with flower	1.3000	10	1.41814
Warm artificial lighting	1.2000	10	1.31656
Artistic objects	1.1818	11	1.32802
Cool room colour	.5556	9	1.58990
Strong contrasting room colour	.5556	9	2.55495
Mandala	.1667	6	.40825
Cool artificial lighting	-.7778	9	1.64148

Table 7.8 Visual elements comparison by faiths.

Visual Elements - Faiths

Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
View of greenery	3.2000	4.0000	3.6000
Open, unblocked view	3.6000	2.7500	3.2222
Direct natural lighting	1.7143	3.2000	2.3333
Indirect natural lighting	2.1667	3.2500	2.6000
Warm artificial lighting	1.0000	1.5000	1.2000
Cool artificial lighting	-.6000	-1.0000	-.7778
Buddha statue	1.5714	1.5000	1.5455
A vase with flower	.8333	2.0000	1.3000
Mandala	.2000	.0000	.1667
Artistic objects	.8333	1.6000	1.1818
Image of nature	1.2000	2.4000	1.8000
Natural water feature	2.0000	1.7500	1.8750
Artificial water feature	1.0000	1.6000	1.3333
Warm room colour	1.6667	2.0000	1.8000
Cool room colour	.2000	1.0000	.5556
Harmonious room colour	1.5000	1.4000	1.4545
Strong contrasting room colour	.2000	1.0000	.5556
Seasonal changing vegetation	1.7500	2.5000	2.1250
Visibility of shade movement	1.3333	2.0000	1.6000
Sun/moon passage	1.5000	2.7500	2.0000

Buddhists and non-Buddhists have different opinions for the favourite visual elements to facilitate the mindfulness practice. Buddhist considered 'open, unblocked view' to be the most positively influencing visual element. Non-Buddhists in general value visual elements higher than Buddhist group with

many elements scoring above 2. They value ‘view of greenery’ the most (4.000) with a really high average score. Both groups agreed upon the least favourable visual element – ‘cool artificial lighting’ (Table 7.8).

7.2.1.3 Sensual elements

For sensual elements (Table 7.9), the four elements relating to ‘use of tools’ occupied the top in the ranking. The top positively influencing element is the ‘use of cushion’ with a high score of 3.083. For the negative element, the twelve participants have rated it with an average score of -0.375. The influence was not significant considering it is so close to 0 (neutral). In short, people found the use of supportive tools much more beneficial.

Table 7.9 Summary of mean values for sensual elements.

Sensual Elements			
	Mean	N	Std. Deviation
Use of cushion	3.0833	12	1.67649
Use of chair	2.3000	10	2.16282
Use of matt	2.2500	12	2.37888
Use of bench	1.1250	8	1.45774
Warm temperature	1.0000	12	1.59545
Smell of other natural elements	.8889	9	.78174
Cool temperature	.6364	11	1.91169
Burning incense	.4444	9	2.06828
Smell of cut grass	-0.3750	8	1.76777

Table 7.10 Sensual elements comparison by faiths.

Sensual Elements - Faiths

Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Cool temperature	1.7143	-1.2500	.6364
Warm temperature	.4286	1.8000	1.0000
Burning incense	.1667	1.0000	.4444
Smell of cut grass	-.5000	-.2500	-.3750
Smell of other natural elements	.7500	1.0000	.8889
Use of cushion	3.1429	3.0000	3.0833
Use of bench	.6000	2.0000	1.1250
Use of chair	1.8000	2.8000	2.3000
Use of matt	2.5714	1.8000	2.2500

This time, both Buddhist and non-Buddhist agreed upon the most favourable sensual element to facilitate the practice – ‘use of cushion’ (average score over 3) (Table 7.10). Interestingly, the two groups had splits for other elements. Buddhist group tend to favour cool temperature over warm temperature, where it is the other way round for non-Buddhist groups. Both groups did not favour smell of cut grass – with an average score on the negative side of the scale.

7.2.1.4 Environmental aspects

For the preferred environment (Table 7.11), people have rated the following from positive to negative: rural remote environment (+3.100), suburban environment (+1.200), busy urban environment (-0.700). People’s innate tendency toward nature has been reflected in their choices. For ‘other’ elements, one participant wrote the blessing of the place of great masters and practitioners who have been here with a +5.00 score.

Table 7.11 Summary of mean values for preferred environment.

Environmental Aspect			
	Mean	N	Std. Deviation
Remote rural environment	3.1000	10	2.13177
Suburban environment	1.2000	10	2.04396
Busy urban environment	-.7000	10	2.66875

Table 7.12 Preferred environment comparison by faiths.

Preferred Environment			
Mean	Buddhist N = 99	Non-Buddhist N = 104	Total N = 203
Busy urban environment	-.1667	-1.5000	-.7000
Remote rural environment	3.6667	2.2500	3.1000
Suburban environment	1.8000	.6000	1.2000

Buddhists favoured remote rural environment much more than non-Buddhists, with over 1.416 points higher in the average score. Despite their preference for the remote rural environment, they did not express as much dislike for the busy urban environment, the influence score was insignificant (-0.167). In contrast, non-Buddhists (-1.500) rated the busy urban environment much more than Buddhists. The Buddhists also rated suburban environment much higher than non-Buddhists (1.800 vs 0.600). Nonetheless, they both preferred remote rural environments. In short, participants from KSDL value nature and natural environment highly, evident in their top-rating elements.

7.2.2 Free answering questions

7.2.2.1 Atmosphere of the main shrine room

When asking the participant to describe the atmosphere of the shrine room, the most frequently mentioned word is calm (5); 41.7% of participants considered this place to have a calming atmosphere. The second most frequent word is peaceful (4), with 33.3% of participants using it. Quiet (3) is the third most

frequent word to describe the atmosphere (25.0%). Other words that have been used include: warm (2), inviting, energising, nourishing, reassuring, inspiring, simple, natural, open, safe, familiar, comfortable, welcoming, serene, inclusive, professional, powerful, blissful, and sense of togetherness.

7.2.2.2 Difference between home and centre

Apart from the choice questions, free-answering questions were proposed to explore the differences between the home and the centre. For the question '*Is practising at home different from practising mindfulness at the centre to you? If so, what is the main difference?*', nine practitioners (75.0%) reported that they practise better at the centre than at home. They found the centre to be supportive and beneficial for their environment because 'at home it is easier to be distracted' and 'harder to go deep', 'other people meditating around help to still the mind' and 'benefit from spaces to meditate outside' which they cannot do in a busy living environment. Some participants felt it is better at the centre because it is more formal and purposeful. The other participant found the shrine room to be 'inspiring, grounding, nourishing, and respectful'. One practitioner (8.3%) found that both locations were okay. One practitioner (8.3%) reported having more control over the home and having more natural light at home than at the centre. One practitioner (8.3%) stated there was a difference but did not elaborate.

The following messages have been extracted from their answer:

- 1) sense of community at the local centre (being physically there)
- 2) more easily distracted at home (more issues to keep the mind occupied)

- 3) connectedness with practising with other people
- 4) sense of safety
- 5) enough space to walk for reflection
- 6) structured and guided meditation
- 7) The blessing of the place from great masters and practitioners who have been there.

To summarise, many participants considered the centre to be supportive of their mindfulness practice as the centre has the environment and elements facilitating the meditation (i.e., the blessing, the guidance, the lama, other practitioners, landscape and others). On the other hand, they also considered the home environment to have more distractions which ‘take longer to settle’ and ‘go deep’. Some exceptions found both environments okay and home over the centre, but these were the minorities.

7.2.2.3 Features to take away

For the question ‘*Would you take away any feature in the centre to replicate when you practice somewhere else? If so, what would it/they be?*’ people have mentioned the following features/items (Table 7.10). Again, nine participants (75.0%) chose some features to replicate when practising elsewhere. These were the elements which participants found supportive and beneficial for their mindfulness meditation. The Buddha statue and nature (greenery ground & stream) had two mentions, followed by candles.

Table 7.13 The responses for the question ‘any features’ to be taken away from the centre for mindfulness meditation.

Participant	Attitude	Item
1	Yes	Meditation bell
2	Yes	Candle, Buddha statue
3	n/a	n/a
4	No	n/a
5	Yes	Dedicated space, Buddha statue/image, offering bowls, candle, incense
6	Yes	Greenery around
7	Yes	Stream/river
8	n/a	n/a
9	Yes	Quietness, serene
10	Yes	Instruction
11	Yes	Structure
12	Yes	Cushion

7.2.2.4 Impact of COVID-19 lockdown

For the question investigating the impact of COVID-19 lockdown, ‘*Given the impact of lockdown (meditation centre closures and limiting social gatherings, having to stay at home), what impacts have the pandemic (COVID-19) brought to your practice?*’, participants held mixed views (Table 7.11) but mainly neutral (58.3%) as they could continue with their practices either online or by themselves. Three participants found it negative (25.0%) due to the disconnection from the physical Sangha and the centre. Two participants found it positive (16.7%) – one practitioner found this to be an opportunity as being far away from the centre, the lockdown provided the participant with the opportunity to attend the online retreat sessions, which were not possible before. For most people, the lockdown did not stop their practices.

Table 7.14 The response for the question investigating the impact of COVID-19 lockdown in the UK.

Participant	Attitude	Response
1	Neutral	The online community was equally supportive
2	Positive	Able to attend online retreat which was only physical before
3	Neutral	n/a
4	Neutral	Use online facilities more. Daily practice continued.
5	Neutral	Continued with the daily practice.
6	Neutral	Except less in-person group practice
7	Negative	Disconnected from the Sangha and the centre.
8	Negative	Not be able to attend the physical retreats (even online was great).
9	Negative	Frequency of practice decreased
10	Neutral	Not affected because not going to the centre much anyway.
11	Neutral	Instruction
12	Positive	More time to practise at home.

7.3 Semi-Structured Interview

Three SSI were conducted, one with the resident teacher of KSDL, and the other two were proficient practitioners associated with the centre. Four key themes were identified: quietness, views in/of the room and room ambience, nature, and meditation objects and sounds. For the questions asked in the semi-structured interview, please see Appendix F for more information. Furthermore, the teachings delivered by the resident teacher to beginners on mindfulness meditation during the site visit were also recorded. Considering the focus of this section, these teachings will be retained in Appendix H for future reference in the discussion.

7.3.1 Quietness

The resident teacher said one may not always get the ideal environment with complete silence and no noise. Especially with limited conditions, practitioners

will need to learn to cope with the environment. Nonetheless, in the instruction to the practitioners discussed above, a reasonably quiet environment is the first quality mentioned by Lama Zangmo to support beginners in their mindfulness practice. Other sound qualities were not specifically mentioned in the teaching. Hence, from this section, quietness has the highest importance down the ranking. The other interviewees also found quietness to be beneficial for their practices.

7.3.2 Views in/of the room and room ambience

With the question during the meditation in mind (whether such rich number of visual elements would distract the mindfulness practice or not), the author proposed the question in the interview asking the lama about whether such room richness would distract the practitioners. She gave examples of different styles of Buddhist places. For example, in Southeast tropical countries such as Thailand, and Sri Lanka, the internal spaces of temples and monasteries for practices tend to be simple with plain walls, which provide a cooling effect for the practitioners. Whereas in cold plateaus, the interiors have been decorated in strong and warm colours to provide warm feelings for the people. In the end, it would be down to individual practitioners' preferences. Some may prefer the minimalist style, while others prefer the colour style. As long as the environment supports their practice, whichever style would not matter much. KSDL has provided one style intended to facilitate practitioners in their practice.

7.3.3 Importance of nature

Lama also mentioned the importance of nature, which other interviewees resonated with. In the teaching for beginners, there was no particular mention of the visual elements of the outer environment. Instead, the words matched the garden that practitioners coming to the centre would perceive. It was open and spacious yet kept its privacy due to the walls surrounding it. Different types of vegetation were carefully chosen and taken care of. They provided seasonal changes as well as a more stable backdrop of evergreens. Such effort matched the results from the questionnaire and environmental psychology – people value nature and natural environments very much. This also responded well to the questionnaire results.

7.3.4 Meditation objects and sounds

Both first sessions (on Wednesday and Saturday) began with a short chanting praying to the three jewels (Buddha, Dharma and Sangha) and lineage masters led by the resident teacher - marking the start of the practice, which prepares one's body, speech, and mind for the upcoming formal practice. There was a more profound message behind the prayer, which brings to another concept of 'blessing'. Praying was already a big subject. One of the necessities for the prayer was for the Three Jewels to bestow blessings on the practitioner (Mipham, 2015), which would facilitate their practice in an intangible way as it could be the most efficient approach to establish a connection with Dharma and accumulate the merit necessary for achieving realisation. Especially in the Tibetan Buddhist tradition, praying was crucial for any practice. The atmosphere was powerful, as well as calming.

7.3.5 Three keywords

The resident teacher and proficient practitioners have emphasised the importance of tangible and intangible elements and qualities. In the interview, Lama Zangmo provided three keywords that she thought of the atmosphere of the main shrine room: inspiring, colourful, and moving. She explained the choice of words:

- 1) **Inspiring:** the room was full of representations of Three Jewels which were the source of inspiration.
- 2) **Colourful:** as described above, the main shrine room was decorated in a rich Tibetan style.
- 3) **Moving:** a place with 'real genuine spiritual connection'.

From the brief explanations, the atmosphere's composition consists of both tangible and intangible aspects. For the room to be inspiring and moving, the main shrine room was decorated with a visible representation of the Three Jewels. Through the tangible form, the practitioner was able to be inspired and form a spiritual connection with the Three Jewels – from which the practitioners were able to be moving. The colourful atmosphere referred to the tangible visual elements mainly.

In short, the results showed that the atmosphere was vital in supporting mindfulness meditation. Out of all the atmospheres described, calm, peaceful and quiet were the top qualities (with most people selected) for the space to be conducive to mindfulness practice.

7.4 Spatial Analysis

7.4.1 Overview

The spatial analysis will adopt the revised research framework to study in-depth about how mindfulness centre can facilitate the practices. Please see below for the overview of the main shrine room (Table 7.15).

Table 7.15 The main shrine room vs revised research framework. (At the time when the author was visiting the centre).

F.	Name	Elements	Status
1	Quietness	Absence of sound	Varies
2	Use of tools	Use of cushion	Yes
		Use of matt	Yes
		Use of chair	Yes
		Use of bench	Yes
3	Natural sounds	Wild birds	Yes
		Sound of water	No
		Sound of rain	Yes
		Sound of wind	Yes
4	Views in/of the room	View of greenery	Yes
		Open, unblocked view	Yes
		Natural water feature	No
		Sun/moon passage	Yes
		Seasonal changing vegetation	Yes
		Images of nature	No
		Visibility of shade movements	Yes
		Artificial water feature	No
5	Warm room ambience	Direct natural lighting	Yes
		Indirect natural lighting	Yes
		Harmonious room colour	Yes
		Warm temperature	Yes
		Warm room colour	Yes
		Warm artificial lighting	Yes
6	Smell in/of the room	Smell of other natural elements	No
		Burning incense	Yes
		Smell of cut grass	No
7	Meditation objects	Buddha statue	Yes
		A vase with flower	Yes
		Mandala	Yes
		Artistic objects	Yes

8	Meditation sounds	Meditation bell	Yes (Gong)
		Instruction	Yes
		Background Zen music	No
9	Cool room ambience	Cool room colour	No
		Cool temperature	No
		Cool artificial lighting	No
		Strong contrasting room colour	Yes
		Clock ticking	No

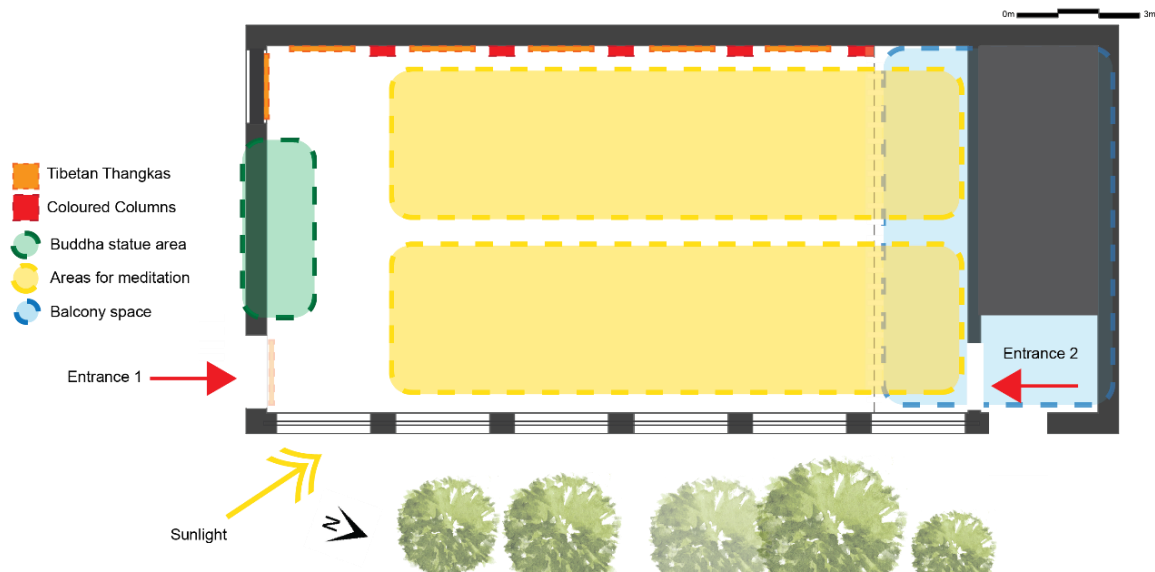


Figure 7.15 Diagrammatic plan of the main shrine room.

7.4.2 Analysis using revised research framework

7.4.2.1 Quietness

The sound elements present in the main shrine room are shown (Table 7.4). As described above, the centre is located in Bermondsey near central London, with bus stops (nearest within 2 minutes of walking distance) and Bermondsey underground station (around 11 minutes of walking distance). There was also a main road in front of the centre with traffic (including heavy-loaded lorries) passing by. During the site visit in October 2021, construction was next to the centre. Some lanes allowed access to cars at the back of the centre. The

centre's location determined this would not be completely quiet. Nonetheless, the author revisited the centre in November 2022 and attended the mindfulness meditation introduction session for beginners. The construction work did not take place during this time and was quieter than the first visit.

On a positive note, the main shrine room was not directly adjacent to the traffic (Figure 7.4). Garden space was next to it, being the buffer zone before one entered the street. The main building was at the front facing towards the main Spa Road. However, due to the location of the main shrine room being 'tucked' away reduces certain levels of noise in the shrine room (Figure 7.16). Remember that the garden had trees and vegetation outside, which could act as a sound barrier for the shrine room. The material for the exterior of the shrine room was brick, which has been discussed as a material that blocks the sound from passing through. There were three doors for the downstairs shrine room (one at the front, one at the back and one for the balcony) which would be closed during the formal mindfulness practice session. However, the glass window panels were kept open during the afternoon sessions to ensure good air ventilation, partially because of COVID-19. For this reason, the sounds from the surrounding neighbourhoods, such as the loud construction noises, dogs barking, and kids shouting, could be received inside the shrine room.



Figure 7.16. The location of the main shrine room is tucked away (Google Earth, 2022).

Within the shrine room, the gong was only used to mark each session's beginning and end, and it was not intended to distract the practitioners. There were also brief instructions and prayer recitation before the meditation session, but they did not interfere with the actual meditation. During the meditation sessions, there were sounds from people's movements. Apart from these, there was no other significant source of sound within the shrine room. In short, the main shrine room's sound level is lower than outside spaces. The primary source of the noise came from the exterior environment outside the centre.

For the visits on site, it was observed that when people first entered the garden space, they began to act in a quieter way – such as lowering the volume of

speaking compared to talking outside in the streets (on both days). When people further entered the main shrine room, they simultaneously stopped talking and became very aware of sounds and actions that they made without any reminder or physical sign. They tried their best not to produce loud sounds and help maintain the silence while they were in this room through a mutual unspoken manner. Nonetheless, as mentioned, the Saturday group had more proportion of beginners than the Wednesday group. As a result, more sounds produced by people's movements were observed on Saturday. Similar observations were made for the second visit.

7.4.2.2 Use of supportive tools

All the supportive tools were available in the centre (Figure 7.7). People were provided with the choices to find the most comfortable posture to practice mindfulness meditation.

7.4.2.3 Natural sounds

Due to its urban environment, not as many natural elements can be spotted inside the shrine room. There were occasions of birds chipping and dogs barking. There may be the sound of the rain and wind in these weather conditions. In short, this place has a moderate level of natural sounds.

7.4.2.4 Views in/of the room

From the photo (Figure 7.9), it can be observed that the windows have the view of greenery towards the garden outside but blurred. If the window was closed, there would be no direct visual connection with natural elements outside. Due

to the spaciousness, the practitioners will have an open, unblocked view within the main shrine room (Figure 7.7) which Buddhist group rated highly. Sun/moon passage, visibility of shade movements and seasonal changing vegetation were available for practitioners to observe and contemplate upon. There was no water feature in the shrine room. Within the room, there was a rich amount of visual elements which will be discussed in the next sections.

7.4.2.5 Warm room ambience

The main shrine room is in the large hall added to the building (Figure 7.7) with Art Deco sunbeam motifs. The space is around 90-100 m² for the ground level, and it can accommodate more than 200 people at the same for Buddhist activities. The room is double height with a balcony seated space at the back of the room (Figure 7.8). Overall, the room was decorated in the traditional Tibetan style, similar to the monasteries in Tibetan areas. The walls were painted yellow, with red-burgundy-ish colour (warm colours). These were the two colours that one would see in Tibetan monks' robes.

Along the left-hand side walls (facing towards the front of the shrine room), there was a series of tall glass window panels (Figure 7.9) allowing direct and indirect natural lighting to come through into the main the shrine room. During the daytime, there was plenty of daylight within the shrine room. In the afternoon, the reflection of the sunlight from the neighbourhood windows would enter the room. Both direct and indirect natural lighting are present. With the level of lighting, shade movements and sun passage were available. When it comes to evening time, there was the warm artificial lighting from the main chandeliers

(Figure 7.7), the lamps on the side columns, and the lights coming from candles at the front of the shrine room. If the practitioners looked out the window, they could see the trees and vegetation outside the shrine room. The temperature was also appropriate, not too hot or cold. It is comfortable to conclude by comparing with the revised research framework from Chapter 6 that the centre has the warm room ambience facilitating the practice of mindfulness.

7.4.2.6 Smell in/of the room

There was no particular smell inside the main shrine room except the incense burnt beforehand in the garden space. The ventilation was also good in the main shrine room. Windows were open to allow fresh air to come in and also for COVID safety measurements.

7.4.2.7 Meditation objects

There were many meditation objects within the main shrine room. Large Thangkas (traditional Tibetan-style Buddhist paintings) were hung along the walls (Figure 7.10). There was a golden Buddha statue nearly 3m in height in the traditional style at the front of the shrine room with two smaller ones at its sides (Figure 7.7) in the deliberately intruded space. The cabinets were decorated with the Eight Auspicious Signs, and the altar space was also crafted in the traditional monastery style. The ceiling was also rich in detail (Figure 7.11). The symbols of auspiciousness in Buddhism were visible around the room, such as the Auspicious Knot painting on the wall and on the 'ribbon' surrounding the room (Figure 7.12, 7.13). The vase of flower was also available as the offering to the Three Jewels at the front of the room. To summarise, the shrine room is

very ornamental and rich in visual elements for whichever direction one is looking – wherever you look, the side walls, the ceilings, the front of the room, and there will be elements related to the Three Jewels.

7.4.2.8 Meditation sounds

As mentioned, there was a short instruction for the meditation session on Saturday because the proportion of new people was high. The session again started with the sound of the gong and finished with the gong, and the lama would lead the dedication of merits before anyone left the cushion. For the second visit to the centre, many were regular visitors from surrounding neighbourhoods, and some were first timers who had just heard about the event and decided to come. Regardless of who they were, the resident teacher still provided instructions about meditation postures. No music was played.

7.4.2.9 Cool room ambience

One interesting observation of the space is that this place was rich in strong and contrasting colours, including the use of cool and cold colours. The beams were coloured green and painted red on the sides, and the ceiling panels were painted with the pattern of dragons, representing the Dharma protector in Buddhism. The boundary of the ceiling was painted blue. Large crystal chandeliers left from the original building hanging on the ceiling provide extra reflection and brightness to the room from the photo (Figure 7.7). Coming down to the ground level, the floor was in timber laid perpendicular to the side walls. The matt was in the blue that was visible on the walls. The colour of the matt, cushions, and reading tables all echoed with the colours within the room. The

colours were bright and strong, which created a huge contrast that was evoking, yet the images and atmosphere they created were surprisingly harmonious. Despite the cool/cold colours used in the room, the main tone of the room was occupied by warm colour. The lighting was also warm in colours. Thus, this place did not have a cool room ambience even with strong contrasting and cool colours that has been rated negatively by the participants UK-wide.

7.5 Discussion

The efforts to facilitate the practices including mindfulness meditation and the well-being of people have been displayed through the spatial design and programming of the centre. This centre has many advantages which provided values for the study. KSDL situates in an urban location that has high accessibility for people – allowing Buddhist meditation and teachings to be more accessible to Londoners and beyond. This is also a centre at their doorstep for residents nearby, especially for beginners; the teachings, instructions, and specially adapted space were within their reach. Due to its location, the centre receives sounds from different sources everyday (including traffic noises). This provides a good reference for those living in urban areas.

Despite its central location, the KSDL was adjacent to the Bermondsey Spa Garden, which has a wide expanse of green areas (with natural elements). Moreover, the residential neighbourhood together softens and relaxes the hardness and busyness of inner-city life. The garden space within KSDL also serves as the threshold area for the centre that softens the hardness from the surrounding built environment. It was where the light offering took place. There

were different species of vegetation (trees, hedges, perennials). It both served as the welcoming space for the visitors, preparing them for the upcoming practices in the main shrine room, as well as the buffer zone before the practitioners returned to the space outside the centre to the busy urban life – making the transitional process more gradual.

From observing other practitioners coming to the space, people behaved differently at the centre. The more proficient practitioners (for example, on Wednesday afternoon) tend to settle quicker. Those new to the place tend to look around in curiosity. The lama did not ask the attendants to close their eyes for the practices. The practitioners were free to choose their posture with eyes open or closed. As mentioned, the Wednesday group was more proficient and settled into the space well. The richness of the room was not a distraction. Instead, they regarded such an environment to be supportive of their practice. Otherwise, they would not choose to come all the way to this shrine room after the pandemic to practice. Similarly, the Saturday group chose to come to this visually rich place because they considered it special and would facilitate the practice. Even just out of curiosity, there was the mindset that considered this place to be different.

The centre has put in effort to create an environment that is supportive of people's practices. Outside the shrine room, they have made the effort to maintain the richness and green-ness of the garden, creating a pleasant and relaxing garden environment. Inside the shrine room, they have provided all the supportive tools for formal sitting meditations. They also provided open,

unblocked view and created the warm room ambience rated highly by practitioners UK-wide. As mentioned, although the shrine room had used strong colours heavily, not leaving any gap in the space, the visual was surprisingly harmonious and comfortable. Opposite to many ideas of minimalism that may occur in other places and traditions, the shrine room embraced the colourful Tibetan tradition. In terms of sounds, the centre has tried to create an environment that reduces the number of external noises. They also used positive meditation objects to encourage and inspire people's mindfulness practices. The place was clean and tidy, with no unpleasant smells. Overall, this was a place with warm vibe that encouraged people's mindfulness.

On this note, the use of these colours has its original reference in Buddhist doctrines, and each colour has its representative meaning. The colours of Thangkas were not randomly picked – the same for the architecture. Conversely, Buddhist doctrines have strict rules for what colour to use in the lineage (CBETA, 2002). These were wisdom from the Buddhas and Bodhisattvas, the colours, and details. Every element was intended to inspire and enlighten (Pye, 2003) – and that was out of compassion. Through the manifestation of this shrine room, one would see the union of wisdom and compassion. Out of the intention of compassion, they created the room with wisdom and through skilful means. More profound meanings and values were behind the richness of representations of the Three Jewels. The Buddha once said that 'even to gaze at a Buddha image with a distracted mind can lead to freedom from suffering and the attainment of happiness in the future' (Phuntsok & Sodargye, 2019)

because the affinity with the Buddha has been formed, which would lead to one's eventual awaken. And that was a perfect statement for such manifestation. In the free-answering question asking about the difference between practising at home and the centre, 9 out of 12 practitioners (75%) suggested that the centre was more supportive in terms of mindfulness practices, 1 out of 12 practitioners (0.83%) stated it was different but did not specify the differences. 1 out of 12 practitioners was okay with both environments, and only 1 out of 12 practitioners preferred to practice at home with more natural light in the home space and more control over the home environment. The majority of practitioners found practising at the centre was more conducive due to reasons such as less distraction, more formal and purposeful, more powerful, more positive influences from other practitioners' (including the lama) practices etc. Hence, the centre dedicated to the practice encompasses more certain qualities than most people's home environment.

During the break at the centre, the author reflected upon the phenomenon that so many people chose to come to the centre when the lockdown eased. People came here for a reason. After such a long period of lockdown where people have been used to practising at home and joining the practice online with others, they still chose to come to the centre from where they may be after all these times. They chose to spend the time and effort to travel to the centre. There must be a reason and something that is attracting them to come. Why would that be? The answer is distinct and right above. From the analysis, the centre encompassed the key qualities that may facilitate mindfulness meditation. It is

apparent that the environment in the KSDL effectively influences the practitioners' mindfulness meditation positively.

From the above analysis and observations, it was evident that KSDL has an environment that is supportive and conducive to practices, including mindfulness meditation. From the interview with the director, the KSDL was perceived as a place created and adapted purely for studying and practising the Buddha Dharma. To some extent, the centre has prolonged its original function of the Bermondsey library – the temple of learning. From there, the team successfully transformed the place into a Buddhist centre to study, contemplate and practice the Buddha Dharma. This is the main difference between the KSDL and one's own home.

One's home could be used for multiple purposes, whereas the centre was 'totally focused around the Dharma' (interview). Hence, the atmosphere (which 100% of practitioners from the survey valued as important) and all the elements were intentionally designed to facilitate Buddhist activities, including mindfulness practice. Although it was not purposely designed (being the former Bermondsey library), the adaptation of KSDL has been focused around the Dharma – from the spatial layout to the activities held that share the same purpose and intention. From lama's observations, she noticed that people generally found their practices better at the centre than at their homes. Practitioners have shared that 'It is easier to practice there than at home'.

By comparing the research framework proposed from the literature against the data collected from the case study, the ranking and weighting of the elements have been reinforced. New elements have appeared in the conversation in the interview and participant observation. In short, KSDL provided a good example of how mindfulness centre/place can facilitate the happening of mindfulness meditation.

8 – DISCUSSION AND CONCLUSION

This chapter will comprehensively discuss the empirical results based on the research framework proposed. The top influencing elements will be reviewed with the support from literature, quantitative questionnaire and qualitative case study. The following key themes will be discussed:

- 1) Influencing elements – results from the questionnaire
- 2) Length of practice vs the influences from the environment
- 3) Buddhist vs non-Buddhist
- 4) Centre vs home
- 5) Influence of gender

The research framework will then be revised again at the end of the chapter, providing potential guidance for people to amend their physical environment to facilitate their mindfulness practices. This chapter will also respond to the research question proposed in Chapter 1 and provide understanding and finding on how people can change the environment in order to facilitate the mindfulness meditation and well-being. Finally, the chapter will conclude on the key findings, contribution and limitation of the study, and recommendation for future work.

8.1 Influencing Elements

The UK-wide questionnaire results have been analysed using ANOM and EFA to obtain a comprehensive research framework based on both literature and empirical evidence. This section will further explore the factors and elements with literature and qualitative research of the case study and examine how they

can facilitate the mindfulness meditation practices. The order of the factors for the revised research framework is displayed below (Table 8.1) before starting the comprehensive discussion. The higher the factor, the more positively influential the factor is.

Table 8.1 Summary of the factors for the research framework.

Factor	Name	Mean	FC ²¹	PC ²²
1	Quietness	2.175		
2	Use of supportive tools	2.133		
3	Natural sounds	1.744		
4	Views in/of the room	1.518		
5	Warm room ambience	1.468		
6	Smell in/of the room	1.131		
7	Meditation objects	1.034		
8	Meditation sounds	1.002		
9	Cool room ambience	-0.533		

8.1.1 Quietness

From both the empirical result and the literature, ‘quietness’ was among the top influencing factors. The Buddhist literature suggests that sound is a very influential element of the mindfulness practice (evident in the two sound associated factors among the top three factors, Table 8.1). Among the sound elements, ‘quietness’ or quiet was the most important. The Buddha suggested that beginners find a quiet place for mindfulness meditation. For example, Vinaya stated that one should find somewhere as if the practitioner is on the moon – in complete silence without any sound (Lodro, 2017). The Teaching of the Mahayana stated that the beginner’s body must stay away from the noise

²¹ **FC**: Fully controllable by people.

²² **PC**: Partially controllable by people.

and abide in silence; only in this way can the mind be tamed (Sodargye, 2015). Many more (as discussed in chapter 2 and in the footnote) doctrines stated the rationale and necessity for practising in a quiet environment. Empirically, some results of the questionnaire surveying UK-wide mindfulness practitioners supported this stance (Chapter 6). 63.1% of participants (128 out of 203) rated the element 'Absence of sound' with a positive influence on their mindfulness practice, and 22.6% of participants (46 out of 203) rated this element with a positive score of 5. In the rating question '*Please rate how important each of these physical elements is to you, as a means of supporting your practice and your intention to be mindful*', 'Quietness' was the physical, tangible and controllable element with the highest average score (4.01).

Empirical studies in other fields have provided evidence to support the benefit of quiet. For example, quiet urban areas were recommended to European cities to help mitigate the adverse health impacts of environmental noise (Payne & Bruce, 2019). In workspaces, providing quiet spaces improve work conditions, especially in open-plan offices (Haapakangas et al., 2018). In contrast, those environments' noise was associated with physiological stress reactions (Evans & Johnson, 2000). For domestic living, the study has shown that quiet areas have a higher mean health-related quality of life (HRQOL) than noisy areas (Shepherd et al., 2013). Quiet has been found to have benefits such as the reduced risk of annoyance, concentration problems, and sleeping problems (Bodin et al., 2015). Quiet time (reduced controllable noise and light) has been reported to be beneficial to patients and improve their sleeping quality in the intensive care unit as the quietness help with relaxation (ICU) (Dennis et al.,

2010). For nurses, quiet time has decreased stress levels (Riemer et al., 2015). In schools, tasks heavily reliant on listening and comprehension were reported to have lower performance due to the higher noise exposure level (Klatte et al., 2013; Lamotte et al., 2021). Conversely, children performed significantly better on letter and word recognition in quieter conditions (Riley & McGregor, 2012). In short, quiet was not only beneficial in Buddhist literature but also beneficial in other fields of study and application.

Furthermore, the case study's resident teacher, the manager of the centre, also emphasised the importance of quiet. In the visit to KSDL, the resident teacher mentioned 'quiet' first as part of the supportive environment for mindfulness meditation (Appendix H.2). She also confirmed in the view that the less the noise, the better. In the question to rate how important the physical elements as to support the mindfulness practice, 83.3% of practitioners (10 out of 12) considered 'quietness' as somewhat important and one practitioner (out of 12) considered 'quietness' as essential. Only one selected 'neutral'. The results from the questionnaire and interview showed that 'quiet' was important for practitioners, especially beginners, which corresponded with the literature. In actual practice, as described above in section 7.1, KSDL, located in a busy urban environment with heavy traffic and a construction site in work during daytime adjacent to it, could not be considered a quiet space. Despite the urban location of KSDL, the centre has put in the effort to reduce the number of external noises with a built-in garden acting as a buffer zone. As a result, it did not stop the practitioner (for example, the author) from being mindful during the

meditation session. To sum up, Buddhist literature and empirical results suggest that quietness supports mindfulness meditation.

This suggests that to better facilitate the formal mindfulness practice for especially beginners, quietness should be the top spatial priority to be considered by the centre manager, the designer of contemplative spaces, and, more importantly, the practitioner him or herself. Practically, one should try to eliminate the negatively influencing sound elements such as traffic and machine noises and create a space that would enable a quiet physical environment for beginners.

8.1.2 Use of supportive tools

From the empirical result graph above (Table 6.28), it is evidential that elements that could contribute positively towards 'comfortableness' was scored positively (Factor 2 - Use of supportive tools). The 'use of supportive tools' had the second highest means among the factors (2.135), very closely after 'quietness' (2.175). The range of the variances was also towards the positive end – ranging from 1.438 (use of chair) to 2.984 (use of cushion).

As an exercise, mindfulness requires practitioners to remain in particular positions for a specific time. Therefore, a comfortable and correct posture could support the practitioners (especially beginners) to stay longer, reducing the chance of being distracted by uncomfortableness from the surrounding environments. The reason for naming this factor as 'use of tools' rather than 'comfortableness' was because these tools were not only aiming to provide

comfort for practice. Functionally, it also helps practitioners to meditate in the appropriate posture with proper alignment (i.e., lift hips off the floor to be higher than the knees and support the natural curvature of the spine). By doing so, practitioners can keep their spine loosely straight with less effort and, thus, use the energy to concentrate on the mindfulness practice. Having meditation cushions, benches, chairs, or matt can benefit practitioners. As this support 'relieves the excess pressure that a person may experience if they have difficulties maintaining good posture' (Crumpler and Iavarone, 2021). The idea is to set oneself up to be alert yet maintain the posture effortlessly (Headspace, 2023).

Posture is essential in mindfulness practices - a correct posture provides a good foundation for the success of meditation. Buddhism has emphasised the importance of appropriate postures. For example, the famous seven-point meditation posture has been used by experienced meditators for centuries. It is recommended to practitioners as the best way to help them gain a calm, clear state of mind (McDonald, 2021). The posture is directly related to the body, which is the vehicle for conducting the mindfulness practice. This particular sitting posture was how Buddhas such as Vairocana Shakyamuni sat in meditation to realise enlightenment (Sodargye, 2013). Therefore, using these facilitating tools to support mindfulness meditation is essential.

In the case study, it was observed that KSDL had provided all these supportive tools (Figure 7.7) for practitioners to choose from. They can choose the tools that are suitable for themselves and adjustable. For example, some

practitioners prefer one cushion, whereas others may have two. Some cushions were firmer than others. In short, the essence of this factor is to support practitioners to sit at as long as possible at ease – which enhances the meditation experience without causing unnecessary pain. The empirical results accord with the literature and the centre’s daily practices.

8.1.3 Natural sounds

‘Natural sounds’ is the factor with the third highest mean score (1.744) in the ranking. The same factor has a higher mean score (1.951) in the case study questionnaire. This factor contains four elements: wild birds, sound of water, sound of rain, and sound of wind. Due to the urban context, sound of other animals is less likely to occur, other have not been included. In short, mindfulness practitioners consider natural sounds beneficial and supportive of their meditation. This empirical result is consistent with the literature and other empirical studies. Natural sounds have been found to have a relaxing effect and improve concentration (MacMillan, 2021) and restorative effects on people (Kaplan and Kaplan 1989). Exposure to natural sounds can improve health, increase positive affect, and lower stress and annoyance (Buxton et al., 2021). Again, linking back to the health benefits of nature, the empirical result from the questionnaire is explainable. As discussed in Chapters 3 and 4, environmental psychologists and Buddhists share the common ground of finding nature beneficial. The places that Buddha and many Buddhist masters suggested for practitioners include nature and an environment that is in an abundance of natural elements. The spiritual journey of Buddha has been closely associated

with nature. The famous Buddhist temples and monasteries have been built in natural environments (Chapter 3).

In the SSI conducted for the case study, all interviewees resonated on the importance and benefits of nature and natural environments. In the questionnaire, the sound of wild birds, wind and rain scored highly on the positive end of the scale. According to the lama, nature will influence the practitioners in a subtle way. As a real proficient practitioner, she claimed herself as a 'big fan of nature' and they have been trying to 'nurture some nature and have as much as we can' because 'nature has a very healing and good influence on all of us'. As a result, the back garden of KSDL was planted with different vegetations that could attract different species, such as birds to use as a habitat. In front of the centre, there was also the Bermondsey Park where people can perceive the natural sounds. Thus, the questionnaire results, interviews, and the literature have responded to each other very well.

8.1.4 Views of/in the room

Although 'views of/in the room' was not at the top among the factor ranking, certain controllable elements within the category were at the top of the table (Table 6.28), for example, the view of greenery and open, unblocked view. For practitioners associated with KSDL, they also rated the view of greenery (3.600) and 'open, unblocked view' (3.222) highly. Elements included in this factor are as follows (Table 8.2). From the table, it is evident that these elements were primarily associated with nature or natural elements. For example, 'natural water feature', 'seasonal changing vegetation', 'view of greenery', 'image of

nature', 'sun/moon passage', and 'visibility of shade movements' (which were directly related to the sun/moon passage).

Table 8.2 Elements in the 'Views in/of the room' factor.

Factor	Elements	Mean	FC/PC
Views in/of the room	View of greenery	2.6424	PC
	Open, unblocked view	2.3049	PC
	Natural water feature	1.6207	PC
	Sun/moon passage	1.5488	PC
	Seasonal changing vegetation	1.3988	PC
	Images of nature	1.2975	PC
	Visibility of shade movements	0.6812	PC
	Artificial water feature	0.6528	FC

The higher the mean (closer to 5), the more positive influences it has. Hence, the elements at the top tend to be more influential than the bottom elements. Thus, the element of nature was well embedded in the high rating variances and subtly influenced the practitioners. People's innate tendency (biophilia) towards nature was evident in their rating of the spatial elements. The benefits of nature again have been empirically studied by environmental psychologists, and different theories were proposed based on the benefit of nature, such as SRT (Ulrich, 1984), ART (Kaplan and Kaplan, 1989), Biophilia Hypothesis (Kellert and Wilson, 1993) and others. Due to the restorative effect that nature has, exposure to nature or natural environment, or even just an image of nature help speeds up the healing process (Ulrich, 1993). Much more research has been conducted to explore the benefits of nature in environmental psychology. For example, patients in the hospital with visual access to natural greenery were found to recover faster than those without (Ulrich, 1984). Such views help promote physical and mental health (Raanaas et al. 2012). In workstations, the

self-reported sick level by office employees decreased after having a view of plants (Bringslimark, Hartig & Patil, 2007). The evidence of the studies showed that interacting with nature (including visual interaction) positively affects health and well-being (Grinde & Patil, 2009).

Similar to the previous section, Buddha and Buddhist masters have also emphasised the advantages of being in a natural environment. The Buddhist literature has an even more extended history showing an understanding of the positive effects of nature and natural environments. The most well-known example was the enlightenment of Buddha Shakyamuni, which took place under the Bodhi tree. Many more Buddhist masters followed in his footsteps.

As mentioned in the previous section, both the lama and practitioners in the interview expressed their fondness for nature. Many considered to have nature and natural elements incorporated into the environment would support their mindfulness practice. Such fond has also been expressed in the garden of KSDL (Figure 7.14) with an abundance of vegetation, providing the 'view of greenery', 'season changing' views, and 'visibility of shade movements' if weather permits. In the interview, the resident lama mentioned that the garden space was looked after carefully by the team running the KSDL to maintain the connection with nature within the centre space. She highlighted the centre's effort to nurture some nature as much as possible and stated, ' I think nature has a very healing, good influence on all of us. Thus, to have plants and greenery, the more we can have, the better. The value of nature has also been reinforced by environmental psychologists. These spaces with natural elements

such as gardens and outdoor parks subtly influenced people and provided a restful place in the busy urban environment. Inside the shrine room, the flowers offered to the Buddha, Thangkas also presented natural elements (Figure 7.10) – the Buddhas and masters were situated in places surrounded by natural elements (i.e., clouds, mountains, rivers, trees, and other vegetation); and ceiling paintings (Figure 7.11) contain the symbolic natural elements such as the cloud surrounding the dragon).

The second highest visual element, 'open, unblocked view' (cluttered free space), is also important to facilitate mindfulness as the surrounding environment can influence the mind. The Princeton Neuroscience Institute conducted research and discovered that the more clutter one can see, the more easily the person would be distracted (McMains & Kastner, 2011). Decluttering the spaces has many physical and mental benefits, such as relieving anxiety and sharpening focus (Beckwith & Parkhurst, 2022) in terms of mindfulness meditation, clean and clutter-free space as the foundation has minimised the visual distractions at the start. In Buddhist theory, similar suggestions have been made because 'if the environment is clean and neat, that influences the mind to be clean and tidy. The mind tends to be the same way if the room is sloppy, messy, or dirty (Study Buddhism, 2022). Hence, having an uncluttered open and unblocked space will help facilitate one's mindfulness practice. This element has also been reflected through KSDL's main shrine room – cluttered free, open and unblocked view created by column-free interior spaces, and organised space (Figure 7.7).

The difference between this factor and the previous factor (Natural sounds) is that the former is associated with the sound aspect of nature, and this factor is associated with the visual aspect of nature. The ranking of factors suggested that sound is the most influential element for mindfulness meditation. Some may question why the view is not the top influential element. To discuss this further, a study is worth mentioning. Majid and colleagues (2018) have conducted research to show that the accepted hierarchy of human senses – sight, hearing, touch, taste, and smell (by Aristotle) was ‘not universally true across all cultures (Majid et al., 2018). Both ‘biological predispositions shape the hierarchy of the sense and cultural influences’ (Roque et al., 2015). For example, ‘previous research has shown that English speakers find it easy to talk about the things they can see, such as colours and shapes’ (Maulik, 2018). In the very well-known Heart Sutra, the hierarchy of the senses was similar: ‘...no eye, no ear, no nose, no tongue, no body, no mind, no form, no sound, no smell, no taste, no texture, and no mental object’ (DTC, 2022). Many studies have suggested that sight is the most valued sense, followed by hearing (Enoch et al., 2019). As Pallasmaa stated in *The Eyes of the Skin*: ‘We see the depth, the smoothness, the softness, the hardness of objects’ (2015:42) These explained why people rated individual visual elements (views in/of the room) with higher influencing scores.

Table 8.3 The hierarchy of sensory elements.

Aristotle	Sight	Hearing	Touch	Taste	Smell
	Eye	Ear	Body	Tongue	Taste
Buddhism	Sight	Hearing	Smell	Taste	Touch
	Eye	Ear	Taste	Tongue	Body

The answers relate to the way mindfulness meditation is practised. As formal sitting mindfulness practice requires the practitioners to sit still during the session – not moving around as much as they could, they should not force their heads (with eyes) around during their sitting meditation. In traditions where practitioners were asked to meditate with their eyes open, their eyes tend to be lowered. As a result, practitioners were less likely to be influenced by the visual elements (unless a phone with videos playing was placed right in front of them). For other traditions, practitioners may practise with their eyes close. Thus, the first sense listed in the table was temporarily closed – blocking the visual distractions. Hence, the sounds influence mindfulness practitioners more than visual and other sensual elements.

8.1.5 Warm room ambience

The fifth factor down the line is the ‘warm room ambience’, including the associated elements based on EFA (Table 8.4). Note that the room ambience has been divided into ‘warm room ambience’ and ‘cool room ambience’ (8.1.9). The results of EFA have categorised the ‘lighting’, temperature’ and ‘room colour’ together. ‘Direct natural lighting’ was rated the highest among the controllable elements in this category. Second being ‘indirect natural lighting’. For the case study questionnaire, direct (2.333) and indirect (2.600) natural lighting were the overall 3rd and 4th in the ranking.

Again, this strong association with nature have been repeatedly presented. Direct/indirect natural lighting has higher scores than artificial lighting. This preference can find its support in empirical research. From research, natural

daylight not only helps support a better mood and produce vitamin D, but it also supports the eyes and productivity – and making people happier (McAuliffe, 2022). Many studies have revealed light's influence on human physiology and emotions. As humans perceive much information by sights, such information is in the form of different lights, and they can be influenced by different colours and types of lighting they perceive. People prefer natural lighting to artificial, warmer, and cooler artificial lighting. In practice, the large windows at the centre of KSDL (Figure 7.9) allowed both direct and indirect lighting coming into the main shrine room. Direct and indirect natural lighting were scored highly as positive elements influencing the mindfulness meditation. The smell of natural elements has slightly positive influences on some practitioners. The questionnaire results supported the claim, especially since they scored comparatively higher than other elements in the table. As a result, the appropriate lighting level will support the practitioners in staying alert and focused.

Table 8.4 Elements in the 'Warm room ambience' factor.

Factor	Elements	Mean	FC/PC
Warm room ambience	Direct natural lighting	2.0829	PC
	Indirect natural lighting	1.6685	PC
	Harmonious room colour	1.5263	FC
	Warm temperature	1.2398	FC
	Warm room colour	1.2024	FC
	Warm artificial lighting	1.0889	FC

For room colour, warm and harmonious colours were more popular than cool and strong contrasting colours (Table 6.28). Similar pattern has been reported in the case study questionnaire as well (Table 7.7). According to other empirical

studies, different colours can stimulate different emotions and feelings. People's perceptions, moods and behaviour could be affected by the colour of the room, and appropriate colour design will help improve people's overall mood and well-being (Kuller, Mikellides & Janssens, 2007). In the experiment conducted, it was found that strong colours can cause 'increased arousal of the central nervous system and a paradoxical inhibition of the autonomic nervous system' (Kuller, Mikellides & Janssens, 2007:145). Results showed that staying long (3 hours) in strong colour rooms caused a decrease in heart rate, which can indicate mental attention and overload. In short, as part of the visual element, colours play an important role in influencing people's mental states.

Nonetheless, the strong contrasting colours (although rated negatively by participants) were not necessarily negative. In the case study, KSDL has the shrine room painted in strong colours (mainly in warm colours, with regular parts in cool and cold colours), yet it was harmonious, resulting in positive feedback about the experiences in the shrine room. The colours they used followed the traditions from the Tibetan Buddhist lineage, which were recorded in the Buddhist doctrines. It did not follow the stereotype that only a minimal space could facilitate the mindfulness practice, but strong, colourful, contrasting yet harmonious colours can also facilitate the meditation. Lama's explanation to the use of colour was that this style was developed according to the historic and climatic background of Tibetan Buddhism. This setting provided one option for practitioners to make them feel comfortable.

For temperature, the essence of this section was not to provide a set of fixed temperatures for mindfulness practitioners. People have different senses and preferences of the ideal temperature due to various physical conditions and cultural backgrounds. However, there are recommended temperatures for other spaces and functions (Jumeno and Matsumoto, 2015), i.e., bedroom, study room, workstation, sports, etc. From the results, participants prefer warmer environments, evidenced by the 1.5 points differences on the scale. Although the conclusion for a suitable temperature varies from person to person, the principle is not too hot nor too cold. The rationale is to create a comfortable zone to concentrate and practise mindfulness. An appropriate temperature is an essential influencing element for practitioners to acknowledge. In Buddhist teachings, there was no set rule for the exact temperature either. Changing the temperature is actually one method to help practitioners to stay alert. For example, if one practitioner was too drowsy, then lowering the temperature may support that practitioner to stay alert and awake.

In summary, it is evident that the case study centre KSDL has tried to create a warm, welcoming and calming room ambience for those coming to meditate at the centre. They have allowed natural lighting to come through, maintained the source of warm artificial lighting, and used appropriate colours to create this warm room ambience (rated positively by participants) to support the practice of mindfulness meditation.

8.1.6 Smell of/in the room

Smell, an essential sense of human beings, can influence brain activity. Its mechanism affects emotion (Walsh, 2020). This factor contained the elements in Table 8.5. Some practitioners would burn incense before the practice or ritual to prepare themselves for the upcoming activities. One of the functions of incense in Buddhism is to support practitioners in meditation. For example, traditional Tibetan incense was made using natural ingredients, including herbs from the Himalayan region. Some incense was used to keep the practitioners awake and better at concentration. In the free answering section, some practitioners prefer the smell of incense oil to uplift their body and mind conditions for mindfulness practice. The smell of other natural elements has the highest average score in this category (related to nature again) as well as in the case study. The second is the 'burning incense'. In short, the appropriate smell can be used to support mindfulness practice.

Table 8.5 Elements in the 'Smell of/in the room' factor.

Factor	Elements	Mean	FC/PC
Smell in/of the room	Smell of other natural elements	1.4643	PC
	Burning incense	1.1444	FC
	Smell of cut grass	0.7853	FC

Although the elements in this category were not as significant as previous elements in influencing mindfulness meditation, certain smells can distract from mindfulness meditation. For example, many participants in the free answering question reported the 'smell of food' to be a negative influence as that would distract them from the meditation and start to wander off. In actual practice at KSDL, there was no particularly strong smell. The windows were kept open due

to COVID-19 health and safety measures. In addition, incense was burnt before practitioners entered the main shrine room.

8.1.7 Meditation objects

This factor contains elements used as the focus objects for mindfulness meditation (Table 8.6). Overall, the level of influence was not significant apart from the ‘Buddha statue’, which was rated highly by Buddhist practitioners (this aspect will be explored in 8.3). In some instructions, practitioners are required to gaze at an object, whether a Buddha statue, a vase of flowers, paintings, mandalas, Thangkas and others. They act as the physical anchor point for practitioners (especially beginners). In mindfulness practices, breathing is used as an anchor point to focus. However, some found it difficult (Mingyur, 2023), and instead, they preferred the physical, tangible objects easier to focus on. Hence, some people preferred the use of meditation objects.

Table 8.6 Elements in the ‘Meditation objects’ factor.

Factor	Elements	Mean	FC/PC
Meditation objects	Buddha statue	1.7917	FC
	A vase with flower	1.0732	FC
	Mandala	0.6809	FC
	Artistic objects	0.5912	FC

In the case study interview, the lama discussed that the centre was designed for the practice. From her perspective, the symbols of the three jewels are the most important because they are the sources of blessing and can remind people about the purpose of practice. This approach was visible throughout the spatial design of Kagyu Samye Dzong London (Chapter 7). There were many objects,

symbols, and paintings related to the Three Jewels, for example, the golden Buddha statue, the Auspicious Eights, the Thangkas around the room etc. They were abiding there silently, providing the source of ‘inspiration’. In short, different objects hold different significance to different people, and particular objects are more important than others for people with certain beliefs.

8.1.8 Meditation sounds

This factor has the second lowest means overall (Table 8.7). Apart from the ‘meditation bell’ (2.017), the other two elements had little significance for the mindfulness practices. For practitioners of KSDL, they rated ‘meditation bell’ (2.500) and ‘Instruction’ positively (1.500). The ‘background Zen music’ was on the negative band for them. This factor has the second lowest means overall (Table 8.7). Apart from the ‘meditation bell’ (2.017), the other two elements had little significance for mindfulness practices. For practitioners of KSDL, they rated ‘meditation bell’ (2.500) and ‘Instruction’ positively (1.500). The ‘background Zen music’ was on the negative band for them. The high rating for ‘meditation bell’ is explainable. Bells have been considered a meditation enhancer to promote peace and calmness (Mindworks, 2021) and keep practitioners focused on the present moment. Traditionally, the bell and vajra are part of Tibetan Buddhist rituals, representing wisdom and skilful means (Patrul, 2011).

Table 8.7 Elements in the ‘Meditation sounds’ factor.

Factor	Elements	Mean	FC/PC
Meditation sounds	Meditation bell	2.0169	FC
	Instruction	0.8824	FC
	Background Zen music	0.1067	FC

One possible reason for the lower and even negative score (-3.000 from the Buddhist group at KSDL) could be that sometimes music could cause distraction and take the minds away from the deep reflection meditation helps generate (Basto, 2021). It may be argued that practitioners could use music as the object of focus and be with it for mindfulness practice. However, the music was not used by the KSDL. At KSDL, the lama has used the gong (Buddhist standing bell) and provided sessions with and without meditation instructions for practitioners. Throughout the sessions attended at the centre, no music was played or used during the meditation centre. This could be explained by the teaching given at the centre to beginners, where the lama introduced the 'no-craving' mind, the mind of contentment. If the practitioner became reliant on the music, this could be one form of craving, and mindfulness will depend on the music. This may limit long-term mindfulness strength development.

8.1.9 Cool room ambience

This is the only negatively rated factor among the nine factors (Table 8.8). The principle and rationale of elements in this category have been explained by 8.1.5. Thus, the details will not be repeated here. Despite the fact that some research has proven cool colours (i.e. blue lighting) to have a more calming and relaxing effect than others (Minguillon et al., 2017), practitioners still preferred warm room colours for their mindfulness practices and considered warm room colours to be more conducive.

Table 8.8 Elements in the 'Cool room ambience' factor.

Factor	Elements	Mean	FC/PC
Cool room ambience	Cool room colour	0.2822	FC
	Cool temperature	-0.158	FC
	Cool artificial lighting	-0.286	FC
	Strong contrasting room colour	-1.122	FC
	Clock ticking	-1.381	FC

The 'clock ticking' has been categorised under this factor by EFA. What the clock ticking stands for is the representation of unpleasant sound distractions. Therefore, some people categorise it as negative noise. In the case study, KSDL has avoided these elements in the main shrine room. Although it contained cool colours, the overall room colours were still warm. Hence, KSDL has supported practitioners' mindfulness meditation by avoiding these negative elements.

8.2 Beginners vs Proficient Practitioners

Buddhist literature suggests that the more proficient a practitioner is, the less likely they are to be influenced by the physical environment, and the even more proficient practitioner can influence the environment. On the contrary, beginners are far easier to be influenced by the environment that they are in (Sodargye, 2015). The questionnaire has shown a slight trend where the longer the practice hour often, have lower average scores for measuring each element. In this section, the participants have been divided into people whose total practice hours were lower or equal to 275 hours. The other group were practitioners over 275 hours. The 0-275 groups have an overall mean of 1.278, whereas the 275+ group has an overall mean of 1.186 (Table 8.9).

Table 8.9 Comparison between 0-275 groups and 275+ groups.

Comparison between 0-275 and 275+ groups

Mean

	0-275 hours	Above 275 hours	Total
Absence of sound	1.7571	2.4113	2.1753
Sound of water	1.9836	1.7303	1.8333
Wild birds	1.8824	2.0588	1.9947
Sound of wind	.9692	1.5478	1.3389
Sound of rain	1.9710	1.7119	1.8075
Meditation bell	1.8636	2.1081	2.0169
Background Zen music	1.1613	-.6364	.1067
Clock ticking	-1.9194	-1.0660	-1.3810
Instruction	1.4242	.5385	.8824
View of greenery	3.0847	2.3962	2.6424
Open, unblocked view	2.9344	1.9320	2.3049
Direct natural lighting	2.3538	1.9310	2.0829
Indirect natural lighting	1.6716	1.6667	1.6685
Warm artificial lighting	1.1667	1.0439	1.0889
Cool artificial lighting	-.5902	-1.1000	-.2857
Buddha statue	1.9841	1.6762	1.7917
A vase with flower	.8305	1.2095	1.0732
Mandala	.9434	.5227	.6809
Artistic objects	.6000	.5859	.5912
Images of nature	1.7000	1.0510	1.2975
Natural water feature	1.8246	1.4886	1.6207
Artificial water feature	.8136	.5412	.6528
Warm room colour	1.4032	1.0849	1.2024
Cool room colour	.2154	.3265	.2822
Harmonious room colour	1.4762	1.5556	1.5263
Strong contrasting room colour	-1.1333	-1.1146	-1.1218
Seasonal changing vegetation	1.2581	1.4811	1.3988
Visibility of shade movements	.8500	.5800	.6812
Sun/moon passage	1.6452	1.4902	1.5488
Cool temperature	-.1515	-.1613	-.1579
Warm temperature	1.0580	1.3386	1.2398
Burning incense	1.3478	1.0180	1.1444
Smell of cut grass	1.1270	.5700	.7853
Smell of other natural elements	2.0317	1.1238	1.4643
Use of cushion	2.7391	3.1271	2.9840
Use of bench	.7143	1.8990	1.4383

Use of chair	1.4688	1.8378	1.7029
Use of matt	2.1746	2.5421	2.4059
OVERALL MEAN	1.2798	1.1855	1.2239

Interestingly, the 275+ group rated some elements higher than the 0-275 group (coloured in orange). For elements rated positively, the 275+ rated ‘absence of sound’, ‘wild birds’, ‘meditation bell’, ‘a vase with flower’, ‘cool room colour’ ‘, seasonal changing vegetation’, ‘warm temperature’, and all use of supportive tools (cushion, bench, chair, and matt) higher. It is very interesting to observe that this group has rated all supportive tools higher. This may be due to the longer time they spend sitting. As they meditate more, the importance of correct posture and comfort for sitting starts to appeal more explicitly. For elements rated negatively, the 275+ rated ‘clock ticking’ and ‘strong contrasting colour’ higher. This showed that they have more tolerance for these elements than the 0-275 groups. In general, the 275+ groups have lower average scores, with some exceptions listed above. This showed that as practitioners practise more and more, they tend to grow more tolerance towards the environmental elements and are less influenced by them.

The proficient practitioners (i.e., the leading teacher of the case study who is an experienced practitioner herself) further support such a statement in the interview. According to the lama, as one progressed along the path of practice and became more proficient in mindfulness meditation, this individual would become less reliant on the environment. In other words, they are more likely to be mindful anywhere, anytime, without being distracted by the surrounding environment. Hence, the findings suggest that there is a necessity to create an

ideal environment for beginners – to support them through different stages and solidify/strengthen the mindfulness practice so that they would become less reliant on the physical environment one day.

8.3 Buddhist vs Non-Buddhist

Buddhist practitioners rated differently from non-Buddhist practitioners in the questionnaires as they value things differently. Table (8.10) compares the mean values between Buddhist and non-Buddhist groups, providing overall mean scores for both groups. The mean values coloured orange indicates that Buddhists rated higher than non-Buddhists. The top 10 rankings for both groups have been summarised in tables (Table 8.11 and 8.12).

Table 8.10 Comparison between Buddhist and non-Buddhist groups.

Comparison between Buddhist and non-Buddhist groups

Mean	Buddhist	Non-Buddhist	Total
Absence of sound	2.3548	2.0099	2.1753
Sound of water	1.2254	2.3797	1.8333
Wild birds	1.4091	2.5152	1.9947
Sound of wind	1.0455	1.6196	1.3389
Sound of rain	1.3295	2.2323	1.8075
Meditation bell	2.0581	1.9780	2.0169
Background Zen music	-0.8769	.8588	.1067
Clock ticking	-1.1899	-1.5506	-1.3810
Instruction	.6053	1.1064	.8824
View of greenery	2.2179	3.0230	2.6424
Open, unblocked view	2.0000	2.5882	2.3049
Direct natural lighting	1.9318	2.2258	2.0829
Indirect natural lighting	1.5955	1.7368	1.6685
Warm artificial lighting	1.1264	1.0538	1.0889
Cool artificial lighting	-0.1169	-0.4405	-0.2857
Buddha statue	2.7802	.6234	1.7917

A vase with flower	1.4146	.7317	1.0732
Mandala	1.1029	.2877	.6809
Artistic objects	.4800	.6905	.5912
Images of nature	.8933	1.6627	1.2975
Natural water feature	1.0313	2.0864	1.6207
Artificial water feature	.2188	1.0000	.6528
Warm room colour	1.0000	1.3908	1.2024
Cool room colour	.4359	.1412	.2822
Harmonious room colour	1.5122	1.5393	1.5263
Strong contrasting room colour	-1.1733	-1.0741	-1.1218
Seasonal changing vegetation	1.2317	1.5581	1.3988
Visibility of shade movements	.5769	.7805	.6812
Sun/moon passage	1.4875	1.6071	1.5488
Cool temperature	.1538	-4.444	-1.1579
Warm temperature	.9792	1.4900	1.2398
Burning incense	1.3864	.9130	1.1444
Smell of cut grass	.8158	.7586	.7853
Smell of other natural elements	1.2727	1.6264	1.4643
Use of cushion	2.8791	3.0833	2.9840
Use of bench	1.4286	1.4471	1.4383
Use of chair	1.2989	2.1023	1.7029
Use of matt	2.6867	2.1379	2.4059
TOTAL MEAN	1.1212	1.3020	1.2239

Table 8.11 Summary of top three physical spatial elements of the Buddhist and non-Buddhist groups for UK-wide survey (based on Table 8.10).

Ranking	Buddhist	Non-Buddhist
1	Buddha statue (2.7802)	Use of cushion (3.1753)
2	Use of cushion (2.7778)	View of greenery (3.0230)
3	Absence of sound (2.3548)	Use of matt (2.5900)
4	View of greenery (2.2179)	Open unblocked view (2.5882)
5	Use of matt (2.2100)	Wild birds (2.5152)
6	Meditation bell (2.0581)	Sound of water (2.3797)
7	Open, unblocked view (2.0000)	Sound of rain (2.2323)
8	Direct natural lighting (1.9318)	Direct natural lighting (2.2258)
9	Indirect natural lighting (1.5955)	Natural water feature (2.0864)
10	Use of chair (1.5698)	Absence of sound (2.0099)

Table 8.12 Summary of top three physical spatial elements of the Buddhist and non-Buddhist groups for case study survey (based on Chapter 7).

Ranking	Buddhist	Non-Buddhist
1	Use of cushion (2.8791)	Use of cushion (3.0833)
2	Buddha statue (2.7802)	View of greenery (3.0230)
3	Use of matt (2.6867)	Open unblocked view (2.5882)
4	Absence of sound (2.3548)	Wild birds (2.5152)
5	View of greenery (2.2179)	Sound of water (2.3797)
6	Meditation bell (2.0581)	Sound of rain (2.2323)
7	Open, unblocked view (2.0000)	Direct natural lighting (2.2258)
8	Direct natural lighting (1.9318)	Use of matt (2.1379)
9	Indirect natural lighting (1.5955)	Use of chair (2.1023)
10	Harmonious room colour (1.5122)	Natural water feature (2.0864)

This empirical result shows that Buddhists value the 'Buddha statue' and 'quietness' higher than non-Buddhists. The elements that Buddhist value higher more can be mainly categorised into: 'quietness' – the absence of sound, and 'Buddhist meditation objects' – Buddha statue, burning incense, a vase with flower, and mandala.

This observation did not contradict the literature and was also consistent with the statement from the resident teacher and other Buddhist practitioners in the interview. For them, the most important is the symbol of the Three Jewels, and the Buddha statue is one representative of the Three Jewels. They remind practitioners about the practice's purpose and act as a focus object for some practitioners. Hence, unsurprisingly, the 'Buddha statue' is the tangible element with the highest scores for UK-wide Buddhist practitioners. For non-Buddhist groups, they topped 'use of cushion' being the most positive influencing element. They tend to value visual and natural elements more. The second highest

controllable element was the 'view of greenery' followed by the 'open, unblocked view'. (The differences were coloured in blue.)

For 'quietness', the 'absence of sound' is ranked the 5th among all physical, tangible, and controllable elements. It was 3rd in the ranking for the Buddhist group (Table 7.11) and 10th for the non-Buddhist group. The differences here were interesting. The concept of quiet was greatly emphasised by Buddhist masters and teachings, reflecting through the higher average score for 'absence of sound'. On the contrary, the non-Buddhist group favour natural sounds more than the Buddhist group, evident in the high scoring of 'wild birds', 'sound of rain' and 'sound of water'.

In short, the two groups share similarities and differences in valuing different controllable elements. Generally, Buddhist groups have a lower average score than non-Buddhist groups. Apart from the elements coloured in orange, the Buddhists rated elements lower on average than the non-Buddhist group. This observation could also be explained by the teaching provided by the resident teacher of KSDL and by other Buddhist masters such as Dzongsar Khyentse Rinpoche. In the teaching at KSDL (7.3.2), it was mentioned that the inner environment was also important for generating mindfulness. Other teachings (Khyentse, 2020, 2021a, 2021b) encouraged practitioners to strive beyond physical boundaries.

The empirical evidence continued the trend. The questionnaire result showed that 60.1% (122 out of 203) of participants reported the 'View of greenery' with positive influences on mindfulness meditation, and 24.1% (49/203) rated it with a score of 5. Other elements related to nature, such as 'Smell of other natural elements' (under the Factor – Smell of/in the room), also received positive feedback. 'Rural remote environment' was the top preference for 66.5% of practitioners. In the interview, the resident teacher of the case study also mentioned the importance of being surrounded by natural environments – evident in their efforts to take care of their back gardens, as well as holding meditation sessions in Bermondsey Park right in front of the centre. In return, practitioners have reported their fondness for nature.

It is no doubt that views are important influencing elements for mindfulness practitioners. Biologically, much more of the brain was used to process visual information. Among the variances, the elements related to nature or natural elements tend to have a higher score for their positive influences. However, despite the statements provided by participants in the free answering section (which some participants rated cluttered space and the movement of other people negatively and rated elements such as mountain/lake – related to nature, Thangkas – related to Buddhism or meditation objects and candle etc. as positive influencing elements), many more reported that visual elements were not applicable as they were generally looking a few inch-feet in front towards the floor or with eyes closed. These results were consistent with the discussion in section 8.1 to debate whether sight or hearing influences mindfulness

meditation more. The essence remained – to have as few distractions as possible.

Although it cannot be concluded that the sound element is universally influential for mindfulness practitioners, it is undoubtedly the case for some. Not all sound elements were equally influential. Some were more positively influencing than others, for example, the sound of wild birds. There were other negatively influencing sound elements, for example, traffic noises, noises produced by people talking and moving, and machinery sounds (from the questionnaire results). However, from the questionnaire results, quietness was rated higher than other sound elements (both natural and artificial). This result was consistent with Buddhist literature, teachings from the case study, and other empirical studies in environmental psychology. Hence, both the literature and the data meet at the same place.

As discussed, concentration is one key process of mindfulness practice, and it has the benefit of increased relaxation and reduced stress levels. Other activities that require a certain level of concentration (i.e. studying, working, etc.) have benefited from quiet time and space. Mindfulness meditation was no exception. However, it may be too soon to conclude that sound is the most influential element for mindfulness practitioners, as some results from the questionnaire suggested that sound is not the most influential element for them.

8.4 Mindfulness Centre vs Home

'The space will influence your practice for a long time and for myself, also. Especially if you're a beginner, it will affect you even more. But we are all affected by our surroundings, in different ways, we are affected by our surroundings and by the people around us.'

After examining the differences between practitioners with different total practice hours, and the Buddhist and non-Buddhist groups, the comparison now lands on the spatial design for the physical environment in which they practise. The above quotation (Zangmo, 2022) stated explicitly the significance for a mindfulness centre especially for beginners. This section will be discussed mainly based on the free-answering questions from the questionnaires (Chapter 6 and 7).

As discussed, the physical environment influences one's thoughts and behaviours. As proved by the research in environmental psychology, the external environment has various impacts on humans, whether positive, negative or neutral. The Buddha and Buddhist masters such as Bodhidharma and Shantideva analysed the influences that the physical environment has on beings, and in particular, on the mind. In the survey (details provided in Chapter 6), participants reported their awareness of how the physical environment influences their mindfulness meditation. 75.4% of participants chose to set up the environment for mindfulness practice deliberately, and over a third (33.5%) of overall participants reported that they always set up a certain environment for practice. In teaching mindfulness at KSDL, the lama provided instructions about

the requirements for the practice environment – if a room was unavailable. The essence was that an environment encouraging mindfulness practice was needed. Hence, the case study of KSDL supports the exploration of how the physical environment influences mindfulness meditation to facilitate the practice.

75% of practitioners (quoted in 7.2.2.2) reported that they practised better at the centre than at home because they found the centre to be both spatially and spiritually more supportive. The reasons include the following with more elaboration provided:

- 1) **sense of community at the local centre (being physically there):** providing positive influences from other people.
- 2) **more easily distracted at home (more issues to keep the mind occupied):** the centre was purposely built for the practices, therefore, the spatial design and programme are working for the meditation practices (details in Chapter 7).
- 3) **connectedness with practising with other people:** similar to 1).
- 4) **sense of safety:** without worrying about sudden intruders, supported by teachings at KSDL (7.3.2)
- 5) **enough space to walk for reflection:** spatial provision.
- 6) **structured and guided meditation:** related to people.
- 7) **The blessing of the place from great masters and practitioners who have been there:** the intangible aspects as discussed.

It is also vital to bring in the concept of obstacles to mindfulness meditation. Obstacles – the hindrances of mindfulness meditation. In Buddhist teachings,

there were five major obstacles: (1) desire, (2) anger, (3) restlessness, (4) sleepiness, and (5) doubt. Why should we understand the obstacles of meditation? If we understand the obstacles that hinder the meditation, we can distinguish and eliminate them to better the practice. This principle is applied to the physical environment dedicated to mindfulness meditation. Why? Because the environment is a potentially supportive tool, it should also serve the purpose of reducing obstacles. The environment should have the quality to reduce the chances of five obstacles happening – by minimising the negatives, the positives will increase.

So, what kind of physical environment would encourage the generation of the above obstacles, then? As mentioned in the Buddhist doctrines, once the internal and external causes and conditions meet, obstacles such as desire, anger and others will manifest. The root causes for the obstacles, such as desire and anger, are internal – they do not exist in the exterior environment. In addition, there are internal and external conditions. For example, for someone to be angry, there is the seed of anger in his Alaya. There are also conditions for him to be angry – being in a frustrating environment (loud noises or being involved in arguments). Similarly, an environment with different sources of stimulation (for example, food for those who crave food, clothes for those who love shopping for clothing) has a higher chance of being distractive for practitioners. This is because the mind tends to wander around, and that is its nature. With all the stimuli in the surrounding environment, the mind has many objects to wander off. Thus, the benefits of having a purposely built and adapted

centre serves the purpose of facilitating the mindfulness practices by minimising the distractions (socially and physically).

Claims about no need to find a specific place for mindfulness practice have been made. This may be true for some practitioners, but could this be the ideal circumstance for beginners? In the survey, a proportion of participants reported that they could practise mindfulness anywhere and anytime. One participant reported a memorial experience of mindfulness meditation in a Morrison's café, which was crowded and designed for social purposes. There is no doubt that proficient practitioners are much less likely to be influenced by the environment, even not at all by the environment. For them, the busy city centre with huge traffic flows is no different to the quiet, beautiful, and undisturbed natural environments. While it holds true that proficient mindfulness practitioners exhibit a heightened capability to transcend external influences and maintain focus on their mindfulness experience, the significance of an enabling environment in nurturing their mindfulness practice remains undeniably relevant. The intrinsic interplay between the individual and their surroundings remains an essential aspect of the mindfulness journey. A conducive environment serves as an enabler that can further amplify the benefits of mindfulness practice. By fostering a supportive backdrop, this environment aids practitioners in seamlessly accessing deeper states of concentration, self-awareness, and tranquillity. Thus, while proficiency in mindfulness empowers practitioners to withstand external fluctuations, the presence of an environment tailored to mindfulness principles can undoubtedly act as a catalyst, enriching and enhancing the transformative potential of their practice.

Furthermore, if the benefits of a conducive environment hold true for proficient practitioners, it becomes more evident that beginners embarking on their mindfulness journey stand to gain even greater advantages from a supportive and nurturing setting. Many teachings in the doctrines, as listed in Chapter 3, suggest an ideal environment for beginners to practice. Mindfulness meditation is not a one-off activity but requires continuous time and effort from practitioners. Because the environment influences people's thoughts and behaviours (and in subtle ways), a suitable environment that supports mindfulness meditation is important - at least, it should not be off-putting. For example, comparing an environment that encourages someone to practise mindfulness compared to a discouraging environment. Then, there is a higher chance for practitioners, especially beginners, to continue the meditation.

The qualitative case study of KSDL shows that this urban Buddhist centre encompasses many elements and qualities rated positively by UK-wide practitioners that will facilitate mindfulness meditation practice. For example, spatially, it provided a certain degree of quietness buffered by the vegetation in the back garden and minimised the potential distractions from outside. It also provided all the supportive tools (e.g., cushions and mats) for practitioners. There were sources of natural sounds in the surrounding neighbourhood. The views in/of the room were fulfilled. The main shrine room was certainly a place with a warm room ambience, meditation objects and sounds to facilitate the practitioner's meditation.

Not only do they (centre vs home) have differences in spatial design, but the centre also has a management system and related regulations (including disciplines) to maintain the vibe and to run of the centre. The centre also has a community (the group) of practitioners with similar mindsets (i.e., devotion to mindfulness meditation) and resident teacher(s) who can provide theoretical and application supports in person. They can offer an extra layer of support that one may not easily experience when home alone. Thus, many practitioners have returned to the physical centre to continue the meditations rather than only staying online.

For individuals' private settings (such as homes), not all individuals have the resources and facilities to have such a dedicated room/space as the mindfulness centre. Depending on economic status, practitioners' private setting conditions vary. A home is a place where multiple activities are happening, living, cooking, cleaning, working, and studying. It is also a space shared by different members (other family members, roommates, pets, etc.). Compared with the mindfulness centre, homes may potentially have more distractions for mindfulness meditation. This is evident in people's statements in the questionnaire and the actions of going to the centre regularly.

Hence, for some practitioners, a mindfulness centre is a place with less distraction, and they can dedicate the time and space just to mindfulness meditation without being disturbed by other worldly matters. For some others, there are also intangible aspects, such as blessings from the centre, and from the lineage masters that they found supportive towards their practice. This

shows the significance and positive influences of a purposely built place for mindfulness practitioners – which one may not easily obtain at home.

To take this thinking further, the Buddhist temples, monasteries and retreat places have commonality for reasons. On the elementary level, they fulfil the need for living functions and various Buddhist practices and activities. They are built to support best the purposes of pursuing the Dharma path. As the lama from Kagyu Samye Dzong London said in the interview, the centre is revolved around Dharma, and it is for the Dharma. The element of ‘being inspirational’ has also been brought up in the interview, which explains well the purpose of specific physical settings and the design of Buddhist places. From the very calm and minimalist Zen gardens in Japan to the colourful and warm interior of Tibetan monasteries and the plain interior of Sri Lankan temples with bright golden exteriors, they all serve this common purpose: to inspire and awaken.

8.5 Influence of Gender

The investigation into the relationship between gender and the influence of the environment on mindfulness practitioners, questionnaires results have been analysed and findings displayed no particular outstanding differences between genders (Chapter 6). Due to limited sample size from the case study, results from the case study for genders were not comparative (Chapter 7). Hence, the valid data from Chapter 6 presents an absence of any clear and consistent gender-based influence on how the environment affects mindfulness practitioners. Across a range of environments, both serene and bustling, male and female practitioners exhibit similar patterns of response with only minor

differences, demonstrating a relatively high level of convergence in their experiences. This suggests that the way mindfulness practitioners, regardless of their gender, engage with and respond to their surroundings is quite consistent. In the realm of mindfulness practice, the focus is often more on individual variations and experiences rather than strict gender categorisations. The effectiveness of mindfulness practice tends to be more related to personal factors, such as one's level of practice, commitment, and receptivity, rather than their gender.

The significance of gender was not emphasised from the interviews and teachings given to the beginners at KSDL. Either displayed separate instructions to different genders. The significance of gender was not emphasised during the interviews and teaching provided to the beginners at KSDL. Neither did the instructions provided to practitioners entail distinct guidelines based on gender (Appendix H). The focus appeared to be more on cultivating a shared understanding of mindfulness principles that transcended gender lines. This approach reflects a broader trend within mindfulness communities, where the practice is often presented as a unifying path, promoting self-awareness and mental well-being for individuals regardless of their gender identity. One perspective in Buddhism posits that mindfulness practice, being rooted in the cultivation of self-awareness and non-judgmental observation, transcends the confines of gendered societal norms and roles. This is supported by Buddhist master's statement: 'All the buddhas and bodhisattvas are in essence the same. Buddhas transcend all kinds of shape, colour, form, and labels like gender' (Khyentse, 2022).

By not differentiating between genders in their instructional approach, KSDL seems to align with this inclusive perspective. The absence of gender-specific instructions suggests an intentional effort to ensure that mindfulness teachings remain accessible and relevant to all individuals, regardless of their gender. This may contribute to fostering an environment where practitioners can focus on their personal journeys of self-discovery and mental well-being, without the added burden of gender-related expectations or distinctions. It underscores the notion that the transformative power of mindfulness is available to everyone, regardless of gender, and reinforces the practice's capacity to foster understanding among diverse groups of practitioners. In short, the factor of gender did not exhibit a substantial difference in the manner through which the environment influenced individuals' mindfulness practice.

8.6 Revised Framework with Design Strategies

8.6.1 Controllable tangible aspect

Research framework has been further refined after the comprehensive analysis of the empirical studies including the UK-wide questionnaire, the case study questionnaire, interviews, and the spatial design. The additional qualitative analysis provided an extra layer of refinement. This revised research framework added an extra column to suggest how organisations/individuals could change their practice environment to better support the meditation (Table 8.13).

As human beings are constantly influenced by the surrounding environments. Hence, an appropriate environment will enable one to be at ease, content, and

in harmony. People naturally have preferences for the places in which they practice mindfulness. As stated earlier, 75.4% of practitioners would pay attention or deliberately set up a particular environment for their practice. From the above aspects, the research framework suggested the aspects and priorities that mindfulness centres and practitioners can consider to better facilitate the mindfulness practices. The essence is, through this revised research table, it can assist organisations/individuals to understand the priorities of elements that will influence their mindfulness meditation.

This table (Table 8.13) showed the top priority is creating 'quietness' – to create an environment with little or no noise. The strategies have also been suggested. Centres with more resources can choose to install better sound insulations and create a quieter environment. For individuals with limited budgets, they can also choose to purchase a pair of noise-cancelling headphones to create a personally quiet environment. The second comes with the 'use of supportive tools', to better facilitate the mindfulness practices, a suitable cushion/bench/chair/matt is needed. The centres and individuals could purchase a range of supportive tools to facilitate their practices. Similarly, for other elements, strategies have been provided.

This also provided them with a reference when setting up or maintaining the space for mindfulness practice. In this research, the widely distributed questionnaire provided a representative picture of a range of practitioners' perspectives. The case study took the journey further. It furthered the conversation about how a specifically set-up place could facilitate mindfulness

meditation. The centre also presented something more – beyond the physical, tangible attributes and how it has maintained the essence of mindfulness (Buddhism) in the modern age. They also presented a delicate balance between keeping the tradition and adapting to the new-age society. There is also something we can learn from.

Table 8.13. Revised research framework (Design recommendation based on BREEAM, 2023; Fitwel,2023; Living Future, 2022; Well, 2020).

F.	Name	Elements (Fully/Partially Controllable)	Personal Preference	Design Recommendation
1	Quietness	1 Absence of sound (FC)	<ul style="list-style-type: none"> Consider the practice location Noise-cancelling headphones/tools 	<ul style="list-style-type: none"> Consider the practice location/plan Improved sound insulation Provide landscape buffer zones
2	Use of supportive tools	1 Use of cushion (FC) 2 Use of mat (FC) 3 Use of chair (FC) 4 Use of bench (FC)	<ul style="list-style-type: none"> Find suitable tools 	<ul style="list-style-type: none"> Consider enough storage space for these supportive tools at the design stages
3	Natural sounds	1 Sound of wild birds (PC) 2 Sound of water (PC) 3 Sound of rain (PC) 4 Sound of wind (PC)	<ul style="list-style-type: none"> Consider the practice location Open/close the window Open/close the window Open/close the window 	<ul style="list-style-type: none"> Preserve/introduce habitat by design Introduce water bodies to produce the sound nearby in landscape Consider façade and building materials Consider the building orientation in design to avoid direct winds
4	Views in/of the room	1 View of greenery (PC) 2 Open, unblocked view (PC) 3 Natural water feature (PC) 4 Sun/moon passage (PC) 5 Seasonal changing vegetation (PC) 6 Images of nature (PC) 7 Visibility of shade movements (PC) 8 Artificial water feature (FC)	<ul style="list-style-type: none"> Sitting facing towards greenery Introduce plantings in place Keep the space tidy, uncluttered Consider the practice location Consider the practice location Adjust the openings (blinds/curtains) Facing towards these vegetations Hang an image of nature in the room Have daylight to allow this happen 	<ul style="list-style-type: none"> Design openings towards the greenery Design green landscape views Provide such a view in design stages Provide views towards the natural water feature Consider orientation of the building Introduce designed openings to enhance the sun/moon passage Design landscape with seasonal interests in the view Create openings towards them Design to incorporate symbols and images of nature in the room Incorporate appropriate openings Introduce physical/symbolic water bodies in the practice environment
5	Warm room ambience	1 Direct natural lighting (PC) 2 Indirect natural lighting (PC) 3 Harmonious room colour (FC) 4 Warm temperature (FC) 5 Warm room colour (FC) 6 Warm artificial lighting (FC)	<ul style="list-style-type: none"> Choose appropriate glazing Adjusting the blinds/curtains to introduce preferred level of lighting Adjust the lighting level Add/remove partitions/furniture to adjust the light level Paint the corresponding colours Adjust to the preferred temperature Paint the corresponding colours Purchase the appropriate light bulbs 	<ul style="list-style-type: none"> Consider the building orientation Optimise window size and placement for daylight Consider skylight, light wells and atriums where appropriate Choose appropriate glazing in design Consider open-floor plan Use light-coloured and reflective surface materials Introduce light diffusers Introduce light shelves Consider room colours and finishes carefully at design stage Introduce appropriate ventilation and heating/cooling system Consider room colours and finishes carefully at design stage Install warm artificial lighting
6	Smell in/of the room	1 Smell of other natural elements (PC) 2 Burning incense (FC) 3 Smell of cut grass (FC)	<ul style="list-style-type: none"> Open/close the window Burn the incense before practice Not/Cut the grass before practice 	<ul style="list-style-type: none"> Preserve/introduce habitat incorporating elements through design Incorporate appropriate ventilation Introduce landscape nearby

7 Meditation objects	1	Buddha statue (FC)	• Obtain it from reliable sources	• Design appropriate space for the placement of Buddha statue of various sizes
	2	A vase with flower (FC)	• Introduce flower with vase in the room	• Consider appropriate space for it
	3	Mandala (FC)	• Obtain it from reliable sources	• Consider appropriate space for it
	4	Artistic objects (FC)	• Buy/place objects in sight	• Design focal points in the room
8 Meditation sounds	1	Meditation bell (FC)	• Use the actual bell or audio in practice	• Provide storage space for the bell
	2	Instruction (FC)	• Listen to the instructor online or f-2-f	• Consider room reverberation in design
	3	Background Zen music (FC)	• Turn on/off the music	• Provide spaces for instructor and audio equipment
9 Cool room ambience	1	Cool room colour (FC)	• Choose the appropriate colour	• Consider room reverberation in design
	2	Cool temperature (FC)	• Adjust to the preferred temperature	• Consider room colour at design stages
	3	Cool artificial lighting (FC)	• Purchase the appropriate light bulb	• Introduce appropriate ventilation and heating/cooling system
	4	Strong contrasting room colour (FC)	• Paint the corresponding colours	• Change the cool lighting if unwanted
	5	Clock ticking (FC)	• Add/remove the clock in the room	• Consider appropriate room colour combination at the design stage
				• Introduce time-indicating design features in the room

In the end, this is a supportive tool to help especially beginners refrain from more distractions and help them build up the strengths that could take them further. Eventually, they can practice mindfulness everywhere without any differences. In short, the physical setting, on the one hand, is very important. On the other hand, however, other intangible elements of space play an indispensable role in mindfulness practice quality. For example, the purpose (intention) and the will of the people and their activities make a difference. Groups and groups of practitioners came to the place to practice mindfulness and dedicated the space to mindfulness practice. As a result, the atmosphere and the vibe have been transformed and strengthened over time. However, it also depends on the individual's perspective on how they dedicate their time and effort. Even for those just wanting to take a break, not thinking about seriously 'generating' mindfulness, the space still supports one's well-being – away from the worldly business and the intense working pace. Moreover, in environmental psychology, one gets plenty of nature and natural elements, fresh air, which has proven beneficial for one's physical and mental health. Therefore, the additional aspects have been added below for practitioners' references.

As for an activity to happen, three key elements are needed: the environment for the activity to take place, the participant conducting the activity, and the activity as an action itself. By having all the boxes ticked may not necessarily ensure a good mindfulness session. Nonetheless, at least the environmental factors are not the obstacles adding to the already busy to-deal-with list. This ensures that the physical setting was intended to minimise the distraction of

mindfulness meditation. The 'anchor point' allows the practitioner to concentrate solely on the practice itself without creating further distractions or too many changes, which the practitioner must repeatedly adapt. It is a good training ground for beginners to familiarise themselves with the practice and consolidate the mindfulness meditation, which eventually they can go beyond that.

8.6.2 Exploration on the intangible aspect

The tangible aspects of the environment that would impact one's practice have been extensively discussed. However, there are also intangible aspects that should not be ignored. Based on the questionnaire, interview and participant observation experiences, other intangible elements were discovered that practitioners considered conducive to mindfulness meditation. The resident teacher of KSDL suggested three points that she regarded to be the important factors that would facilitate the mindfulness practice: 'inspiring', 'blessing' and 'representation of the Three Jewels'. In addition, the questionnaire included some intangible aspects, for example, the options regarding the atmosphere of the space for which they practice mindfulness meditation.

'Blessing' – From Lama Zangmo's perspective, it was crucial 'to have a place that is blessed, a blessed place that is blessed by great beings by great masters. If Great Beings have practised in that place, it is also supposed to be good for future generations and for future practitioners.' The statement was not alone. In fact, 'blessing' is an unavoidable subject in Buddhism, supported by many works of literature from Buddhist doctrines (e.g., Sogyal et al., 2008). Noted that the representation of the Three Jewels is closely related to the 'blessing'. The

former manager of another Buddhist centre in central London stated similarly regarding the mindfulness practice.

From literature in the earlier chapters, 'solitude', 'quiet' and 'nature' were the top three qualities the environment should embody to facilitate the mindfulness practice better. One of these qualities has tangible and intangible aspects, whereas others were more prone towards the tangible aspects. For example, 'solitude' could indicate: (1) the practitioner being away and physically alone (Sodargye, 2015; Zhicheng, 2018) with no other people accompanying – tangible; and (2) with no other mental distractions such as the group of people dedicating the space, time and effort to the same purpose (Zhicheng, 2018) – intangible. For 'quiet', it was mainly tangible and controllable – no physical sounds from the exterior (Lodro, 2017). Similarly, 'nature' from the literature indicated the tangible aspects of an environment – sound, visual, smell etc. from nature.

'Solitude' – The resident teacher gave examples of the great lineage masters in Buddhism who initially looked for a place either of solitude or a place where they could withdraw from distractions and focus on the mind. The most remarkable example was the Shakyamuni Buddha himself. He has demonstrated with his life the way to achieve enlightenment – being away from distractions such as prosperity, wealth, family, etc. Although not everyone has to live the same way as the ordained monks and nuns, there was a profound meaning behind the way Buddha's manifestation of renunciation. The essence is to remove all types of distractions that would distract the practitioner and

hinder his/her practice, especially for beginners. In this circumstance, the main shrine room of the Kagyu Samye Dzung London was 'away' from people's own homes and other usual places for mindfulness practice – meets the intangible aspects of 'solitude'. The space was further tucked 'away' from the surrounding main traffic and source of distractions. The main distraction for modern urban people – the phone or smart devices were put away to allow practitioners in the main shrine room to focus on mindfulness meditation. The practitioners dedicate the space, time and effort to the practice solely in this room. Even though it was not a physically remote place with other people's presence, the intangible aspects of an ideal environment were fulfilled for KSDL.

Table 8.14. Intangible aspects of the revised research framework.

Factor	Name	Elements	Senses	Description
n/a	Location	Urban/ Suburban/ Rural	n/a	The environment with a certain degree of remoteness was found to be more positive.
n/a	Atmosphere	Calming/ welcoming	n/a	To consider elements that could contribute towards a positively influencing atmosphere.
n/a	Blessing	Blessing	n/a	An important element for Buddhist practitioners.
n/a	Timing	Time of the day	n/a	Practice at different times of the day may be more supportive than others.
		Length of the practice session	n/a	Shorter but more frequent sessions are suggested for beginners.
n/a	People	Leading teacher	n/a	A leading teacher's presence could benefit one's mindfulness practice.
		Other practitioners	n/a	A group of proficient practitioners could be supportive.
n/a	Intention	Own intention	n/a	The intention of mindfulness meditation is crucial. The right intention will support one's practice.

The above table (Table 8.14) presented additional intangible aspects. The intention has been added as one aspect for individuals to consider. The correct intention supports and keeps the practitioners on the right track and not going astray from the mindfulness meditation goal. As part of the preliminaries for meditation practice, the individuals are instructed to prepare the environment, the body, speech and mind. The intention, which is associated with the mind, is crucial to the eventual successful outcome of the mindfulness practice. However, the role of intangible factors, while immensely significant, unfortunately cannot be elaborated upon in the current research scope.

9 – CONCLUSION

In this concluding chapter, the threads of the research are woven together to provide a comprehensive overview of the key findings, contributions, limitations, and recommendation for future research that have emerged from the study. Through the systematic exploration of the relationship between mindfulness and the environment, crucial insights regarding how environment could facilitate mindfulness practice have been unearthed. As the summary of the key findings is delved into, the broader significance of the research is reflected upon, its limitations are acknowledged, and a course for future inquiries is charted.

9.1 Summary of Key Findings

9.1.1 Overview

Prior to this research, many scholars and researchers studied mindfulness and related practices (mainly on its benefits to people) and how design (for example, architecture and landscape architecture) can improve people's well-being. To fill in the research gap about how the physical environment can facilitate one's mindfulness meditation (which in the long term, will benefit his or her physical and mental health), this interdisciplinary research established an initial research framework overarching three disciplines: Buddhist mindfulness (Chapter 2), architectural design (Chapter 3), and environmental psychology (Chapter 4). The research framework then underwent one round of online questionnaires (to quantify the qualitative) (Chapter 6), targeting adults practising mindfulness meditation in the UK. The results were further examined by conducting a case study in London (KSDL) (Chapter 7), interviewing managers and practitioners,

and investigating the relationship between mindfulness practice and space in more detail. On the one hand, the study provided empirical results to support what has been stated or suggested in the literature (i.e., certain qualities of the space/environment). On the other hand, this study established a research framework that can be applied to individuals and organisations to conduct the relevant study according to their contexts. The research process can be summarised into the diagram below (Figure 9.1). The research has been conducted and concluded with results answering the main research question and sub questions proposed at the start.

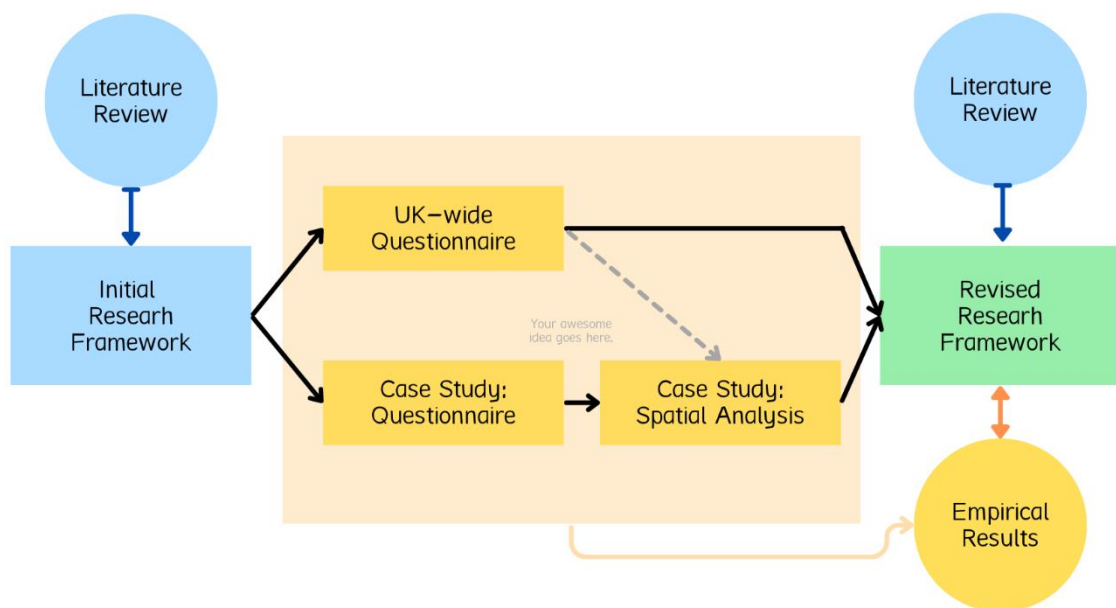


Figure 9.1 The illustration to explain the research process.

9.1.2 The relationship between mindfulness and place

A pivotal revelation from this research underscored the profound interrelationship between mindfulness and the environment in which it is practised. The study resonated with the age-old wisdom and other fields of study that the external environments hold the power to significantly shape the

internal states of individuals. Findings emphasised that the environment can both serve as a conduit that nurtures mindfulness or, conversely, pose obstacles that hinder its progress. Within this process, certain elements and qualities emerged as notably influential. Quietness, often considered the cornerstone of contemplative practices, emerged as a potent facilitator of mindfulness and appeared to invite practitioners into deeper states of presence and self-awareness. Similarly, open views and views of greenery introduce an enriching dimension, seemingly amplifying the transformative potential of mindfulness meditation.

Moreover, this study underscored the impact of supportive tools, such as meditation cushions, on the mindfulness experience. These seemingly mundane implements assume a pivotal role in creating physical comfort and enhancing bodily alignment, thereby fostering an optimal state for mindfulness practice. However, a converse pattern emerged when considering, for example, noise within the environment. Noise, often associated with distraction and agitation, manifested as a formidable deterrent to cultivating mindfulness. These findings collectively illuminate the intricate interplay between the environment and mindfulness practice – revealing that certain controllable spatial attributes possess a remarkable capacity to elevate practitioners' experiences, while others can disrupt the delicate balance required for mindful engagement. In essence, this key finding crystallised the profound impact of the environment on the practice of mindfulness. It emphasised that the external context in which mindfulness unfolds wields the potential to either nurture or impede the mindful journey.

9.1.3 Mindfulness proficiency and the environment

The research findings unveiled a distinct pattern: as practitioners' proficiency in mindfulness meditation increases, the influence of the external environment on their practice reduces, and vice versa. This relationship suggested that proficient practitioners, armed with honed skills of attention and self-regulation, exhibited resilience to external factors that may otherwise disrupt their mindful engagement. Conversely, for beginners embarking on their mindfulness journey, the external environment played a pivotal role in shaping their practice experiences. A supportive and conducive environment became a support in which they can establish and refine their mindfulness skills. The environment's influence on beginners underscored its pivotal role in facilitating their initial encounters with mindfulness, enabling them to develop their self-awareness.

The implications of these findings extended beyond the confines of skill levels. Even for proficient practitioners who demonstrated a heightened ability to practice mindfulness, the significance of a nurturing environment remains undiminished. A supportive environment, replete with the attributes and qualities identified within this research, continues to augment the practice experiences of advanced practitioners. While proficient practitioners may exhibit a degree of insulation from external influences, an environment optimised for mindfulness still amplifies their journey, enriching their connection with the present moment and facilitating a deeper exploration of their consciousness.

In summary, this key finding offered a nuanced perspective on the interplay between mindfulness practice and the external environment. It underscored the role of proficiency as a mediator of environmental influence, with beginners benefiting significantly from a supportive context while proficient practitioners display a heightened autonomy. Yet, the study fervently emphasised that the value of a conducive environment persists for practitioners of all levels.

9.1.4 Buddhist and non-Buddhist

A captivating dimension that surfaced within the research was the distinctive emphasis placed by different groups – Buddhist and non-Buddhist – on varying value systems when it comes to the relationship between mindfulness practice and the environment. Explored within the context of spatial attributes, this aspect lent a rich tapestry of diversity to the study's landscape. Through meticulous analysis, it became evident that each group exhibited unique inclinations and preferences, reflecting their individual values and views.

During the research, a remarkable commonality emerged among both groups – an agreement on the significance of supportive tools in the practice of mindfulness. This common ground underscored the universal recognition of the importance of comfort and bodily alignment in fostering a conducive environment for mindfulness meditation. However, nuanced differences emerged in the attribution of value to specific elements within the environment.

For Buddhist practitioners, a distinct inclination toward objects affiliated with Buddhism was observed. Icons such as Buddha statues held a profound

resonance, serving as focal points that invoked a sense of reverence and spiritual connection including 'blessing'. These elements appeared to facilitate a deeper engagement with mindfulness practice, invoking a sense of sacredness that aligned with their belief system. Conversely, non-Buddhist practitioners exhibited a distinctive affinity for nature and natural elements. For example, views of greenery and natural sounds acted as influential elements that enriched their practice experiences.

It is within these distinct inclinations that the depth of the relationship between individual belief systems and the environment becomes evident. This finding underscores the interplay between cultural backgrounds and personal philosophies, each influencing how practitioners interact with their surroundings during mindfulness practice. In summary, the exploration of Buddhist and non-Buddhist perspectives has enriched the understanding of how diverse value systems shape the interplay between mindfulness and the environment.

9.1.5 Research framework with design strategies

Central to the research's practical implications, a systematic research framework was established, encapsulating the essence of empirical findings and offering a structured guide for both mindfulness practitioners and designers seeking to optimise the environment in which mindfulness is practised. Comprising nine distinct factors, the research framework functions as a compass that help direct the alignment of the environment with the principles of mindfulness. As practitioners and designers engage with this framework, they

can be assisted with recommendations to adapt/design spaces that support the mindfulness practice.

To enhance accessibility and applicability, the framework is accompanied by two columns of recommendation. In one column, individual mindfulness practitioners could find suggestions that empower them to adapt their immediate environment with ease. These recommendations serve as pragmatic tools, allowing practitioners to curate their surroundings in ways that foster mindfulness, embracing both the limitations and opportunities of their current space. The second column, dedicated to designers, encapsulates insights from systematic and mature design principles (such as BREEAM, Living Well and others). Acknowledging the immense potential of designers to shape environments that support mindfulness, they are encouraged to consider the attributes identified within the research framework, helping to create environment-conscious design that nurtures holistic well-being.

In short, the framework synthesised empirical evidence, human experience, and design principles, presented in a format that bridges theory and application. By offering tailored strategies for practitioners and designers alike, this framework could serve as an effective guide, aimed at enriching the mindful interaction between individuals and their environments and support their journey on the path of awareness.

9.2 Contribution of the Study

9.2.1 Academic contribution

This research has significantly contributed to the enrichment of the existing literature on the symbiotic relationship between mindfulness and its environment. By grounding its findings in empirical evidence drawn from a quantitative questionnaire and qualitative case study, it has advanced the understanding of how physical surroundings interact with mindfulness practice. While numerous studies have explored the impact of the physical environment on general well-being, healing, and other domains, the connection between mindfulness and the physical environment had lacked comprehensive empirical substantiation. This research effectively addressed this gap by delving into the specific physical environmental elements and qualities that enhance mindfulness meditation. In doing so, it not only validated the importance of tranquility in practicing mindfulness but also identified other pivotal components that contribute to an optimal mindfulness experience.

Methodologically, this research employed a quantifying qualitative approach, a strategic methodology that bridges qualitative insights with quantitative rigor. The research commenced by constructing an initial research framework grounded in the existing literature. Subsequently, the Mean Analysis and Exploratory Factor Analysis were synergistically employed, integrating quantitative feedback from mindfulness practitioners across the UK to refine and expand the research framework. This approach effectively mitigated the limitations of subjectivity while retaining the intricate nuances illuminated by the representative case study. Importantly, this methodological paradigm is poised

to reverberate across future studies, offering a powerful tool to extract reliable results while preserving the profound insights gleaned from diverse perspectives.

In addition to its immediate contributions, the findings of this research can also contribute towards the design field, prompting enrichment of design principles. By substantiating the relationship between mindfulness and the physical environment, this research fosters an environment-conscious approach to design. Designers now possess empirical evidence that informs the creation of spaces that foster mindfulness, tranquillity, and well-being. This not only elevates the user experience within designed environments but also forges a new dimension of design that caters to the holistic wellness of its occupants. As mindfulness continues to gain prominence in various sectors, from workplaces to healthcare facilities, the integration of evidence-based design principles can significantly enhance the impact of these environments on the mental and emotional states of individuals.

9.2.2 Practical contribution

In practice, the outcomes of this research yield valuable and actionable insights that hold significance for a diverse spectrum of stakeholders. Notably, the findings offer practical guidance to potential individuals and organisations focused on mindfulness meditation, as well as designers in the built environment field. Moreover, individuals seeking a supportive physical environment for their mindfulness practice stand to benefit profoundly from the research outcomes. By strategically prioritising the most impactful elements,

whether positive or negative, this study provides a comprehensive framework that serves as a guiding compass for those who seek to enhance their mindfulness practice spaces. This framework is particularly invaluable for practitioners who may have limited access to well-equipped meditation centres or constrained budgets. The research findings furnish these individuals with adaptable and pragmatic recommendations, allowing them to tailor and elevate their existing surroundings to align with mindfulness goals. Various user profiles can find tailored suggestions; designers and managers can harness greater resources to enact substantial changes, while individuals can employ ingenious 'quick-fix' strategies, such as noise-cancelling headphones to curate quietness.

In essence, the research findings substantively contribute to enriching the daily mindfulness meditation experiences of practitioners, thereby nurturing their holistic well-being over the long term. However, it's important to recognise that the physical environment, while influential, does not stand as the ultimate goal in the mindfulness journey. Rather, it functions as a tool that supports practitioners in their pursuit of mindfulness. The concluding discussions accentuate the importance of recognising other intangible elements, including the concept of 'blessing', that contribute to the broader mindfulness experience. This reminder serves as a compass for beginners, steering them away from overly attaching themselves to the physical environment. Instead, it encourages them to embark on a journey that transcends the confines of the material world, urging them to explore the boundless potential of mindfulness practice beyond physical boundaries and limitations.

In the holistic perspective, the research findings resoundingly advocate for an integrated approach to mindfulness practice — one that harmonises the tangible elements of the environment with the intangible dimensions of intention, presence, and self-awareness. By recognising both the practical utility of a well-aligned environment and the transcendental aspects of the mindfulness journey, this research resonates with practitioners, designers, and advocates of mindfulness alike, fostering a more profound and balanced engagement with the transformative power of mindfulness practice.

In summary, this research transcends the realms of academia, intersecting with practical application and transformative potential. Its empirically grounded insights hold the promise of influencing how one conceive, construct, and experience our environments. As the understanding of the interplay between mindfulness and place deepens, this research fuels a future where design is not only aesthetically pleasing but intrinsically supportive of the inner journeys of individuals seeking mindfulness and well-being.

9.3 Limitations of the Study

Due to the scope of research and limited time, the study only focused on UK mindfulness practitioners. Therefore, the findings can only suggest the likely representative situations in the UK, but not necessarily the same in other countries or cultural contexts. As people from different cultural backgrounds and traditions of practice values judge things accordingly, the results may vary from country to country across the world (and may be completely different). The cultural context limitation should be noted in this research.

Practically, due to the Covid-19 pandemic starting in early 2020, the UK has undergone a few national lockdowns, impacting access to relevant resources. For example, many mindfulness centres and organisations were closed during the lockdown. Some were temporary, and some were permanent due to financial suffering. Therefore, it was not possible to visit any of the cases for an extended period of time. It was only possible to conduct the fieldwork when Covid-19 measurements were gradually easing and centres reopening in late 2021. Due to the same reason, it took a lot of work to reach potential participants and request their questionnaire completion, as many centres were not operating during the lockdown. In short, the Covid-19 pandemic (especially the national lockdown) has caused a delay in the research plan and a change in case study selection. Thus, it has held up the data collection process and, after that, data analysis.

The sample of questionnaire participants and interviewees from the case study was small. Although the case study was qualitatively based, the more participant involved, the more comprehensive understanding could be obtained. For example, for the questionnaires, only 12 female participants were involved in the online questionnaire during lockdown (when the study was conducted), which was a small percentage compared to the people go to the centre. Regarding the SSI conducted for the research, only three proficient female Buddhist practitioners (including the resident teacher) associated with the centre were interviewed. Therefore, perspectives from other gender, faiths and different level of practice (i.e., beginners) could be missing. Regarding spatial

analysis, a more detailed survey of the spatial qualities has not been achieved due to the limited time open to the public. The public was only allowed to enter the centre during meditation sessions. Many measurements were limited.

Although this research attempted to quantify the qualitative, the research results were obtained from people's perspectives (self-reported based) rather than objective measurements due to limited resources. People have different personal judgement standards and preferences, so the results can only provide an average number of opinions rather than a full picture. Individual cases could be extreme in some circumstances. Although the study has fulfilled the minimum requirement for the minimum of participants needed for the questionnaire to be valid, there is still room for recruiting more participants for the results to become more representative. Due to limited time, the study only conducted one round of initial questionnaires and interviews with practitioners of the case study. This does not enable the research framework to be further examined and improved with more details. Thus, a comprehensive study should be conducted to refine the research framework with more time provided.

9.4 Recommendation for Future Work

Further studies in similar contexts can be conducted to improve upon the current research framework. Although the research framework has been revised throughout this research, it still has room for further improvement and enrichment. For example, one potential research could be taking this revised research framework and asking practitioners from a particular centre(s) to rate

the controllable elements in the centre. The data can then be used for Confirmatory Factor Analysis (CFA) to examine the conclusion based on EFA.

The research framework can have more detailed subdivisions for the controllable elements to the quantifiable standards, such as the level of sound (in dB), providing a range for people to choose from, the choice of colours, the type of plant and water bodies and more. To further improve future research, the quantitative questionnaire could be improved by showing images of the spatial setting to demonstrate each element better. Such a framework can be further examined and adapted to a different context.

The study can also be taken further to examine the effect of other people being in the same physical space. For example, creating situations such as placing one beginner (a) alone; (b) with a group of beginners; (c) with a group of proficient practitioners and then using similar measurements (both self-reported and externally measured) to examine the influences.

Introducing more objective measurements can achieve more accurate and objective results. For example, with sufficient resources (including specific equipment), the study can measure the quality of mindfulness when placing the practitioners in a different physical environment. For example, in some studies, sensory equipment has been placed on participants' heads to measure the active zones during their activities. Similarly, such equipment can be deployed to measure how practitioners respond to different external environments for their mindfulness practice. In such a way, the study is more likely to find out how

individual elements would influence practitioners' mindfulness meditation (i.e., Environment A: controlled basic; Environment B: change the source of sound/sound level; Environment C: change different colours of the wall/visual appearance etc.) including the level of influence.

Furthermore, while the research framework developed offers a structured approach, its applicability might vary across different cultural and contextual settings. Context-specific adaptations and validations could enhance its universal usability. Moreover, as technology continues to reshape our interactions with the world, exploring the influence of technology-mediated environments on mindfulness practice becomes increasingly relevant. Virtual reality, digital applications, and immersive technologies offer new avenues for individuals to engage in mindfulness practice. The impact of these novel mediums on attention, sensory experiences, and overall well-being could provide valuable insights into how mindfulness is evolving in the digital age. Understanding how technology-mediated environments intersect with mindfulness may open doors to innovative approaches that cater to modern lifestyles and preferences. However, this exploration also requires careful consideration of potential challenges, such as screen addiction or the blurring of the boundaries between mindful presence and technological engagement. Balancing the benefits of technology with the core principles of mindfulness remains a critical endeavour, requiring ongoing research and collaboration between technological innovators and mindfulness practitioners.

One interesting potential study may be conducted about the power of 'blessing'. For example, the research can invite a group of Buddhists and place them in two environments (one with objects related to the Three Jewels and one without). This can explore how important or how much 'blessing' influences individuals. By combining the below measurements, the study will gain a more detailed understanding of how 'blessing' (the intangible aspects) can facilitate practitioners' practices. With the support of the objective data, the study could be more comprehensive. Hence, the application for the research would be more precise and beneficial.

In summary, the adaptable nature of the research framework highlights the need for cultural sensitivity and context-specific adaptations. Acknowledging the cultural and technological dimensions within which mindfulness practices unfold ensures that the benefits of the research are accessible and relevant across a global landscape. By embracing these considerations, researchers, designers, and practitioners can pave the way for a more inclusive, technologically integrated, and culturally aware approach to mindfulness practice within various environments in the future.

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APPENDICES

Appendix A – Ethics Approval Document

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator from a University of Nottingham email address, or may be completed in paper form and delivered to the Faculty of Engineering Research Office.

Applicant full name Anran Chen

Reviewed by:

Name S11

Signature (paper based only)

Date 04/05/2021

- Approval awarded - no changes required
- Approval awarded - subject to required changes (see comments below)
- Approval pending - further information & resubmission required (see comments)
- Approval declined – reasons given below

Comments:

Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator from a University of Nottingham email address, or may be completed in paper form and delivered to the Faculty of Engineering Research Office.

Applicant full name Anran Chen

Reviewed by:

Name P18

Signature (paper based only)

Date 07/05/2021

- Approval awarded - no changes required
- Approval awarded - subject to required changes (see comments below)
- Approval pending - further information & resubmission required (see comments)
- Approval declined – reasons given below

Comments:

It all looks fine...except the 3 questionnaires. They ask for gender and religious faith. I've no issue with these but maybe they want to update these to be more inclusive (e.g. questionnaires I've seen have asked about gender identification so are more than just male and female). Same with religion....there are standard drop down lists for these.

Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

Appendix B – Recruitment Email

Dear [community member representative],

My name is Anran Chen. I am a PhD student from the Department of Architecture and Built Environment, University of Nottingham. I am currently conducting a questionnaire as part of my PhD research project, titled 'Mindfulness and Place'. The study concerns how specific spatial arrangements could affect the practice of mindfulness meditation. It aims to influence the future design of contemplative and sustainable places and improve people's mindfulness practice and wellbeing.

I am looking for participants to participate in an online questionnaire, which may take about 15-20 minutes to complete. Specifically, I am reaching out to secular and Buddhist mindfulness practitioners and trainers in the UK to find out where they meditate (for example, at home, in the garden) and explore whether the type of space influences their practice. To help me to reach as many participants as possible, I am wondering if you could kindly support this research by sharing my 'call for participants' and a link to the online questionnaire with your community members, either by adding this information to your next email list newsletter and/or posting it on your website? The '**call for participants**' text and the live link to my online questionnaire is reproduced below.

Participation is **completely voluntary**, and all answers will be **anonymous**.

Could you reply by email to let me know if you are able to assist me, or if you have any questions, please do not hesitate to ask me. Alternatively, my study is supervised by Dr Nicole Porter and Dr Amy Tang, and they can be contacted on

nicole.porter@nottingham.ac.uk and yue.tang@nottingham.ac.uk. This research has been approved by the Faculty Research Ethics Committee.

I would be very grateful if you would be willing to support my study and take part.

Thank you for your time.

Anran Chen

PhD candidate at the University of Nottingham

[WHERE DO YOU PRACTICE MINDFULNESS? A RESEARCH PROJECT - CALL FOR PARTICIPANTS]

PhD student Anran Chen (University of Nottingham) is conducting a study of the relationship between space and mindfulness. The study concerns how specific spatial arrangements could affect the practice of mindfulness meditation. It aims to influence the future design of contemplative and sustainable places and improve people's mindfulness practice and wellbeing. Anran is looking for participants to take part in an online questionnaire to share your views. The questionnaire may take about 15-20 minutes to complete, participation is completely voluntary, and all answers will be anonymous. For more information and to complete this survey, please follow this link here <https://nottingham.onlinesurveys.ac.uk/mindfulness-and-place> or email anran.chen@nottingham.ac.uk.

Appendix C – Questionnaire Consent Form

[Note: for the original data please use the link: [Original Date for Thesis](#)]

Please read the following important information.

Thank you for taking the time to complete this survey. It should take 15-20 minutes. The purpose of this research is to investigate **how specific spatial arrangement would affect the formal practice of mindfulness**, which the findings may influence the future application in design to enhance the mindfulness practice for people. This research is conducted by Anran Chen, a PhD student from the Department of Architecture and Built Environment, University of Nottingham.

This study is supervised by Dr Nicole Porter and Dr Amy Tang, and they can be contacted on nicole.porter@nottingham.ac.uk and yue.tang@nottingham.ac.uk. This study has been approved by the Faculty Research Ethics Committee, University of Nottingham.

Before beginning this survey, please read the following statements and confirm that you agree to participate:

- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I have had the purpose and nature of the study explained to me by email and I have had the opportunity to ask questions about the study.
- I understand that participation involves the research on the topic of the relationship between space and that aims to find out the essence of a mindfulness space.

- I understand that I will not benefit directly from participating in this research.
- I understand that all the information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. No name or address is required for the online survey.
- I understand that disguised extracts from my online survey may be quoted in dissertation, conference presentation, published papers.
- I understand that signed consent forms and survey results will be retained electronically at the University of Nottingham in accordance with GDPR data security legislation. Only the investigators have access to data.
- I understand that result from the online survey in which all identifying information has been removed will be retained for three years from the date of the PhD for the student, and seven years following the publication of results for the supervisor.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.
- I confirm that I am over 18.

YES - I consent to the study as described above (Online)

NO – I no longer consent to participate (Online)

Appendix D – Interview Consent Form

Consent Form 1 - Mindfulness meditation practitioners

Description: this research of the relationship between space and mindfulness is conducted by Anran Chen, a PhD student from the Department of Architecture and Built Environment, University of Nottingham. I am currently conducting in-depth interview to fulfil the requirements of the PhD research project. The study concerns how specific spatial arrangement would affect the formal practice of mindfulness, which the findings may influence the future application in design to enhance the mindfulness practice for people. Participation is completely voluntary, and your answers will be anonymous. All data will be stored and used abiding the GDPR. You would be under no obligation to take part. If you have any questions, please do not hesitate to contact me via: anran.chen@nottingham.ac.uk.

This study is supervised by Dr Nicole Porter and Dr Amy Tang, and they can be contacted on nicole.porter@nottingham.ac.uk and yue.tang@nottingham.ac.uk. This study has been approved by the Faculty Research Ethics Committee, University of Nottingham.

I voluntarily agree to participate in above named research study.

- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case all relevant materials will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.

- I understand that participation involves in the research on the topic of the relationship between space and that aims to find out the essence of a mindfulness space.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in dissertation, conference presentation, published papers.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained for three years from the date of the exam board for the student, and seven years following the publication of results for the supervisor.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

Signature of participant

Date

- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case all relevant materials will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves in the research on the topic of the relationship between space and that aims to find out the essence of a mindfulness space.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that my anonymity is not guaranteed. Comments I make may be identifiable by my position i.e. Director of Buddhist Centre [name]
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

Signature of participant

Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study.

Signature of researcher

Date

Appendix E – Questionnaire Form

PART 1 – ABOUT YOUR MEDITATION PRACTICE

1. How often do you practice formal mindfulness meditation per week (where you intentionally set aside a particular block of time for the practice in a certain place)?

1. Never (*the survey ends*)
2. Everyday
3. 5-6 times
4. 3-4 times
5. 1-2 times
6. Others (Please specify, for example, once a month)

2. How many hours have you been practicing mindfulness for in total?

1. Below 50 hours
2. 50-100 hours
3. 101-175 hours
4. 176-275 hours
5. Above 275 hours

3. What posture would you adopt the most for your mindfulness practice?

1. Sitting
2. Standing
3. Kneeling
4. Others (Please specify)

4. Where do you practice formal mindfulness meditation **the most**? (*Single choice*)

1. At home indoors
2. In the office

3. In my own garden
4. In a mindfulness centre
5. In a retreat centre
6. In a park
7. Others (Please specify)

PART 2 - ABOUT THE PLACE WHERE YOU PRACTICE

We are interested in understanding **how much (if at all) the physical environment may support your mindful meditation.** For the following questions, please think about the place where you practice mindfulness most often:

At this moment in time, please rate whether the following physical elements have a positive, negative or neutral influence on your mindful meditation practice, where -5 = very negative influence, 0 = neutral, and +5 = very positive influence. If the element is not present in the space where you practice the most, please select **n/a**.

1.1a.

SOUND elements		-5 -4....0....4 5	N/A
Quietness	<i>Absence of sound / silence</i>		
Natural sounds	<i>Sound of water</i> <i>Wild birds</i> <i>Sound of wind</i> <i>Sound of rain</i>		
Artificial sounds	<i>Meditation bells</i> <i>Background Zen music</i> <i>Clock ticking</i> <i>Instruction</i>		

1.1b. Please state any other **SOUND** elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively in a scale from -5 to 5? (*Short line*)

1.2a.

VISUAL elements		-5 -4....0....4 5	N/A
The view of greenery			
Open, unblocked view			
Natural lighting	<i>Direct natural lighting</i>		
	<i>Indirect natural lighting</i>		
Artificial lighting	<i>Warm artificial lighting</i>		
	<i>Cool artificial lighting</i>		
Focus objects	<i>Buddha statue</i>		
	<i>A vase with flower</i>		
	<i>Mandala</i>		
	<i>Artistic objects</i>		
	<i>Images of nature</i>		
Presence of water body	<i>Natural water feature</i>		
	<i>Artificial water feature</i>		
Colour of the room	<i>Warm colour</i>		
	<i>Cool colour</i>		
	<i>Harmonious room colour</i>		
	<i>Strong contrasting room colour</i>		
Feature of time	<i>Seasonal changing vegetation</i>		
	<i>Visibility of shade movements</i>		
	<i>Sun/moon passage</i>		

1.2b. Please state any other **VISUAL** elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively in a scale from -5 to 5? (*Short line*)

1.3a.

SENSUAL elements		-5 -4....0....4 5	N/A
Temperature	<i>Cooler temperature</i> <i>Warmer temperature</i>		
Scent	<i>Burning incense</i> <i>Smell of cut grass</i> <i>Smell of other natural elements</i>		
Use of tools	<i>Use of cushion</i> <i>Use of bench</i> <i>Use of chair</i> <i>Use of matt</i>		
Comfortableness	<i>Comfortable posture</i> <i>Soft touching of the space</i>		
Protectiveness	<i>Sheltered, covered,</i> <i>enclosed space</i>		
Inclusiveness	<i>Inclusive design</i>		
Atmosphere/ambience of the space	<i>Welcoming atmosphere</i> <i>Calming atmosphere</i>		

1.3b. Please state any other **SENSUAL** elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively in a scale from -5 to 5? (*Short line*)

1.4a.

OTHER elements		-5 -4....0....4 5	N/A
Location of the practice space	<i>Busy urban environment</i> <i>Rural remote environment</i> <i>Suburban environment</i>		

1.4b. How long does it take for you to travel to the place that you practice mindfulness the most?

1. 0 (Home practice)
2. Below 15 min
3. 15 - 29 min
4. 30 - 59 min
5. 60 - 119 min
6. Above 120 min

1.4c. How much do you think the travelling time would influence your practice negatively or positively in a scale from -5 to 5?

1.4d. Please state any other elements that you think would influence your formal mindfulness meditation. If there were any, do they influence your practice negatively or positively in a scale from -5 to 5? (*Short line*)

1.5. How would you describe the atmosphere in the space that you practice mindfulness? For example, calm, quiet, open, peaceful... (*Short line*)

Now consider places where you meditate in general, and your approach to these places in the following questions:

2. Please rate how important each of these physical elements are to you, as a means of supporting your practice and your intention to be mindful. (Grid)

Elements	Not important at all	Not so important	Neutral	Somewhat important	Essential
Quietness					
Natural sounds					
Artificial sounds					
View at the practice space					
Natural lighting					
Artificial lighting					
Focus objects					
Presence of water body					
Colour of the room					
Feature of time					
Temperature					
Use of tools					
Comfortableness					
Protectiveness					
Inclusiveness					
Atmosphere/ ambience of the space					

3. Do you deliberately set up a certain environment when you practise formal mindfulness meditation? For example, changing the colour of lightings, lighting up a candle, burning a scent, etc.

1. Yes, always
2. Sometimes
3. No

4. Please select the statement which you agree with most:

1. I don't place any importance on where I meditate, I will close my eyes and be mindful anywhere regardless of whether it is a quiet place, on the bus, wherever!
2. I prefer to practice mindful meditation in some places more than others
3. I have a routine of meditating in particular places that best support my intention to be mindful
4. I intentionally practice meditation in different settings instead of always using the same room or space, because I want to keep things fresh and not become attached to one place

5. Have you ever had a particularly memorable meditation experience which you associate with a specific location or setting?

1. Yes
2. No

6. If you ever had a particularly memorable meditation experience that you associate with a specific location or setting, please describe this place and what made it so special? (*Short line*)

7. Given the impact of lockdown (meditation centre closures and limiting social gatherings, having to stay at home) what impacts has the pandemic (COVID-19) brought to your practice? (*Short line*)

PART 3 - DEMOGRAPHIC QUESTIONS

1. What is your religious faith?

1. No religion
2. Buddhist
3. Christian
4. Hindu
5. Jewish
6. Muslim
7. Sikh
8. Other

2. What is your age?

1. 18-24
2. 25-29
3. 30-34
4. 35-39
5. 40-44
6. 45-49
7. 50-54
8. 55-59
9. 60-64
10. Over 65.
11. Prefer not to say

3. What is your gender?

1. Male

2. Female
3. Prefer not to say

4. What is your employment status?

1. Employed full-time (including furlough)
2. Employed part-time (including furlough)
3. Unemployed
4. Student
5. Other

Thank you very much for taking the time out of your day to complete this online survey!
We appreciate it so much, as your feedback will directly help us in the study of the relationship between space and formal mindfulness practice. Your response really makes a difference.

Appendix F – Interview Form

Interview Form 1 - Practitioner

If the participant is from the participants who have done the questionnaire, the relevant information will be prepared and start to confirm the answers with them.

Quick Questions

1. How long have you been practising mindfulness meditation?
2. How frequently do you formally practise mindfulness/meditation?
3. How long each time do you practice on average?
4. What is your understanding of mindfulness?
5. Have you gained changes from mindfulness meditation?
6. Where do you most frequently practice formal mindfulness meditation?
7. Would you set up a certain environment when practising (e.g. at home)?
8. How often would you go to the centre to practise formal mindfulness meditation?

Longer Questions

1. Does this place (the centre) enhance your experience when practicing or leading mindfulness meditation? To what degree do you think it has impact on your experience? If so, is the impact positive or negative?
2. What is the most important quality of a space that you think would impact your mindfulness practice the most? Why is that?
3. How do you think the spatial arrangement (for example, the lighting, the orientation of the furniture, focus objects within the space) affect your mindfulness practice?
4. Is it different for you to practice at home/or other location than to practice in the centre here? If so, how is it different?

5. Is there any element that you would choose to replicate at your home/or usual place of practice? Why/why not?
6. If you were to choose three/five keywords, what would you choose to describe the space? What are the reasons for the keywords?
7. COVID-19 and your meditation practice: Given the impact of lockdown (meditation centre closures and social gatherings, having to stay at home) what impacts has the pandemic (COVID-19) brought to your practice?

Interview Form 2 - Manager/Designer of the centre

If the participant is from the participants who have done the questionnaire, the relevant information will be prepared in advance and start to confirm the answers with them.

Quick Questions

1. What is your understanding of mindfulness?
2. Do you formally practise mindfulness yourself? If yes:
 - a. How long have you been practising formal mindfulness meditation?
 - b. How frequently do you practice mindfulness/meditation formally?
 - c. What brings you to mindfulness meditation?
 - d. Have you gained changes from mindfulness meditation?
 - e. Where do you most frequently practice mindfulness meditation yourself?
 - f. Does this place enhance your experience when doing formal mindfulness meditation? To what degree do you think it has an impact on you? If so, was the experience positive or negative?
 - g. Would you set up a certain environment when practising (e.g. at home)?

Longer Questions

1. In your understanding, do you think that certain spatial arrangement would affect the formal mindfulness practice for practitioners?
2. As a designer/manager, what do you think as the important elements for a space to enhance the formal mindfulness practice? (This question aims to cover all the elements listed in the research framework/matrix)
3. Is it different for people (or yourself) to practice at home/or other location than to practice in the centre here (If the participant practice mindfulness formally)? If so, how is it different?
4. What do you think that the centre would provide for people that is exclusive in terms of their practice? Is there any design principles or management procedures that are related to 'making the place different'?
5. Is there any difference or certain atmosphere that you want to create for people?
6. Is there any element that you noticed that people would choose to take away to replicate at home/or usual place of practice?
7. If you were to choose three/five keywords, what would you choose that best describe the space? What are the reasons for the keywords?
8. Any complementary questions based on the interview.

Appendix G – Questionnaire Results

Additional Tables

Table 1 Summary of faiths.

		Faith		
		Frequency	Percent	Valid Percent
Valid	Buddhist	99	48.8	48.8
	No religion	61	30.0	30.0
	Christian	19	9.4	9.4
	Other	19	9.4	9.4
	Muslim	3	1.5	1.5
	Jewish	1	.5	.5
	Hindu	1	.5	.5
	Total	203	100.0	100.0

Table 2 Summary of age groups.

		Age Group		
		Frequency	Percent	Valid Percent
Valid	18-24	10	4.9	4.9
	25-29	25	12.3	12.3
	30-34	8	3.9	3.9
	35-39	15	7.4	7.4
	40-44	18	8.9	8.9
	45-49	26	12.8	12.8
	50-54	22	10.8	10.8
	55-59	26	12.8	12.8
	60-64	22	10.8	10.8
	Over 65	29	14.3	14.3
	Prefer not to say	2	1.0	1.0
	Total	203	100.0	100.0

Table 3 Summary of gender.

		Summary of Gender		
		Frequency	Percent	Valid Percent
Valid	Female	130	64.0	64.0
	Male	67	33.0	33.0
	Prefer not to say	6	3.0	3.0
	Total	203	100.0	100.0

Table 4 Summary of total practice hour.

		Frequency	Percent	Valid Percent
Valid	Above 275 hours	131	64.5	64.5
	176-275 hours	10	4.9	4.9
	101-175 hours	8	3.9	3.9
	50-100 hours	17	8.4	8.4
	Below 50 hours	37	18.2	18.2
	Total	203	100.0	100.0

Table 5 Summary of frequency of practice.

		Frequency	Percent	Valid Percent
Valid	Everyday	88	43.3	43.3
	5-6 times	23	11.3	11.3
	3-4 times	26	12.8	12.8
	1-2 times	45	22.2	22.2
	Other	21	10.3	10.3
	Total	203	100.0	100.0

Table 6 Summary of posture for practice.

		Frequency	Percent	Valid Percent
Valid	Sitting	161	79.3	79.3
	Kneeling	22	10.8	10.8
	Other	19	9.4	9.4
	Standing	1	.5	.5
	Total	203	100.0	100.0

Table 7 Summary of most frequently practice location.

		Frequency	Percent	Valid Percent
Valid	At home indoors	176	86.7	86.7
	In a mindfulness centre	6	3.0	3.0
	In my own garden	5	2.5	2.5
	In a retreat centre	2	1.0	1.0
	In a park	2	1.0	1.0
	Other	12	5.9	5.9
	Total	203	100.0	100.0

Table 8 Summary table for mean of all elements/qualities.

Overall Mean of Elements/Qualities			
	Mean	N	Std. Deviation
Absence of sound	2.1753	194	2.55311
Sound of water	1.8333	150	2.34711
Wild birds	1.9947	187	2.15401
Sound of wind	1.3389	180	2.07987
Sound of rain	1.8075	187	1.96347
Meditation bell	2.0169	177	2.24235
Background Zen music	.1067	150	3.18585
Clock ticking	-1.3810	168	2.31581
Instruction	.8824	170	2.59910
View of greenery	2.6424	165	2.16387
Open, unblocked view	2.3049	164	2.12314
Direct natural lighting	2.0829	181	2.06526
Indirect natural lighting	1.6685	184	1.92875
Warm artificial lighting	1.0889	180	1.72814
Cool artificial lighting	-.2857	161	1.97303
Buddha statue	1.7917	168	2.42209
A vase with flower	1.0732	164	2.01089
Mandala	.6809	141	2.00827
Artistic objects	.5912	159	1.92325
Images of nature	1.2975	158	1.94022
Natural water feature	1.6207	145	2.17009
Artificial water feature	.6528	144	2.20400
Warm room colour	1.2024	168	1.71837
Cool room colour	.2822	163	1.69789
Harmonious room colour	1.5263	171	1.75672
Strong contrasting room colour	-1.1218	156	2.01396
Seasonal changing vegetation	1.3988	168	1.97329
Visibility of shade movements	.6812	160	1.85096
Sun/moon passage	1.5488	164	1.88082
Cool temperature	-.1579	190	2.20781
Warm temperature	1.2398	196	1.89700
Burning incense	1.1444	180	2.64495
Smell of cut grass	.7853	163	2.09273
Smell of other natural elements	1.4643	168	1.79785
Use of cushion	2.9840	187	1.92459
Use of bench	1.4383	162	2.42385
Use of chair	1.7029	175	2.37146

Use of matt	2.4059	170	2.09394
<i>Comfortable posture</i>	<i>3.9242</i>	<i>198</i>	<i>1.43888</i>
<i>Soft touching of the space</i>	<i>1.8830</i>	<i>171</i>	<i>2.00831</i>
<i>Sheltered, covered, enclosed space</i>	<i>2.0052</i>	<i>192</i>	<i>2.04785</i>
<i>Inclusive design</i>	<i>1.4783</i>	<i>161</i>	<i>1.96242</i>
<i>Welcoming atmosphere</i>	<i>2.9622</i>	<i>185</i>	<i>1.87190</i>
<i>Calming atmosphere</i>	<i>3.5825</i>	<i>194</i>	<i>1.58879</i>
<i>Busy urban environment</i>	<i>-2.0347</i>	<i>173</i>	<i>2.17784</i>
<i>Rural remote environment</i>	<i>2.6612</i>	<i>183</i>	<i>2.02592</i>
<i>Suburban environment</i>	<i>.7821</i>	<i>179</i>	<i>1.88504</i>

Table 9 Variables chosen from the research framework used for EFA.

1	Absence of sound	20	Images of nature
2	Sound of water	21	Natural water feature
3	Wild birds	22	Artificial water feature
4	Sound of wind	23	Warm room colour
5	Sound of rain	24	Cool room colour
6	Meditation bell	25	Harmonious room colour
7	Background zen music	26	Strong contrasting room colour
8	Clock ticking	27	Seasonal changing vegetation
9	Instruction	28	Visibility of shade movements
10	View of greenery	29	Sun/moon passage
11	Open, unblocked view	30	Cooler temperature
12	Direct natural lighting	31	Warm temperature
13	Indirect natural lighting	32	Burning incense
14	Warm artificial lighting	33	Smell of cut grass
15	Cool artificial lighting	34	Smell of other natural elements
16	Buddha statue	35	Use of cushion
17	A vase with flower	36	Use of bench
18	Mandala	37	Use of chair
19	Artistic objects (i.e. drawings)	38	Use of matt

Table 10 The Rotation Component Matrix (initial generation).

Rotated Component Matrix^a

	Component									
	1	2	3	4	5	6	7	8	9	10
Seasonal changing vegetation	.753	.119	.147	.178	.004	.155	.104	.116	.125	-.108
Sun/moon passage	.654	.157	.298	.174	.111	.125	.160	.099	-.190	.080
Visibility of shade movements	.648	.002	.360	.248	.032	.132	.060	.164	-.118	-.101
View of greenery	.630	.294	-.109	.333	.151	.097	.075	.146	.008	.165
Natural water feature	.620	.299	.105	.146	.449	.034	.152	.095	.163	-.010
Direct natural lighting	.605	.156	-.024	.202	.077	.319	-.125	.158	.004	.239
Open, unblocked view	.411	.304	-.102	.291	.331	.151	-.073	.348	.041	.288
Artistic objects	.348	.725	.073	.059	.089	.107	-.034	.044	.158	-.139
Buddha statue	.036	.709	.026	.060	-.132	.138	.246	.033	-.205	.192
Mandala	.057	.703	.147	.025	.202	.043	-.022	.346	.107	-.118
A vase with flower	.284	.683	.248	.120	.003	.245	.177	-.085	.105	.063
Images of nature	.519	.529	.145	.129	.350	-.010	-.049	.124	.131	-.015
Burning incense	.122	.450	-.022	-.171	.066	.087	.371	.425	-.229	.055
Cool temperature	.019	-.017	.742	.079	-.168	-.091	.112	.106	-.099	.111
Strong contrasting room colour	.298	.072	.663	.092	.252	.117	-.112	.043	.066	-.043
Cool room colour	.249	.274	.645	.144	.307	.052	-.024	.047	-.021	.136
Cool artificial lighting	.190	.228	.568	.078	.058	.359	-.132	.077	.207	.005
Clock ticking	-.074	.115	.533	.116	.182	.236	-.219	.060	.130	-.181
Sound of rain	.176	-.009	.090	.820	.179	.165	.088	.030	-.059	-.073
Wild birds	.304	.098	.021	.782	.073	-.075	.052	-.011	.105	-.025
Sound of wind	.248	.019	.275	.781	-.007	.057	.024	.058	.061	-.003
Meditation bell	-.199	.236	.052	.471	.236	.096	.387	.331	-.136	.112
Background Zen music	.140	.115	.045	.106	.744	.096	-.068	.072	-.002	.079
Instruction	-.022	-.071	.069	.092	.708	.101	.069	.099	.030	-.036
Sound of water	.318	.109	.111	.503	.555	-.119	.001	.169	.032	.161
Artificial water feature	.476	.310	.313	.040	.527	.075	.073	.111	.225	.038
Warm room colour	.331	.295	.231	-.015	.427	.426	.286	-.095	-.022	-.028
Warm artificial lighting	.061	.213	.153	.110	.097	.778	-.001	.107	.182	.075
Indirect natural lighting	.341	.189	.196	.104	-.037	.633	-.059	.196	-.001	.206
Warm temperature	.219	-.103	-.192	-.151	.361	.506	.222	.029	-.002	-.002
Harmonious room colour	.384	.329	.215	.061	.220	.457	.355	-.264	-.021	-.008
Use of matt	.071	.126	-.027	.155	-.048	-.029	.845	-.014	-.049	-.002
Use of cushion	.068	.059	-.208	.040	.146	.126	.603	.189	.237	-.042
Use of bench	.255	.003	.357	-.033	-.137	-.104	.396	.194	.328	.220
Smell of cut grass	.257	.116	.279	.094	.129	.114	.057	.729	.058	-.040
Smell of other natural elements	.447	.123	.099	.141	.219	.086	.168	.678	.109	-.017
Use of chair	.002	.064	.054	.047	.084	.150	.072	.037	.850	.083
Absence of sound	.025	-.018	.059	-.042	.073	.132	.014	-.032	.088	.857

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations.

Additional Figures

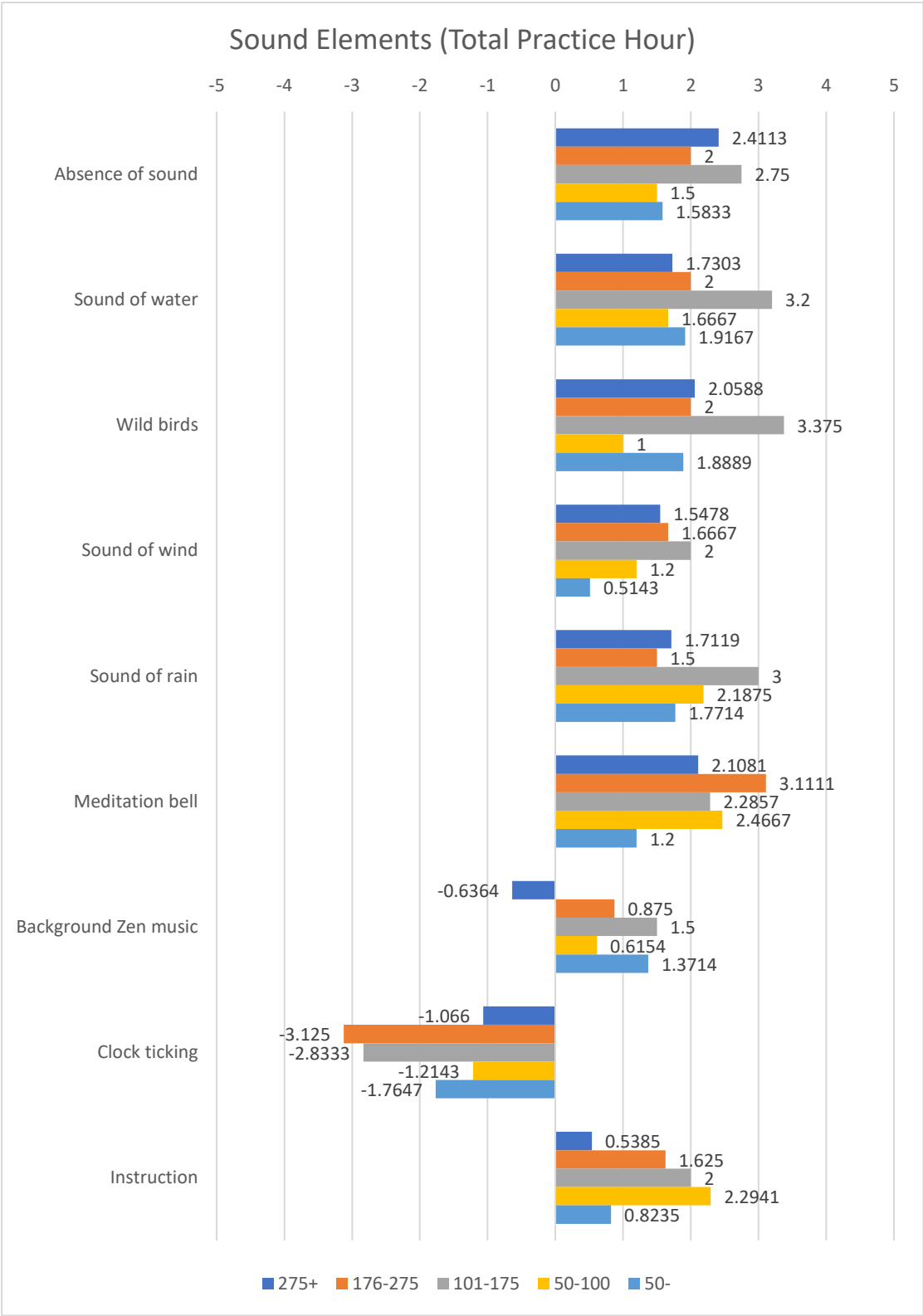


Figure 1 Mean comparison summary by total practice hour.

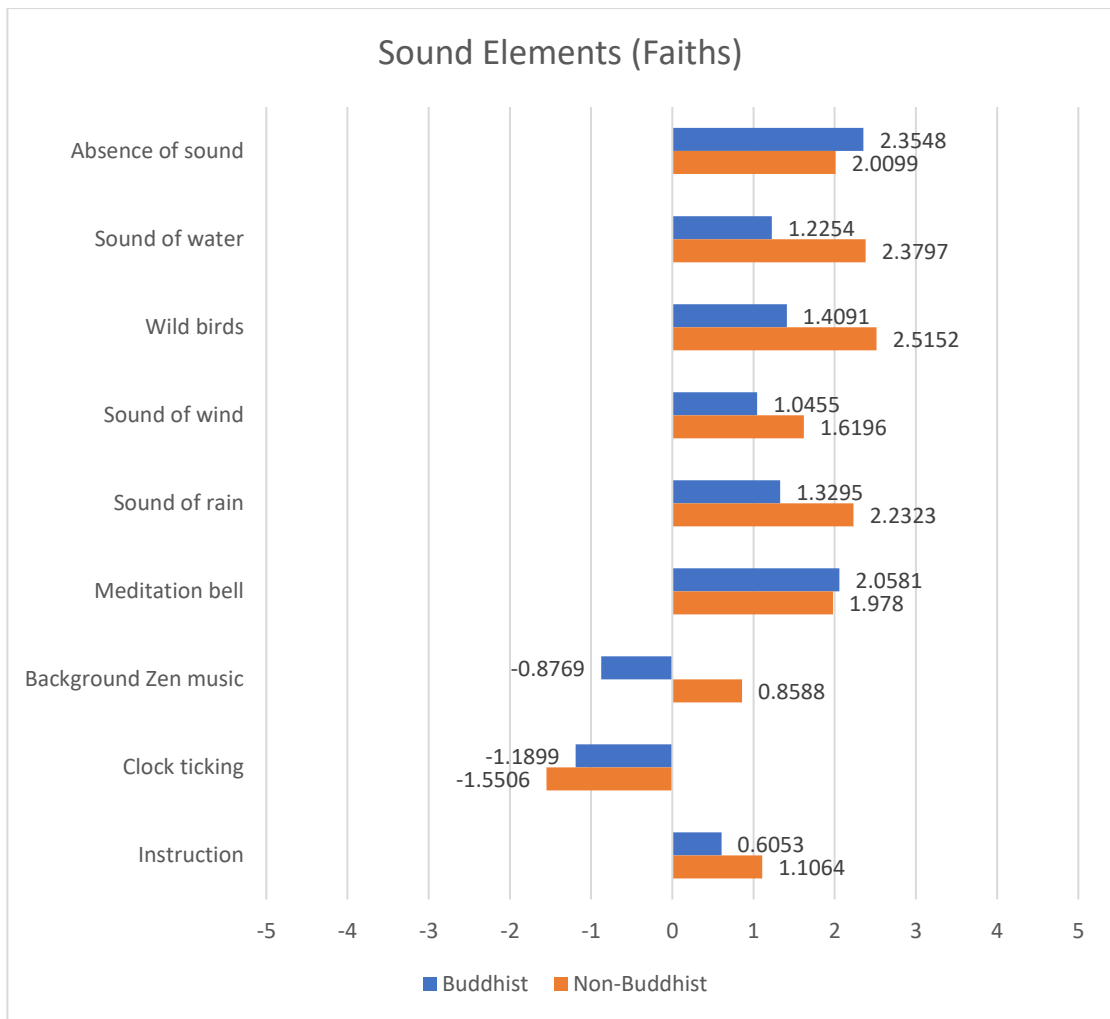


Figure 2 Mean comparison summary by faiths.

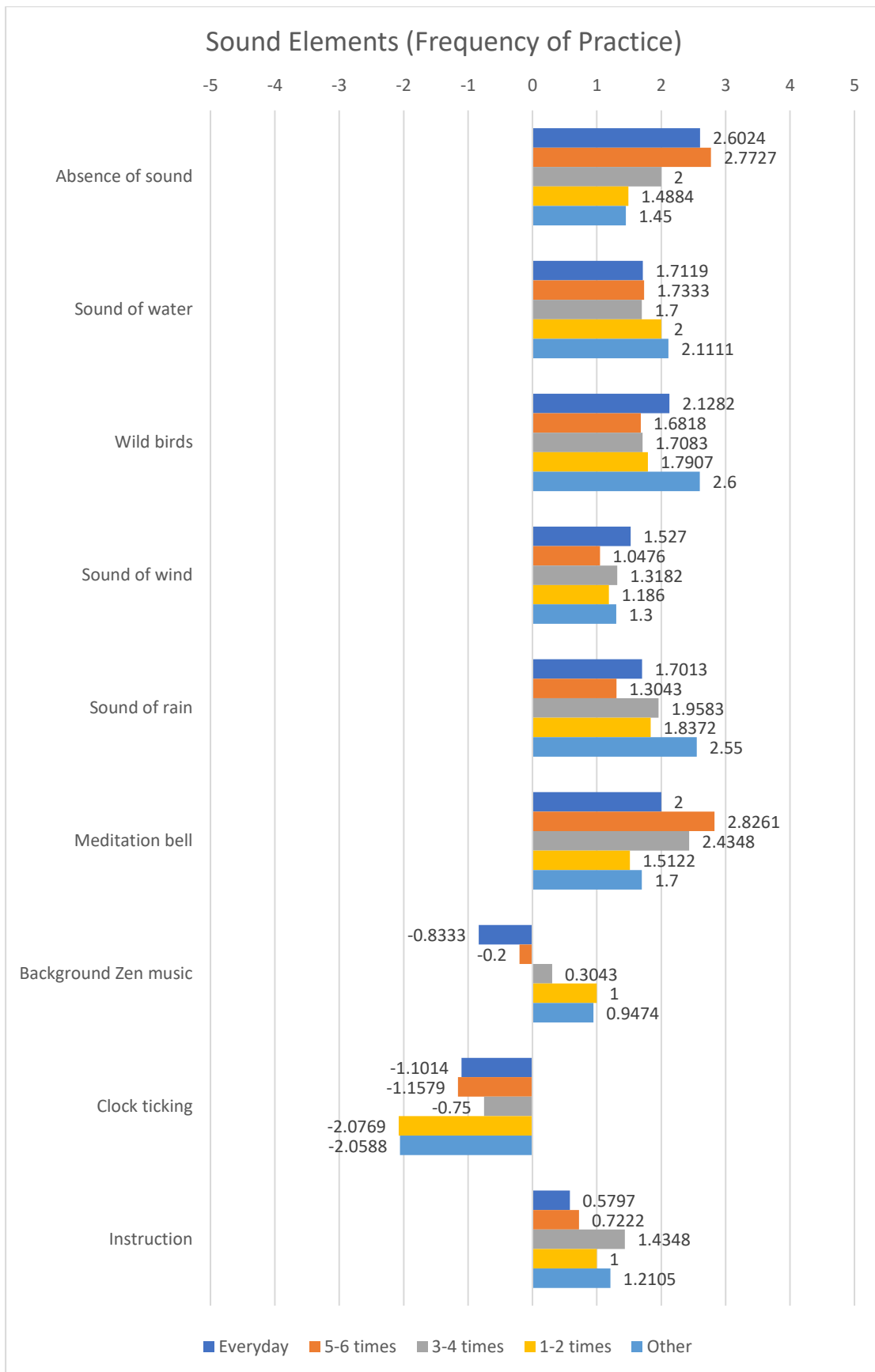


Figure 3 Mean comparison summary by frequency of practice.

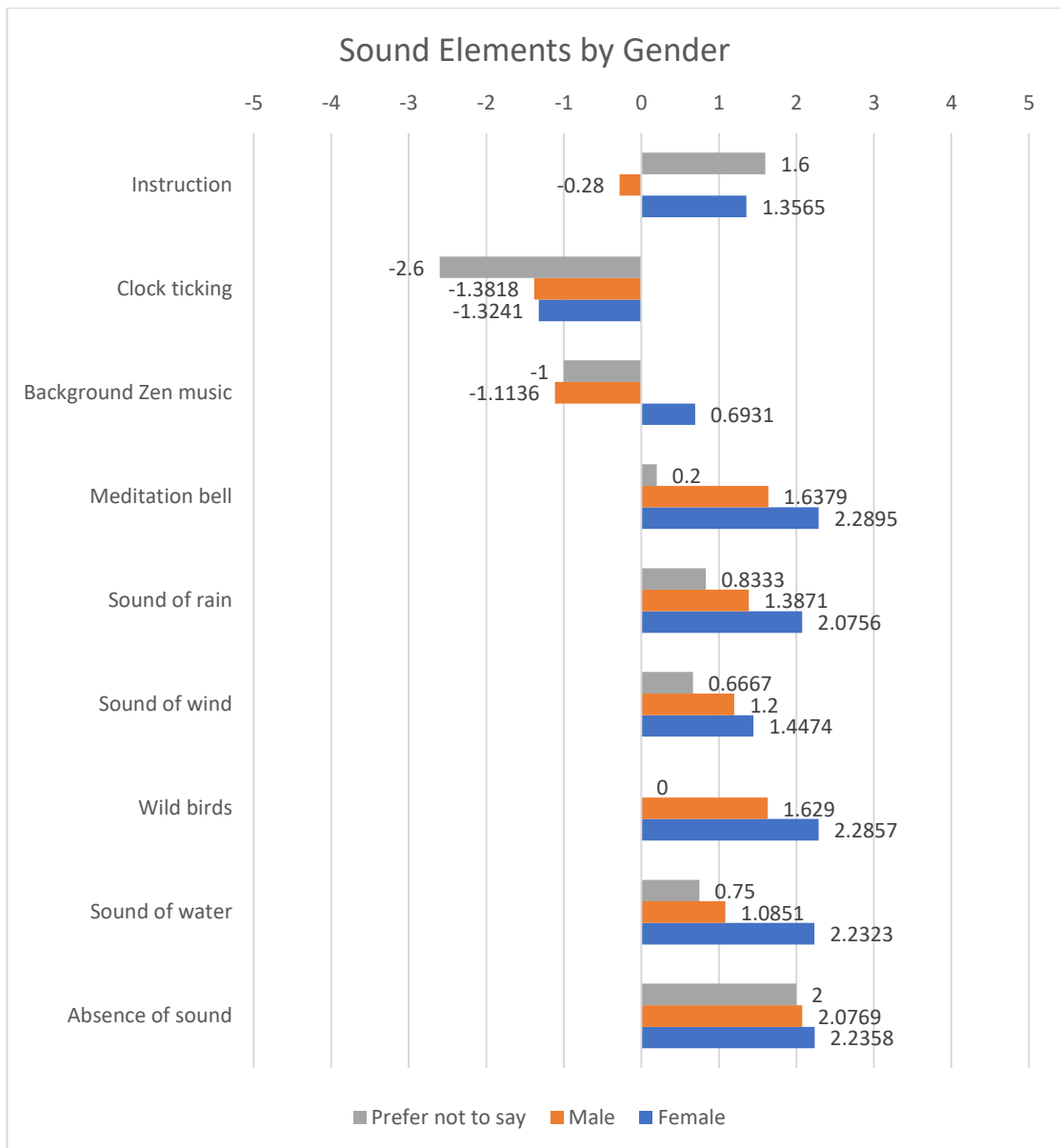


Figure 4 Mean comparison summary by gender.

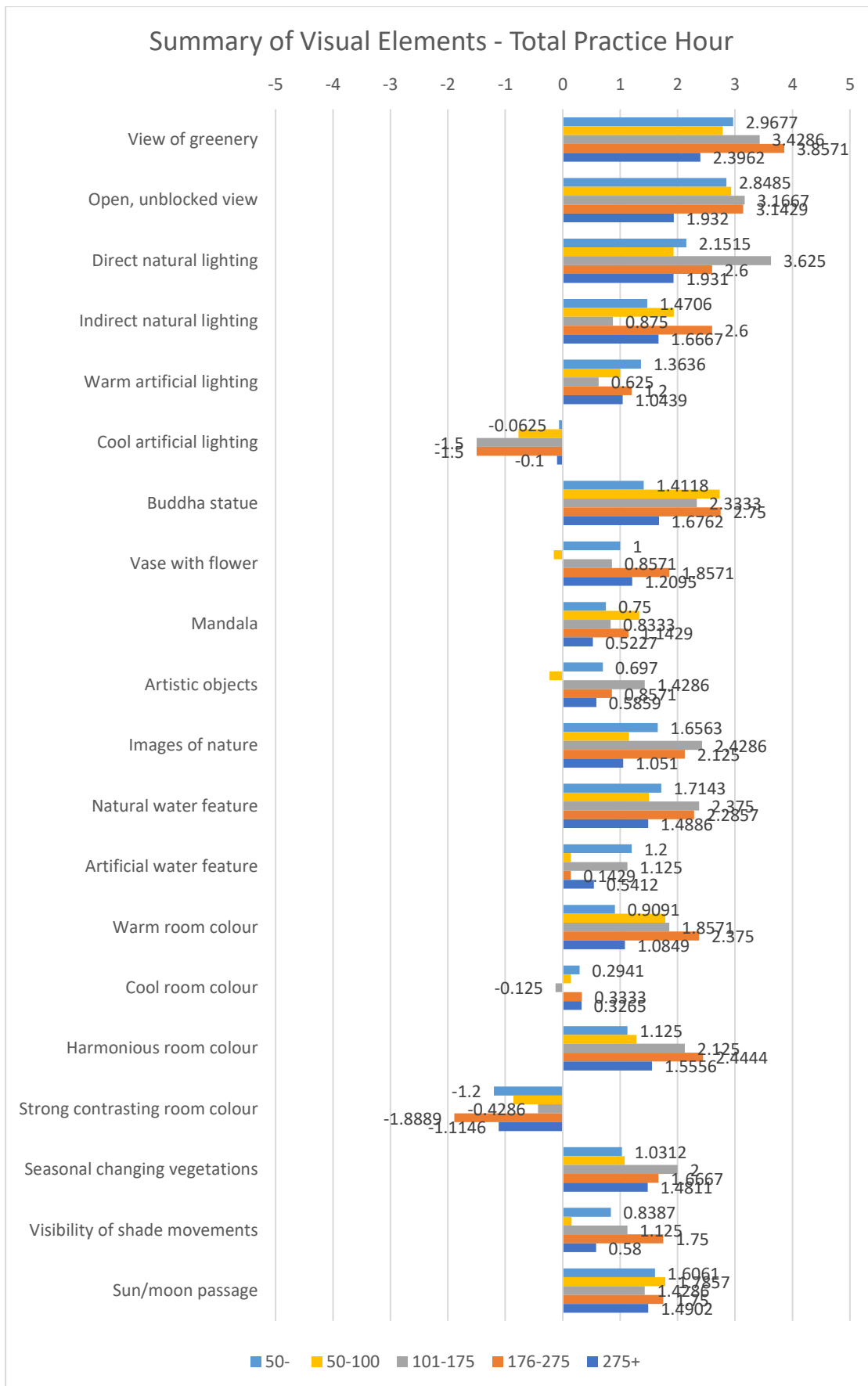


Figure 5 Mean comparison summary by total practice hour.

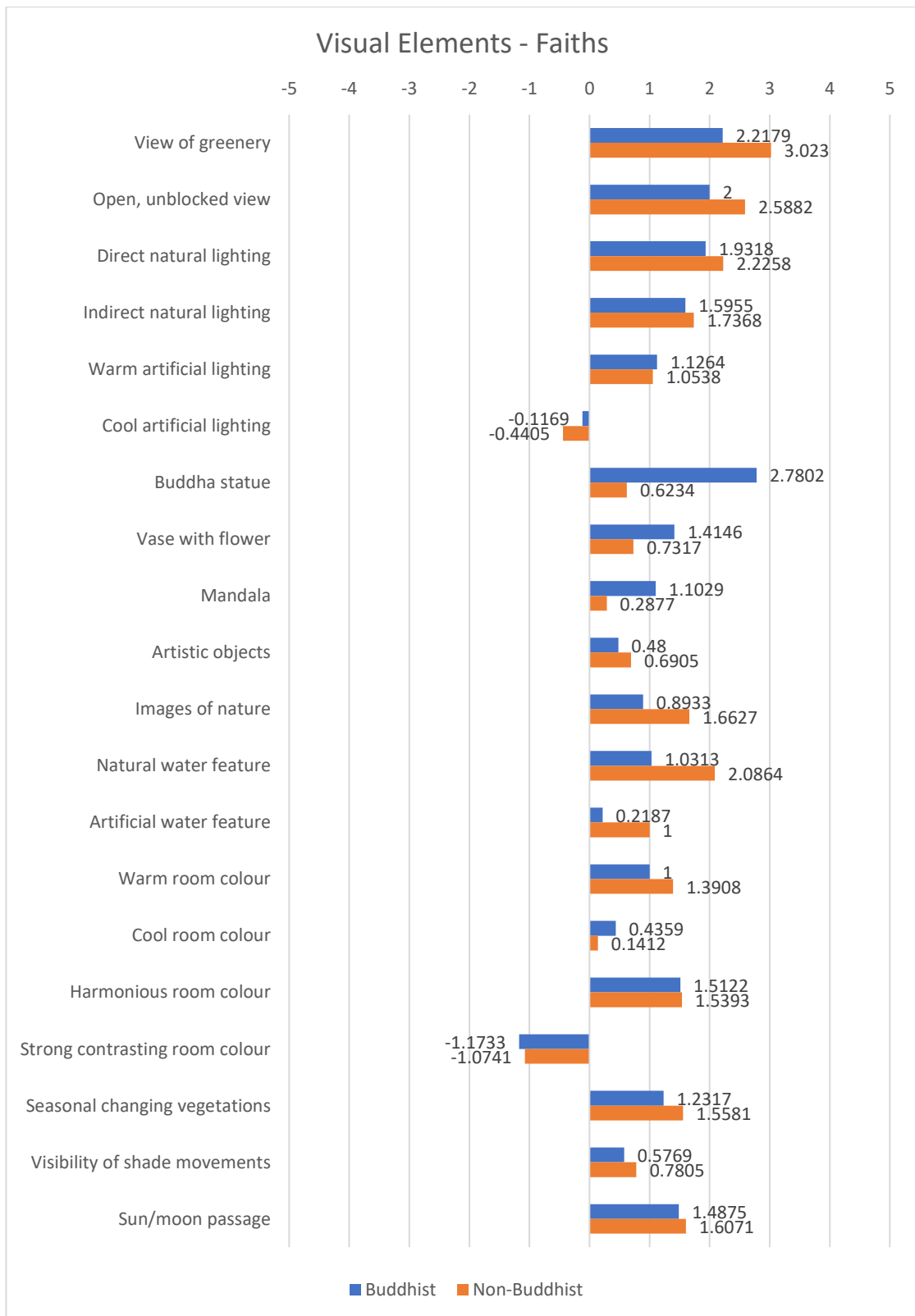


Figure 6 Mean comparison summary by faiths.

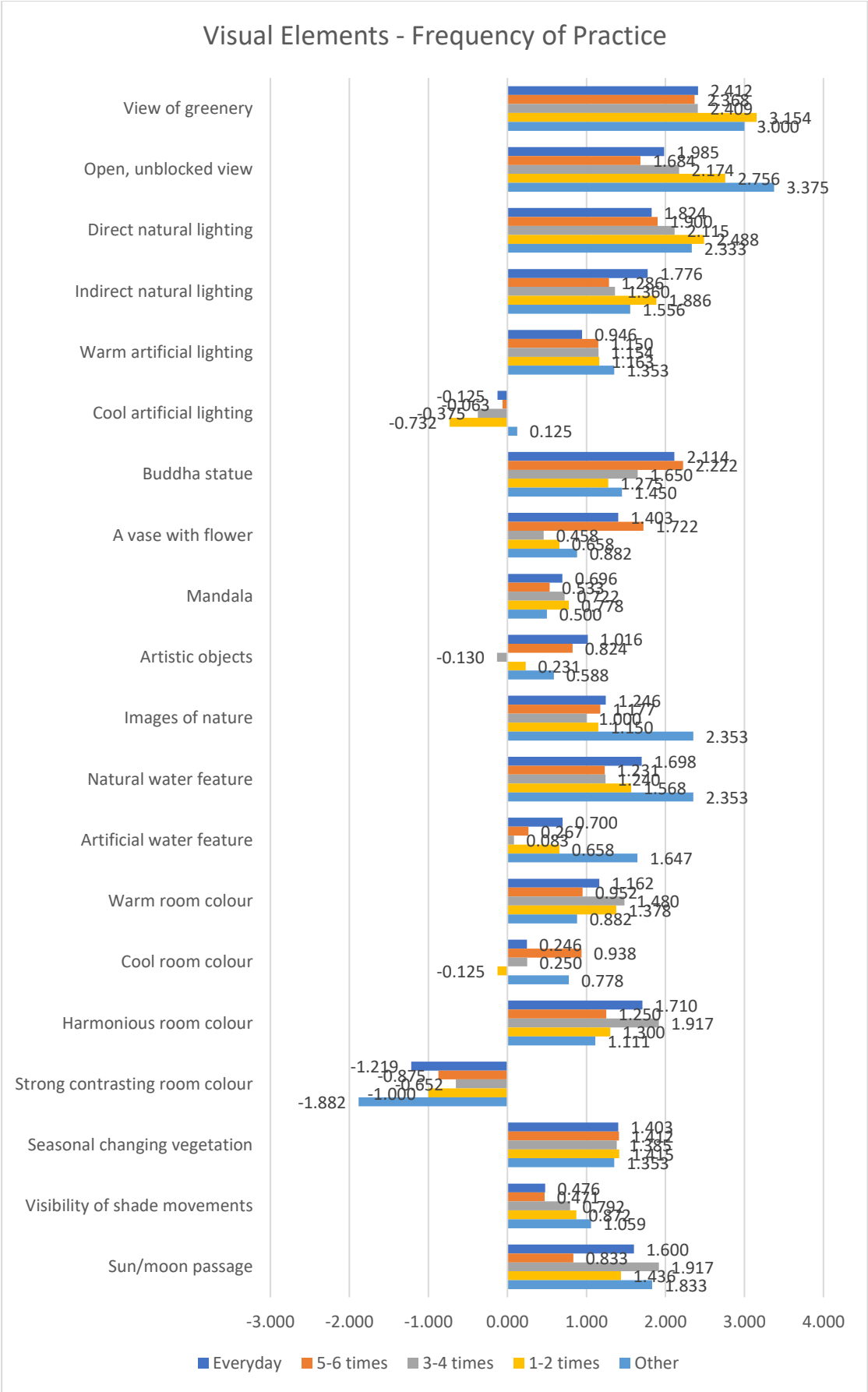


Figure 7 Mean comparison summary by frequency of practice.

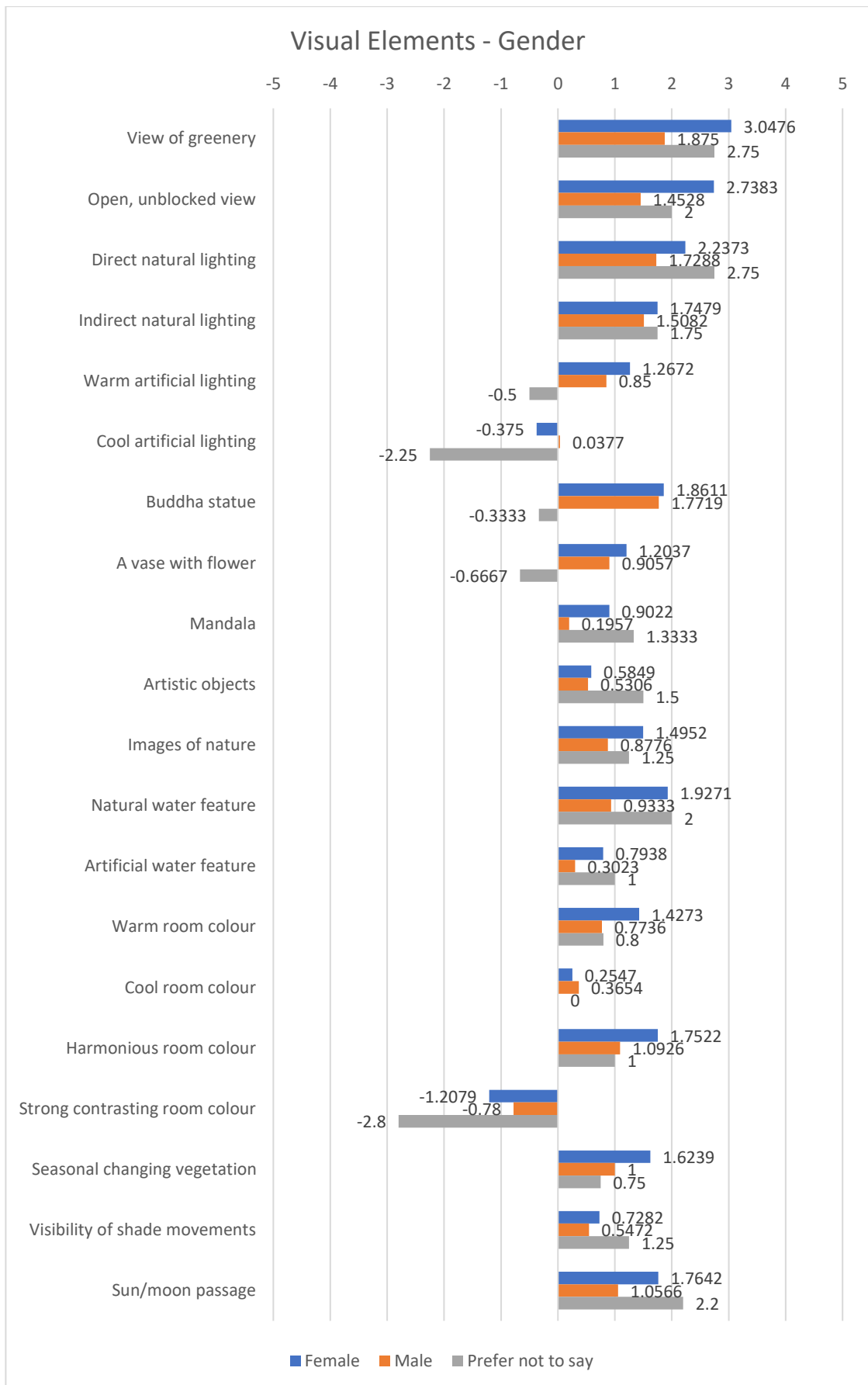


Figure 8 Mean comparison summary by gender.

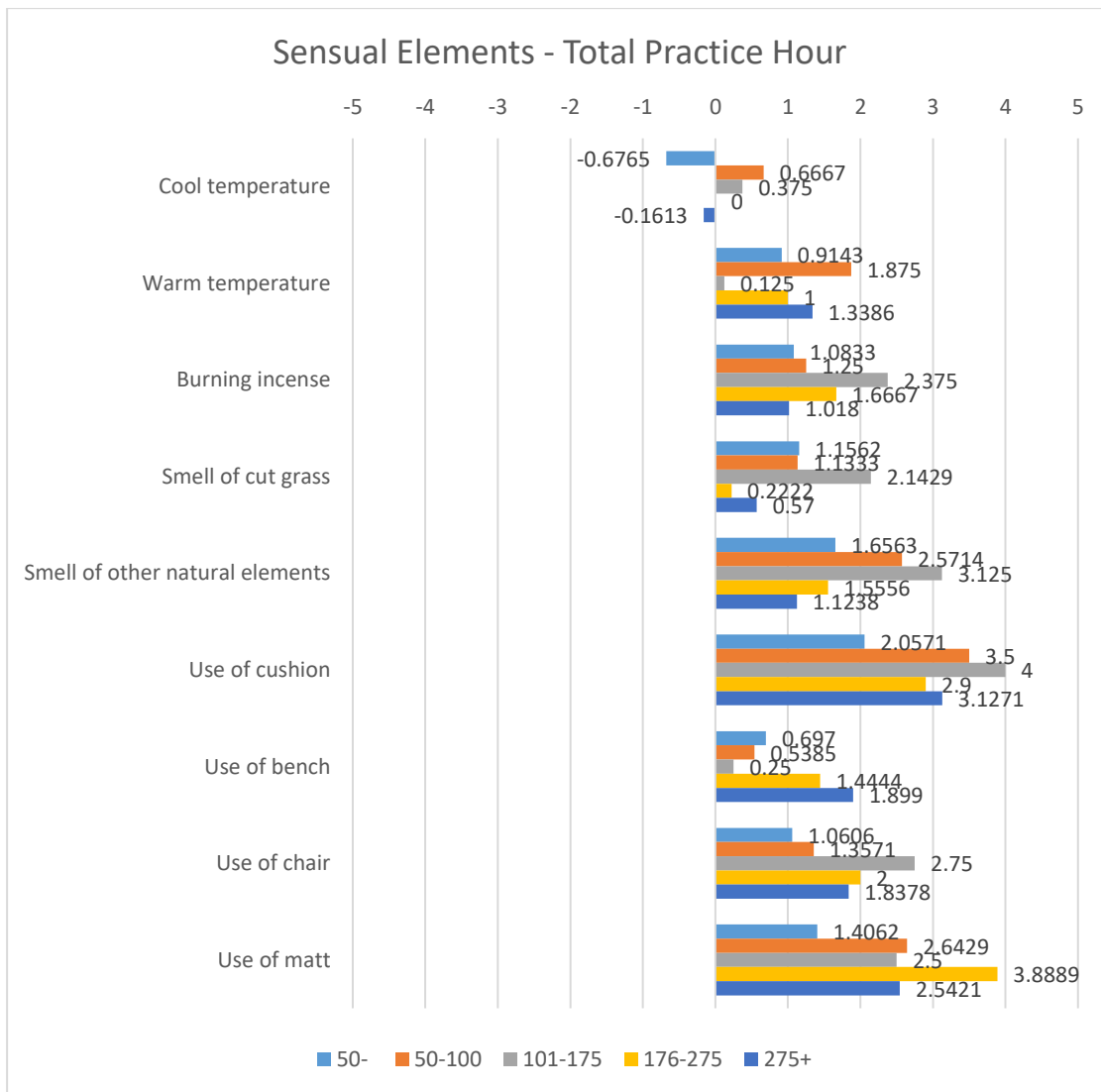


Figure 9 Mean comparison summary by total practice hour.

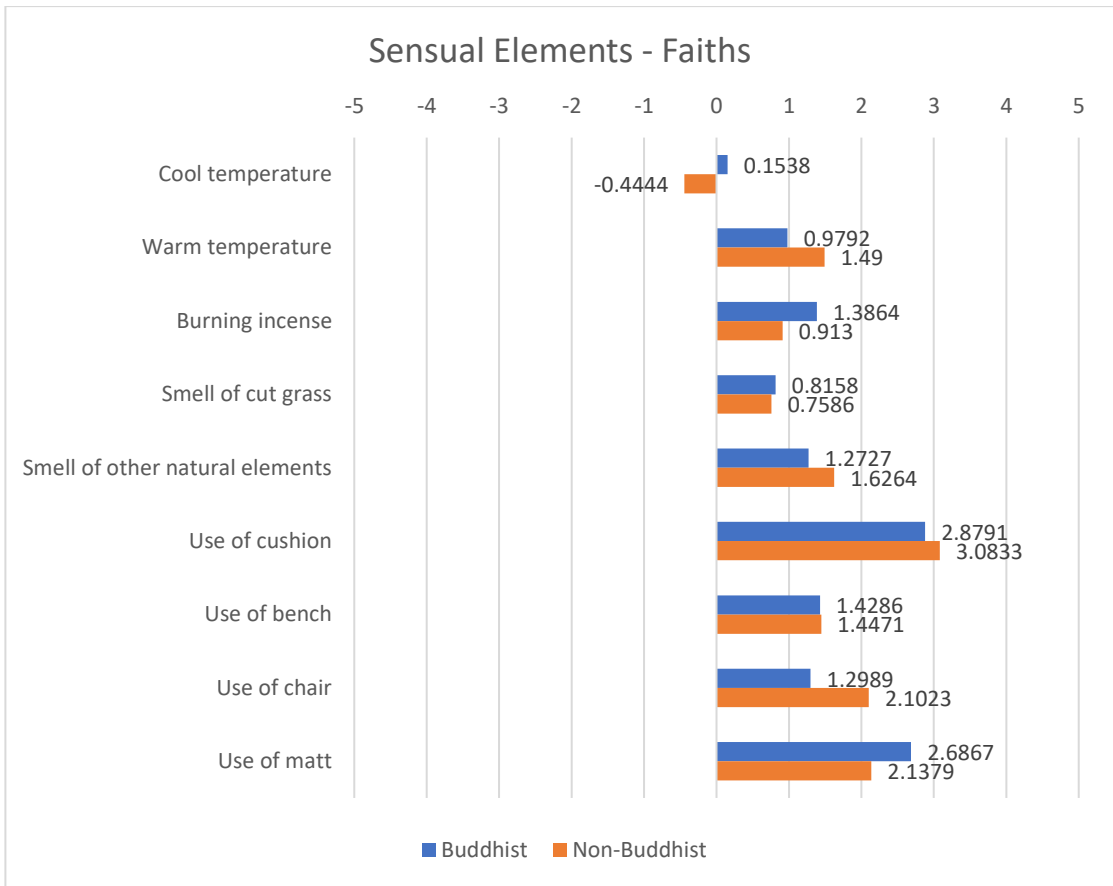


Figure 10 Mean comparison summary by faiths.

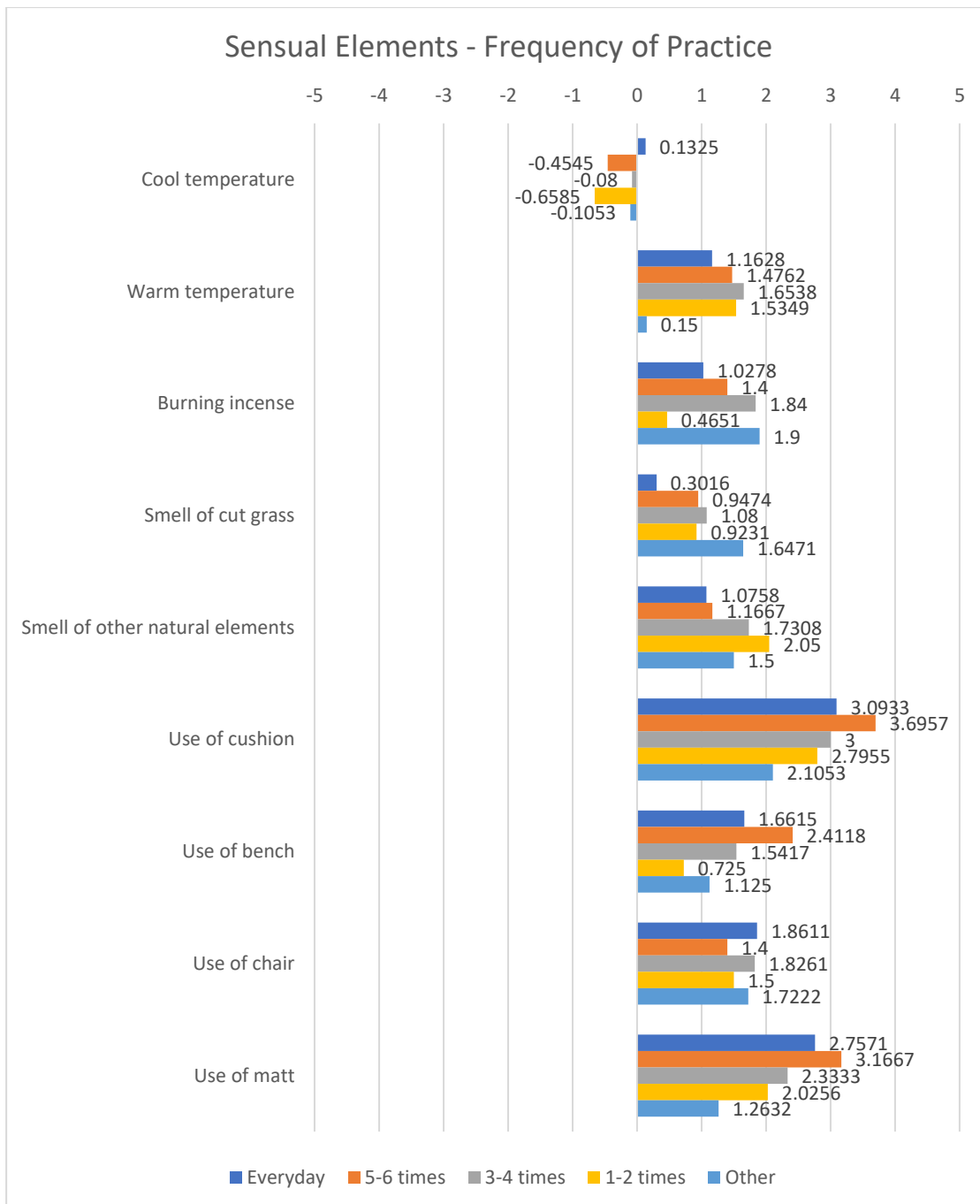


Figure 11 Mean comparison summary by frequency of practice.

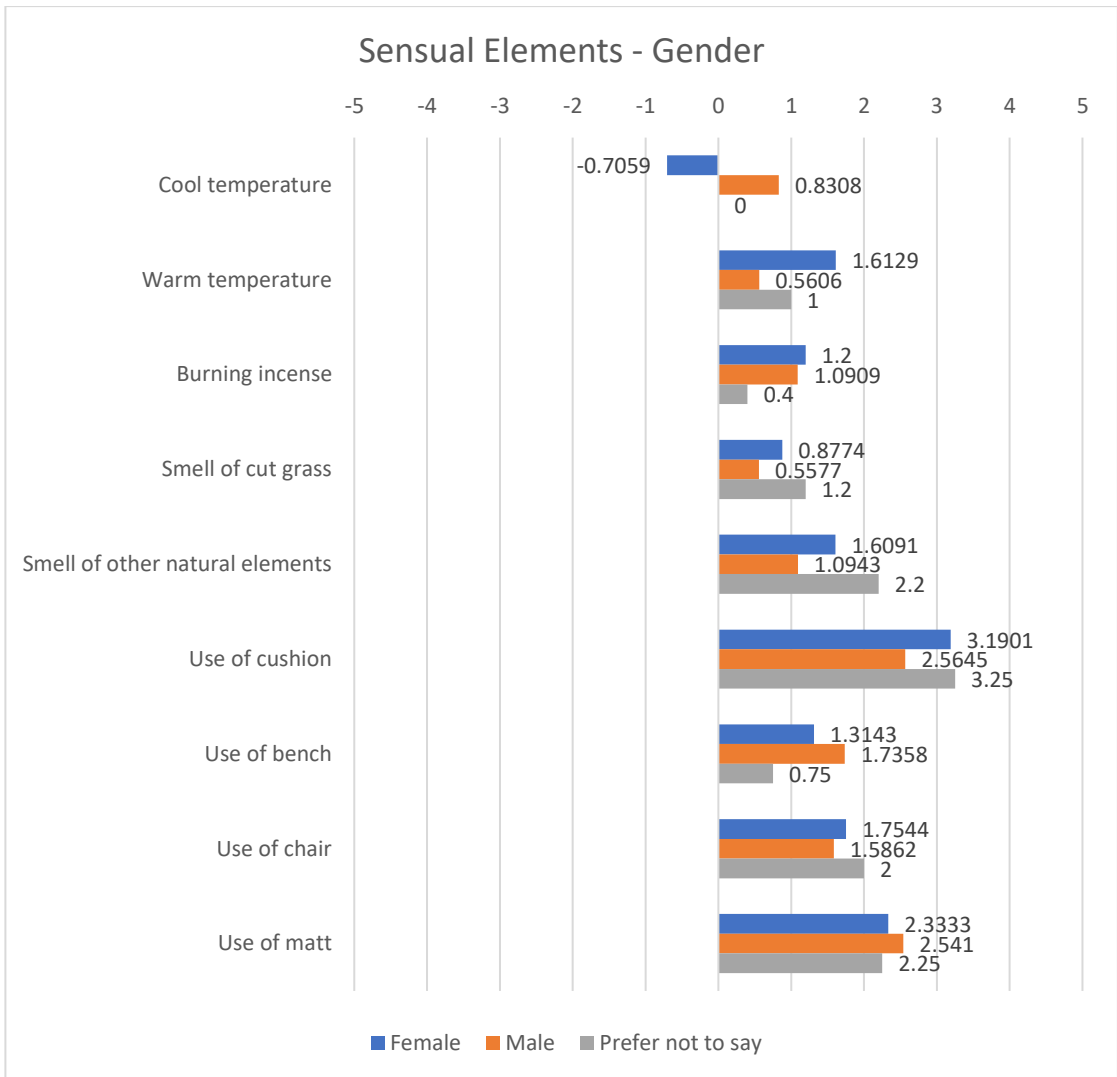


Figure 12 Mean comparison summary by gender.

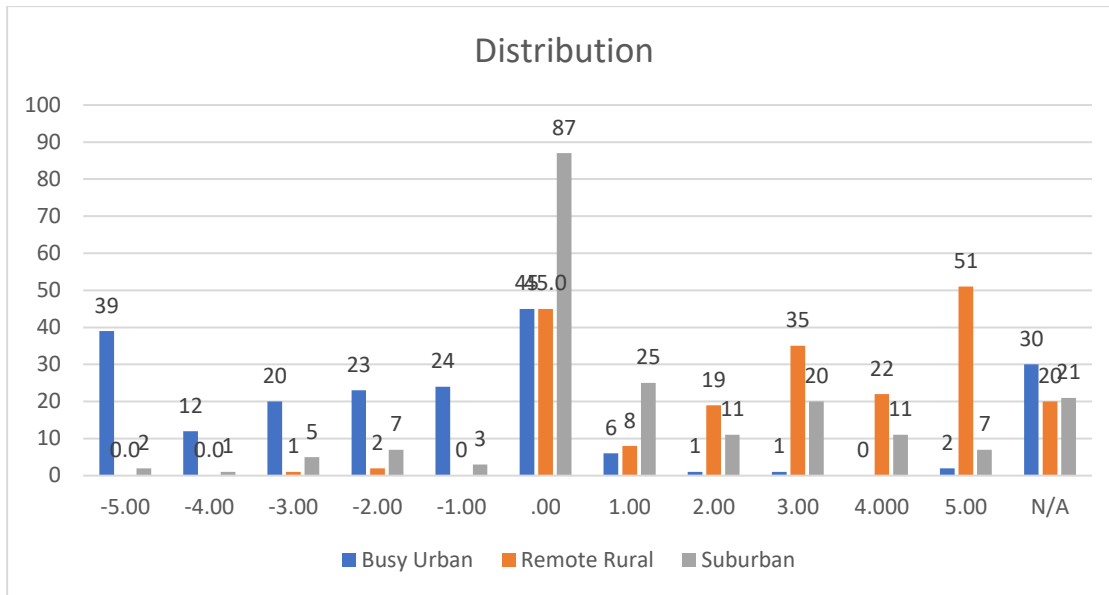


Figure 13 The responses to the question to rate the influence of environment on mindfulness practice (negatively or positively on a scale from -5 to 5).

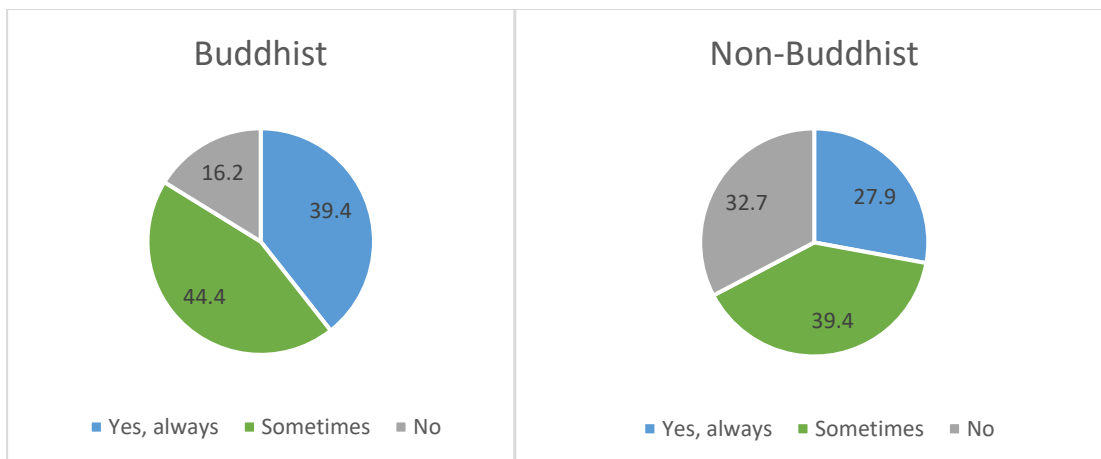


Figure 14 Pie chart of deliberate setup of an environment by faiths.

Appendix H – Case Study Teaching

The teaching was obtained by attending the afternoon talk at KSDL in November 2022. It involved note taking of the teachings on mindfulness meditation for beginners.

H.1 Purpose of Meditation

In the afternoon teaching at Samye Dzong London (Visit 2), the leading teacher Lama Zangmo gave detailed instructions about the mindfulness meditation practice for beginners (2022):

'It is about your mind. The essential goal of meditation is to tame our minds. Overcoming stress and difficulties that life throws at us and gaining serenity and a sense of happiness are the side effects of taming the mind. Meditation practitioners learn how to deal with the mind. Why do we need to tame our minds? Because when the mind is unsettled and distracted, it is not capable of staying in the present moment – worrying about or anticipating the future or indulging in or regretting the past. If the mind is tamed, one can focus and settle the mind in the present moment without judging, labelling, or conceptualising them. Thoughts are not who I am. They are like clouds in the sky. The mind with clarity is like the limitless sky, full of clarity, vastness, freedom and spaciousness. Where the mind is the limitless sky and realise who we are.'

H.2 Ideal outer environments

The outer environment should be able to support achieving a mindfulness state. According to the resident teacher, Kagyu Samye Dzong London is a place 'created specially to support the practice' for the following reasons:

- Reasonably quiet – **Quietness.**
- Minimal distractions (if one has no such facilities, being alone is ideal, and finding a space or a corner in one's home is also preferable) – **Remoteness/solitude.**
- **Safe and comfortable** (no one would burst in on the practitioner and distract the practice. Buddha also instructed finding a place that is safe with wild animals, but no thieves or no bandits)
- Blessed by great masters – **Blessing.**
- Environments full of reminders for practice – **Mindful environment.**
- Supports from the group and discipline – **People.**

Lama Zangmo used an analogy to explain this further. The mind is compared to an oil lamp, where the external winds could blow off the flame. Finding a suitable environment is putting the protective case around and protecting the flame to be stable. However, Lama Zangmo has stated that one 'cannot find the perfect place', and that is where the inner environment comes in. As mentioned above, to prepare the beginner for mindfulness meditation, the outer physical environment should be somewhere that is 'quiet' and minimise distractions as much as possible. Lama Zangmo mentioned a dedicated space (if a separate room was unavailable) as it is an important catalyst for an appropriate mindset. As this space is dedicated to meditation practice, the mind generally would

associate it with meditation for the time being. Therefore, the purpose or intention for the dedicated space is important – setting the foundation for the upcoming path. However, Lama Zangmo did mention that the outer physical environment was not the only requirement. The inner environment is as crucial as the outer, if not more. Even if the outer environment was not ideal, the inner strength of mindfulness meditation could overcome the shortage of the outer environment.

H.3 Ideal inner environments

The core idea about the inner environment is ‘contentment, simplicity, few desires, and renunciation’. As the Buddha said in the *Sutra on the Buddha's Bequeathed Teachings* (The Buddhist Text Translation Society, 1999):

‘All of you Bhikshus, if you wish to be free from all suffering and difficulty, you should know contentment.

The dharma of contentment is the dwelling of blessings, happiness, and peace.

People who are content, although they might sleep on the ground are peaceful and happy.

...

Those who are content, although they might be poor, they are truly rich.’

Contentment, in other words, is no craving. Without excessive craving (for example, for pleasure, money, food), one's mind will naturally be at ease and contentment, and that is the best inner environment for meditation. This is self-

evident, as contentment, or no craving, is part of the state of mindfulness meditation. However, suppose different types of worldly issues preoccupied one's mind, such as emotions, worries, and attachments, the practitioner would be less likely to practise mindfulness well. Lama Zangmo elaborated on this issue of a content mind. Usually, when the minds lack contentment, they are needy and crave satisfaction. The real luxury, in the Buddhist view, is not about doing anything but being here and now in contentment.

H.4 Practice time

For the time to practise meditation, there were times of the day which Buddha suggested: dawn, and dusk. The dawn time are when everything starts, the energy rises, and the practitioner has a fresh mind that is alert to obstacles. The dusk or evening times are when the practitioner is settling down, and it is easier to stay present and rejoice. However, any suitable time for the practitioner's living habits or pattern is also helpful. The purpose of finding the ideal time for mindfulness practice is to support and facilitate the practitioner. It is not about restricting the practitioners to practice only during these set times. Just like planting fruits and vegetables at the right time would produce tasty ones. Planting at different times may produce something, but not necessarily the tastiest foods.

H.5 Length of session

Length of practice: The practice could range from short to long. Beginners are suggested to refrain from committing themselves to practise for too long at the start. It will be off-putting for beginners, and they give up very quickly.

H.6 Hindrances

There were five obstacles or hindrances to the meditation practice:

- 1) sensual desires
- 2) ill will
- 3) sloth and torpor
- 4) restlessness and remorse
- 5) sceptical doubt.

'They are called "hindrances"' because they hinder and cloud . . . the development of the mind (bhavana). They can hinder the right concentration, so the mind remains bound within the mundane state — blocked from access to supramundane states. The mind which demands nourishment based on fetters to mundane states will be tied to attachments from which it cannot be delivered' (Thera, 1993).

Table H.1 Nourishments of five hindrances (SN 46:51).

Hindrances	Nourishment (SN 46:51)
Sensual desires	Frequently giving unwise attention to beautiful objects.
Ill will	Frequently giving unwise attention to objects causing aversion.
Sloth and torpor	Frequently giving unwise attention to listlessness, lassitude, stretching of the body, drowsiness after meals, mental sluggishness.
Restlessness and remorse	Frequently giving unwise attention to unrest of the mind.
Skeptical doubt	Frequently giving unwise attention to things causing doubt.

In the Samyutta Nikaya, some elements and factors nourish the hindrances (see above for Table H.1). From this perspective, the environment is one of the

tools to minimise the chance of hindrances occurring. For example, an environment with fewer objects that would cause sensual desires and aversion would result in a lower probability of sensual desires and aversion arising and strengthening. This rationale was explained and supported by other Buddhist doctrines as there were outer and inner causes and conditions for the afflictions – some come from the external environments, and the rest come from the inner environment.