

PEDESTRIAN PATHWAY AS CULTURAL
IMAGEABILITY IN AN URBAN ENVIRONMENT

BY

ABDULLAH HASIF BIN PATRIA @ AHMAD PATRIA

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ABSTRACT

Pedestrian pathways are important physical and social components that enhance the essence and experience of an urban environment. These components support the concept of cultural imageability, which describes how a city's identity and culture shape the perception, experience, and memory of the urban environment. The initial perception of a highly imageable location is shaped by attributes such as cultural representation, uniqueness, and prominent architectural and design structures. This suggests that urban features like pedestrian pathways can embody cultural imageability. The pathways not only fulfil functional purposes but also deliver physical and social benefits through factors and significances associated with cultural imageability. Nevertheless, current urban development that prioritises vehicles discourages a pedestrianising urban environment and ultimately undermines the urban environment's social and cultural aptitude. This has significant negative impacts on the development of pedestrian pathways as instruments of cultural imageability. Therefore, the aim of this research is to evaluate pedestrian pathways towards the formation of cultural imageability in an urban environment. A mixed-methods approach was employed, integrating qualitative and quantitative methods. To evaluate these pathways' cultural imageability, a questionnaire survey and systematic observations were used. Two urban pedestrian pathways were observed: Jalan Tuanku Abdul Rahman in Kuala Lumpur and Jalan Hang Jebat (Jonker Walk) in Melaka. The study utilised SPSS (Statistical Package for the Social Sciences), version 27, for survey analysis, and applied the P-Index method to evaluate pathway's cultural imageability from observations. The findings demonstrate that physical components, through factors such as mobility, convenience, and distinctive design features, foster the cultural imageability of the urban environment. The availability of pavements, cleanliness, and the surrounding context, including building scale, encourage social senses along the pedestrian pathway. Conversely, pedestrian pathways that lack these cultural elements are mostly used as passageways and do not engage pedestrians on a more profound cultural or social level. Hence, pedestrian pathways significantly affect cultural imageability through sense of place, belonging, place attachment, and place identity as outcomes of the physical elements. Based on these findings, the proposed framework describes how physical and social components operationalised via factors and significances contribute to pedestrian pathways as cultural imageability. This framework leads to an exposition of pedestrian pathways as cultural imageability for improving the urban environment from several perspectives. These findings make the SDGs actionable at corridor scale, advancing SDGs 3, 8, 10, 11, and 13 via inclusive access, well-being, resilience, and culture-based livelihoods. The framework operationalises Malaysia's National Landscape Policy through linked green-pedestrian networks featuring shade, universal design, and curated local identity. Economically and environmentally, culturally imageable corridors spur local enterprise and tourism while reducing car reliance, mitigating urban heat, and improving stormwater management and biodiversity, providing an evidence-based pathway to express urban cultural identity.

ملخص البحث

تعد مسارات المشاة مكونات مادية واجتماعية مهمة تعزز جوهر وتجربة البيئة الحضرية. تدعم هذه المكونات مفهوم الصورة الثقافية، الذي يصف كيف تشكل هوية المدينة وثقافتها تصور البيئة الحضرية وتجربتها وذاكرتها. ومع ذلك، فإن التنمية الحضرية الحالية التي تعطي الأولوية للمركبات لا تشجع على وجود بيئة حضرية مخصصة للمشاة، وتقوض في نهاية المطاف الكفاءة الاجتماعية والثقافية للبيئة الحضرية. ولذلك، فإن الهدف من هذا البحث هو تقييم مسارات المشاة نحو تشكيل الصورة الثقافية في البيئة الحضرية. وتم استخدام نهج مختلط الأساليب، ودمج الأساليب النوعية والكمية. لتقييم قابلية الصورة الثقافية لهذه المسارات، تم استخدام استبيان وملاحظات منهجية. تمت ملاحظة مسارين للمشاة في المناطق الحضرية: جالان توانكو عبد الرحمن في كوالالمبور وجالان هانج جيبات في ملقا. استخدمت الدراسة برنامج الحزمة الإحصائية للعلوم الاجتماعية، الإصدار 27، لتحليل المسح، وطبقت طريقة لتقييم قابلية الصورة الثقافية للمسار من الملاحظات. وتوضح النتائج أن المكونات المادية، من خلال عوامل مثل التنقل والراحة وميزات التصميم المميزة، تعزز الصورة الثقافية للبيئة الحضرية. ومن ثم، فإن مسارات المشاة تؤثر بشكل كبير على الصورة الثقافية من خلال الإحساس بالمكان، والانتماء، والارتباط بالمكان، وهوية المكان كنتائج للعناصر المادية. بناءً على هذه النتائج، يصف الإطار المقترح كيف تساهم المكونات المادية والاجتماعية التي يتم تفعيلها من خلال العوامل والأهمية في مسارات المشاة كصورة ثقافية. تجعل هذه النتائج أهداف التنمية المستدامة قابلة للتنفيذ على نطاق الممرات، مما يعزز أهداف التنمية المستدامة 3 و8 و10 و11 و13 من خلال الوصول الشامل والرفاهية والقدرة على الصمود وسبل العيش القائمة على الثقافة.

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.....
Mohd Ramzi Mohd Hussain
Supervisor

.....
Izawati Tukiman
Co-Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Science in Built Environment

.....
Rashidi Othman
Examiner

.....
Mohd Hisyam Rasidi
External Examiner

This dissertation was submitted to the Department of Landscape Architecture and is accepted as a fulfilment of the requirement for the degree of Master of Science in Built Environment

.....
Norhanis Diyana Nizarudin
Head, Department of Landscape
Architecture

This dissertation was submitted to the Kulliyyah of Architecture and Environmental Design and is accepted as a fulfilment of the requirement for the degree of Master of Science in Built Environment

.....
Mariana Mohamed Osman
Dean, Kulliyyah of Architecture and
Environmental Design

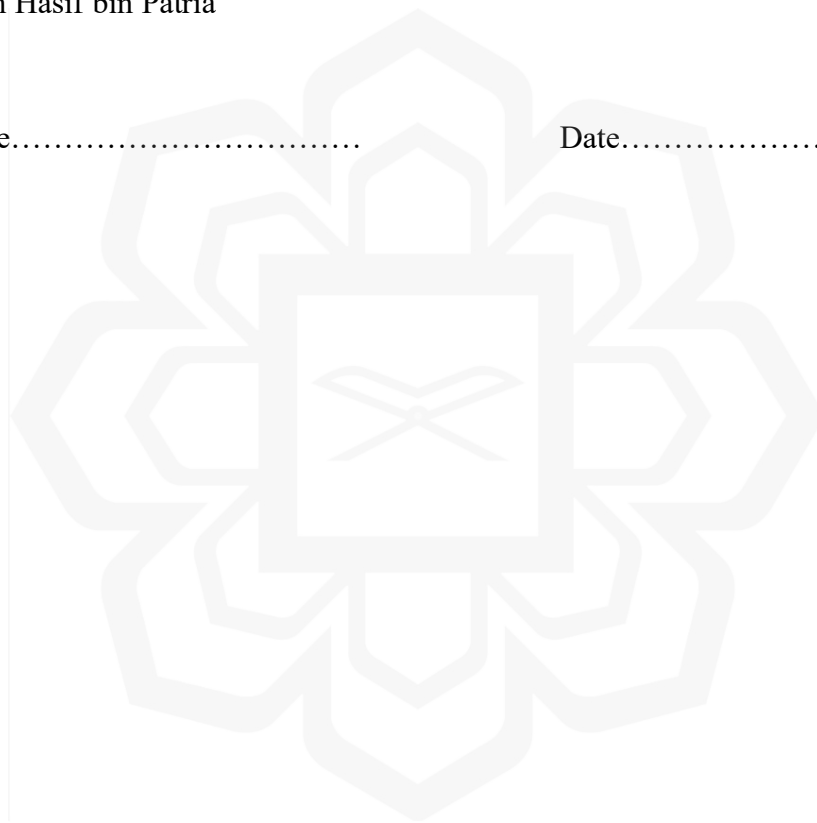
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*This dissertation is dedicated to my beloved parents for laying the foundation of what I
turned out to be in life.*

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This chapter introduces research and provides background knowledge on pedestrian pathways as cultural imageability in an urban environment. It also highlights the problem statement, research gap, research aim, research questions, and research objectives. This chapter concludes with a conclusion and discusses the dissertation structure.

1.2 RESEARCH BACKGROUND

Research on urban paths has increased in recent years, highlighting their factors and impacts on the urban environment. The primary components defining the urban environment form are pathways, such as roads and waterways (Miladan & Istanabi, 2022). An urban path is a linear feature that facilitates movement and flows inside a city (Miladan & Istanabi, 2022). According to Lynch (1960), individuals with greater familiarity with the city typically grasped some aspect of the path layout, and these individuals mainly conceptualised in terms of individual routes and their connections with one another. Paths, edges, landmarks, nodes, and regions are the fundamental components in creating solid, distinctive structures at an urban scale (Lynch, 1960). Lynch (1960) then stated that the most effective way to organise the entire urban environment is through its pathways, which constitute its network of consistent or potential ways to travel. Therefore, a pedestrian pathway is essential in any urban development since it is a form of path.

Pedestrian pathways are an element that provides walking as a form of transportation. Walkways intended for people are known as pedestrian pathways (Noviandini et al., 2020). Noviandini et al. (2020) then mentioned that social contact between people and their interaction with the natural surroundings can happen in this walkway. Scholarly interest in pedestrian walkability studies has increased significantly recently (Ghadzlie et al., 2024). In keeping with the transportation-related meaning of accessibility, universally accessible pedestrian facilities and surrounding environments demonstrate continuity, connectedness, safety, and sustainability (Ghadzlie et al., 2024). Urban design significantly influences people's perceptions of the built environment, including the desirability of walking and other physical activities (Kinyingi et al., 2020). Walkable communities provide several benefits to their residents, including improved health, convenience, accessibility to destinations, road and personal safety, and multi-modal transportation (Kinyingi et al., 2020). Ghadzlie et al. (2024) also argued that the visible physical aspects of pedestrian walkability need to be streamlined to help design pedestrian pathways and the application of measurements to determine their walkability score. Hence, it is essential to insert cultural values and apply the concept of cultural imageability together to enhance the implementation of a pedestrian pathway in the urban environment.

Combined with the definition of imageability and culture, the term "cultural imageability" describes how a city's identity and culture influences how that image of the urban environment is perceived, experienced, and memorised. The assimilation of culture with an urban design element, such as a pedestrian path, will realise this concept. Fikfak et al. (2022) assert that the initial perception of a location with outstanding imageability is influenced by elements that offer value, cultural representation, uniqueness, and prominent structures in architecture and design. This presents the idea that urban elements such as a pedestrian pathway require integrating other features such as culture. As stated by Filomena et al. (2019), in cases where visual attractiveness alone is inadequate, activities and historical allusions can also help reinforce legibility. It is widely believed that items with excellent visibility grab people's attention (Lynch, 1960). Consequently, cities are

constructed over multiple eras, and as a result, individual experiences vary depending on factors such as cultural identity, geography, and historical background (Ghafar et al., 2022). Thus, to explore and present the urban environment's cultural significance, a pedestrian pathway with cultural imageability is a key to that notion.

Globally, pedestrian corridors that fuse movement with cultural identity demonstrate how design, heritage cues and programmed activity co-produce imageability, for example, Seoul's Cheonggyecheon restoration, which replaced an elevated highway with a linear eco-cultural promenade (Carrasco, 2024); New York's High Line, an elevated path curated with art and community programming that reshaped neighbourhood identity (Gattupalli, 2024); and Barcelona's La Rambla, a tree-lined boulevard now undergoing city-led renewal to rebalance local cultural uses with tourism (Florian, 2024). These precedents demonstrate that culturally imageable pathways emerge when legible design, ecological comfort, and everyday rituals are intentionally integrated.

Ultimately, the general goal of an urban area is its people's shared recollection of its surroundings, which is based on their mutual understanding of the city's history, culture, and populace (Lynch, 1960). Lynch (1960) then argued that improving the urban environment's imageability makes it easier to recognise and organise visually. According to Gargiulo and Sgambati (2022), walkability and route quality are now recognised as critical components of competitive and accessible cities due to the multifaceted nature of urban renewal. While facilitating the valuation of the region's cultural, scenic, historical, and architectural significance, encouraging active mobility offers significant advantages to various factors about quality of life (Gargiulo & Sgambati, 2022). Pei (2022) mentioned that culture is the antithesis of nature, as the term's broad definition indicates. Cities that possess unique cultural traits and identifiable architectural elements are favoured over those that do not, and they are dynamic entities that strive for both inner and exterior growth, according to Ghafar et al. (2022). The transformation of information into image was affected by the residents' awareness and perception of the surrounding environment that is

blended with their culture, feelings, and background (Tang et al., 2023), therefore highlighting the importance of physical elements such as pedestrian pathway as an instrument of cultural imageability in an urban environment.

1.3 PROBLEM STATEMENT

Even though the pedestrian walkway is very important, more is needed to know about the aspects that contribute to its cultural imageability in an urban environment. As Tian et al. (2022) mentioned, earlier research put less emphasis on perceptions of the street's cultural ambience and historical appearance and more on the environmental development and transportation planning of the physical urban environment features. Due to these issues, the current pedestrian pathways cannot represent the city's image (Fauzi et al., 2023). Consequently, this research illuminates and assimilates the factors of pedestrian pathways as cultural imageability in an urban environment. Table 1.1 demonstrates the main issues on pedestrian pathways based on past research from 1960 until 2024, divided into physical and social aspects with its analysis.

Table 1.1 Issues on pedestrian pathways based on past research

Year	Physical	Social	Interpretation
1960	Small paths are being used by vehicles and pedestrians, resulting in a conflict of safety and aesthetics (Lessieu, 1966).	While ease, continuity, and beauty are sacrificed for adequate facilities, safety is undoubtedly the main concern (Lessieu, 1966).	Safety is the main issue since they reused old paths from the early 20 th century, when vehicles were minimal, resulting in another feature being brushed aside.

1970	There is a safety concern due to the speed difference between bicycles and mopeds, as well as collisions involving mopeds and pedestrians (Fee, 1975).	The discomfort arises when pedestrian pathways cross traffic (Scott & Kagan, 1973).	The development struggle for adequate material and planning for pedestrian pathways leads to discomfort for end users.
1980	Pedestrian visibility is a significant factor in nighttime pedestrian accidents (Shinar, 1984).	Little attention is given to the collective behaviour exhibited by people within the pedestrian traffic flow (McPhail & Wohlstein, 1982).	The behaviour of people in combination with insufficient facilities results in accidents and traffic flow issues.
1990	Deficient road designs and/or pedestrian traffic management systems are linked to accidents (Zegeer et al., 1998).	By disobeying or not comprehending the law and proper driving or walking practices, pedestrians and drivers frequently cause pedestrian accidents (Zegeer et al., 1998).	The insufficient infrastructure represents pedestrian pathways as an unworthy urban element that leads to disrespect.
2000	Cycling and walking frequently struggle for the same place (Sisiopiku & Akin, 2003).	There is less research examining the distance that pedestrians walk than on the variables that motivate individuals to walk (Agrawal et al., 2008).	The distance a pedestrian is willing to walk, and a person cycling is needed to provide sufficient infrastructure for both parties.

2010	The infrastructure and amenities for pedestrians in Malaysia have not reached a sufficient level (Sukor et al., 2017).	There is a lack of research on pedestrians' path choices based on street structure (D'Acci, 2019).	Appropriate street design is needed in Malaysia to provide a better pedestrian infrastructure and amenities.
2020	Increased vehicles make the urban environment hazardous and ugly, discouraging people from walking (Mendzina & Vugule, 2020).	Deteriorated urban social and cultural function that does not encourage foot circulation as the primary form of transportation (Mendzina & Vugule, 2020).	The deteriorating aesthetic value caused by vehicles in urban environments results in fewer people being willing to walk, which depreciates social and cultural functions.
2024	Pedestrian pathways are neglected in car-dominated communities (Ghadzlie et al., 2024).	Traffic congestion, longer travel times, and lower standards of comfort and safety are caused by a lack of capacity for urban design (Van Beek, 2024).	The lack of space resulting from prioritising vehicles as the main means of transportation leads to the neglect of pedestrian pathways.

In Malaysian city centres such as Kuala Lumpur and Melaka, car-first planning has produced discontinuous, thermally harsh, and inconsistently accessible pedestrian environments: pavements are narrowed or obstructed by street furniture and trade encroachment, crossings remain hostile at high-volume junctions, universal-design elements are patchy, and shade/green relief is insufficient resulting to conditions that reduce

paths to mere movement conduits rather than cultural corridors. This undermines not only walkability but also the pathway's capacity to carry shared beliefs, everyday rituals, and collective memory, the very substance of cultural imageability the study targets. Therefore, the current urban development that considers vehicles the dominant form of transportation discourages a pedestrianising urban environment that ultimately undermines the urban environment's social and cultural aptitude. Despite local guidelines and policy aspirations, assessment practices still privilege mobility and safety metrics while under-measuring cultural distinctiveness and lived experience, leaving a method gap between physical design inputs and social-cultural outcomes. Hence, this study seeks to explore and elucidate the effect of pedestrian pathways for promoting cultural imageability to acknowledge the effectiveness of culturally integrated urban areas so that they can be improved for future urban developments and enhancements.

1.4 RESEARCH GAP

Current Malaysian urban development still prioritises road infrastructure for automobiles, compromising cities' cultural and social life by relegating walking to a secondary mode and fragmenting pedestrian movement; this persists despite policy intent in the National Landscape Policy (NLP) to create holistic, high-quality landscapes with unique identity that improve quality of life and economic competitiveness, and to plan green infrastructure systematically to address climate resilience. While PLANMalaysia guidance and PWD (Public Works Department Malaysia) provisions explicitly call for continuous, accessible walkways, the on-ground delivery remains uneven, producing corridors that function as mere conduits rather than cultural stages. In order to amplify the urban environment pedestrianisation attached to local culture, we must first understand the practical usage of pedestrian pathways as a space for cultural imageability.

Second, even though road infrastructure for automobiles is frequently given priority in urban development, it is crucial to evaluate the importance of pedestrian pathway elements and components to enhance the cultural imageability of the urban environment. This is due to the lack of studies evaluating the benefits of pedestrian pathways as a physical, cultural entity that can affect the urban environment. Most only focus either on the physical aspect or the social aspect. More cross-scale research between the physical and social aspects is needed to maximize the benefits of a pedestrian pathway as a cultural imageability in an urban environment.

Third, although a considerable body of literature has been written about the positive impacts of cultural value in a city, there is still an apparent knowledge vacuum about the complex interactions between pedestrian circulation and cultural image in urban environments. Mainly, limited research has been done considering the value of cultural image in an urban environment represented by a pedestrian pathway. Therefore, understanding pedestrian pathways as a physical, cultural entity that can affect the urban environment and assessing this gap can provide light on how these urban design choices affect the enhancement of place attachment, place identity, and sense of place and belonging. Figure 1.1 illustrates the research gap.

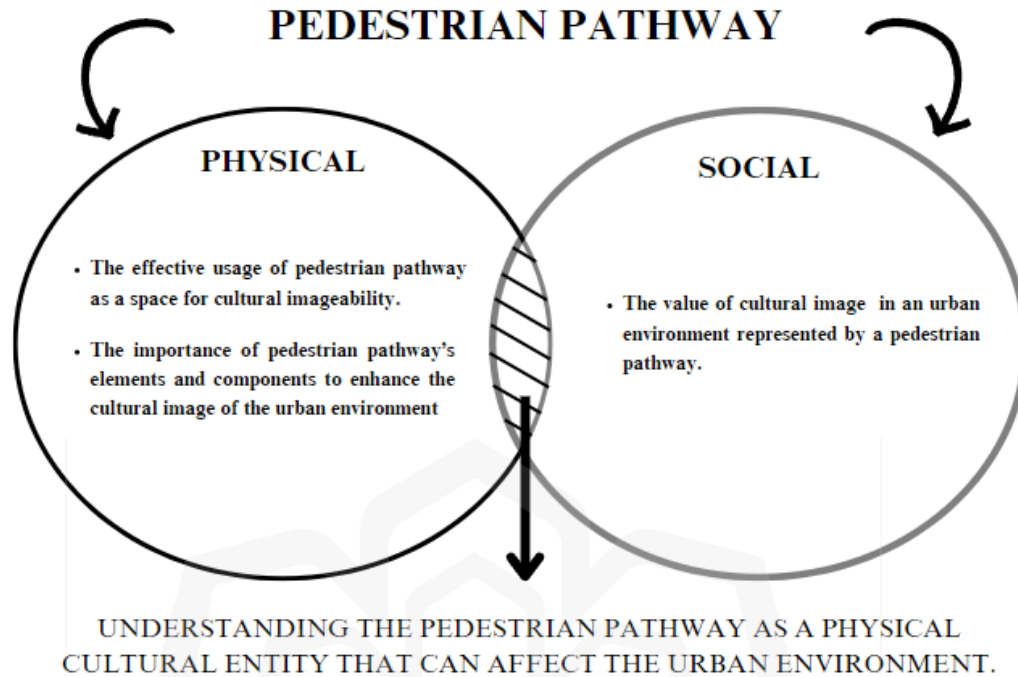


Figure 1.1 Research gap

1.5 RESEARCH AIM

This research aims to evaluate pedestrian pathways towards the formation of cultural imageability in an urban environment.

1.6 RESEARCH QUESTIONS

The following were the questions raised which the research has suitable answers to achieve its goal:

RQ 1 What are the factors of a pedestrian pathway as a cultural imageability in an urban environment?

RQ 2 Why is the pedestrian pathway important as a cultural imageability for the urban environment?

RQ 3 How can pedestrian pathways as cultural imageability contribute to improving the urban environment?

1.7 RESEARCH OBJECTIVES

The following are the proposed objectives for achieving the research aim:

RO 1 To investigate the factors of pedestrian pathway as a cultural imageability in an urban environment.

RO 2 To evaluate the significance of pedestrian pathway as a cultural imageability in an urban environment.

RO 3 To propose an exposition of pedestrian pathways as cultural imageability in an urban environment.

1.8 RESEARCH SIGNIFICANCE

The significance of this research lies in its contribution towards understanding pedestrian pathways as crucial structure of cultural imageability in an urban environment. Through the investigation of the factors and significances of pedestrian pathways that lead to their physical and social dimensions, the study highlighted how these pathways serve as essential tools for forming and representing a city's cultural imageability. The framework of their

factors, significances, and exposition illustrates that pedestrian pathways contribute to cultural imageability by serving as spaces where social sense were the ramifications of physical expression. Pedestrian pathways, as the veins of the urban environment, foster a sense of belonging and place attachment among the urban community, they also provide identity and a sense of place through mobility, convenience, and distinctive features with the assimilation of cultural values. The present study also adds to the ongoing conversation on urban design by emphasising the importance of pedestrian pathways as cultural assets that influence users' collective memory and experiences rather than just serving as functional infrastructure. These also contribute to place-making and aid in preserving and representing cultural values. Hence, pedestrian pathways can be cultural imageability in an urban environment. Setting a high priority for pedestrian-friendly surroundings is essential as cities throughout the globe struggle with issues, including a rise in urbanisation that leads to a decline in urban image and uniqueness. The study adds to the growing body of research advocating for pedestrian-friendly urban design that incorporates cultural and social elements beyond functional and aesthetic considerations.

1.9 DISSERTATION STRUCTURE

This study contains five chapters overall. The introduction of the research topic and background information on the pedestrian pathway as a cultural imageability in an urban environment are discussed in Chapter One. Research background, problem statement, research aim, questions, objectives, significance, and dissertation structure were included in this chapter.

Chapter Two will focus solely on literature reviews. Hence, this chapter mainly uses secondary sources, such as journal articles, scholarly publications, websites, and so on, to follow up with earlier studies relevant to this topic. The concept of path, pedestrian

pathway, and cultural imageability are only a few of the subjects covered in literature reviews that are essential to this study. Therefore, the analysis of the subjects is intended to provide a clearer path for future research by examining existing research and gaps that merit further investigation.

Chapter Three then explains the study methodology in terms of data collection. Data collection is divided into two categories: quantitative research and qualitative research. The quantitative component involves administering questionnaires, with the responses analysed using descriptive statistics in SPSS. Meanwhile, the qualitative component includes observation analysed using the p-index method. Through the integration of both in-depth, contextually rich insights and statistically based findings, this combination of methodologies enables a thorough comprehension of the study topic.

Chapter Four analyses and interprets the data to form the conclusions for this research. This chapter defends the collected data as trustworthy evidence for addressing the research aim and objectives. The data collected during the research was analysed descriptively and using calculations. Finally, the entire research is concluded in Chapter Five, which is the last chapter and contains discussion and conclusions. Figure 1.2 illustrates the dissertation framework.

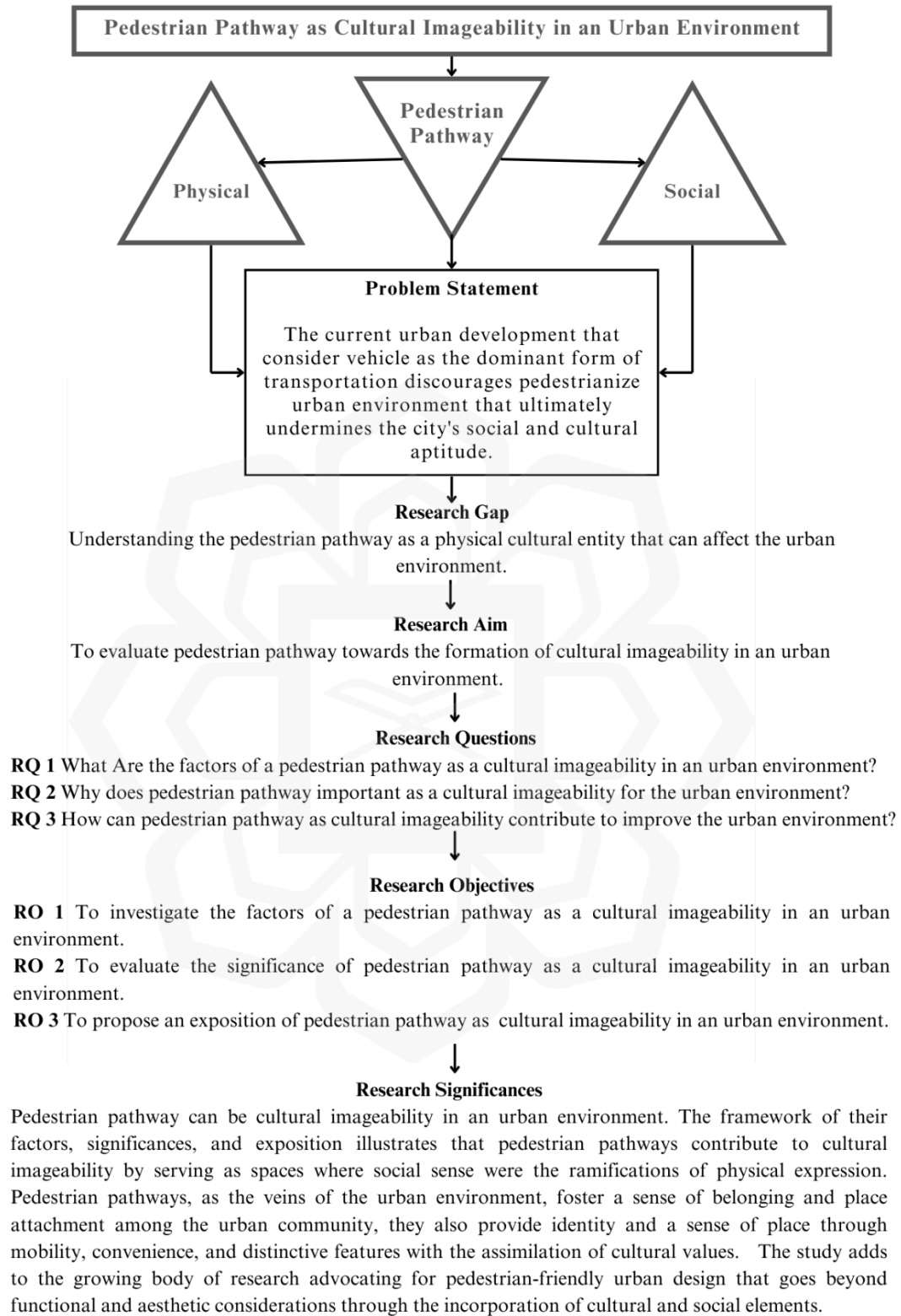


Figure 1.2 Dissertation Framework

1.10 CHAPTER SUMMARY

In summary, this chapter introduced the research topic and provided background knowledge on pedestrian pathways as cultural imageability in an urban environment. It also outlined the research problems, aim, questions, and objectives. Essentially, the information in this chapter serves as a roadmap for understanding the topics that will be explored throughout this research.



CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The second chapter of this dissertation thoroughly explores existing literature on the dynamic association between pedestrian pathways and cultural imageability in an urban environment. In this study, the urban environment refers to the interconnected physical, social, and cultural settings of a city, its streets, pedestrian networks, public spaces, built form, and everyday practices within which movement, experience, and identity are produced. This chapter is divided into five sections. The first section explores the theory of path. The second section explains pedestrian pathways as paths, while the third section elaborates on the concept of culture and imageability. The chapter continues by exploring pedestrian pathways as cultural imageability, and the fifth section explores the theoretical framework of pedestrian pathways as cultural imageability in an urban environment. The chapter then ends with a conclusion. The hierarchy of pedestrian pathways as cultural imageability is shown in Figure 2.1.

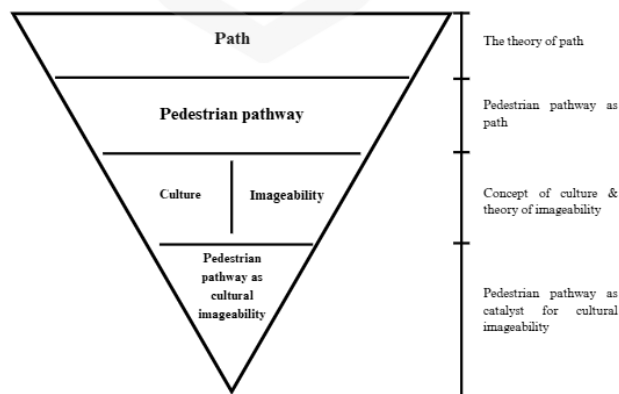


Figure 2.1 The hierarchy of pedestrian pathways as cultural imageability

2.2 THEORY OF PATH

This section explains the theory of paths, the types of paths, and their functions, and it also features designing a path. According to the Cambridge Dictionary (2024), a path means a route or track that connects two locations or an indicator of a direction that exhibits motion. In the urban context, the path, among the first urban features established during the initial stages of city planning, is regarded as a critical component of urban design (Mohidin & Yi Ming, 2023). According to Lynch (1960), "Paths are the channels along which the observer customarily, occasionally, or potentially moves" (p. 47). Zairudin et al. (2021) support this claim by stating that paths can transport individuals from one place to another, typically integrating into a wider network, enabling users to travel. Filomena et al. (2019) and Miladan and Istanabi (2022) supports Lynch's statement by asserting that a path is a linear urban feature that serves as a conduit and guide for movement or flow through a city. Lynch (1960) concluded that although the significance of paths depended on the individual's level of exposure to the city, pathways were the most prominent aspects of the city for the majority of those surveyed. This is because paths are the simplest and most comprehensible linear components of every mental representation (Fakhrulddin et al., 2023). Therefore, a physical structure in an urban environment that guides and organises free movement to designated destinations, while also enhancing the city's image, can be achieved through pedestrian pathways, which are a type of path.

According to Lau et al. (2021), to create a dynamic city image, the city pathways were designed to keep people organised and composed. In Lau et al. (2021) research, they deduced that a path accounts for the largest percentage of all urban design features, according to their results. Structures are divided into various areas within the urban limit using a grid system, with the path serving as the primary planning component, making it the most used feature (Lau et al., 2021). This showcased evidence that the path is the most important feature in urban planning. Other than that, urban pathways can also be converted into urban districts or edges, according to Miladan and Istanabi (2022). argued that a path

that limits the space between an urban area is called an urban edge, while the urban district is a path that delineates a region and indicates some shared features of the site (Miladan and Istanabi, 2022). Several authors believe that the urban districts, pathways, and city nodes serve as data carriers and help to create an impression in the reader's mind of the examined urban environment (Niță, 2021). Hence, creating a notion that paths create and provide images.

According to Lynch (1960), the various aspects of the environment are ordered and connected along pathways, thus resulting in the creation of images by individuals, making them a common characteristic of a city. Lynch (1960) stated that unique spatial features were able to bolster the perception of specific routes. As an example, streets suggesting extremes of breadth or narrowness, in the most basic sense, drew attention (Lynch, 1960). People can navigate the urban environment with ease when there are well-functioning and high-imageable route networks in place. Therefore, a path that is difficult to navigate or has a low image quality will disrupt people's sense of direction. However, visual coherence is useful in low-legibility environments where a path lacks distinctive features or lively activities; helpful characteristics can aid individuals traveling across urban areas (Filomena et al., 2019). As can be noted, paths are a crucial element that provide passage for humans, establish connections, and create linkages between places. As mentioned by Lynch (1960), just by standing on a street, one can extend to the city's center and have a wonderful sense of connection. This highlights the importance of well-designed pathways in enhancing urban image and fostering a strong sense of connectivity within the city. There are many types of paths, each providing important functions that benefit different aspects of the urban environment.

2.2.1 Types of Paths and their Functions

Urban personalities and functionalities are greatly influenced by the pathways they contain (Rathi, 2024). Paths are vibrant areas that represent a community's social, cultural, and economic makeup and extend beyond being only places for vehicles to navigate (Rathi, 2024). Miladan and Istanabi (2022) also mentioned that the main component defining the shape and course of an urban path is thought to be the street. How these streets are linked dramatically influences people's interactions, experiences, and city navigation (Rathi, 2024). Table 2.1 demonstrates the categories and types, their descriptions, and the function of different pathways.

Table 2.1 Categories, types, descriptions, and functions of different pathways

Categories / Types	Description	Functions
Primary	A major, typically state-maintained road within an established highway system (Merriam-Webster, 2024).	
Highway	A public road, particularly a significant one connecting towns or cities (Cambridge Dictionary, 2024).	Utilised for a route when traffic entry and departure locations are restricted and managed, whether in an urban or rural setting (Lay & Benson, 2022).
Expressway	A broad roadway for swift traffic (Cambridge Dictionary, 2024).	Roadways are used only for long-distance travel, on which pedestrians and low-speed cars are prohibited (The Definition, 2024).

Secondary	A feeder route (Merriam-Webster, 2024).	
Main Arterial	A broad street that functions as the main artery for transit in cities (Rathi, 2024).	In addition to facilitating business activity, they serve as the framework of the urban transit system, linking various areas of the city (Rathi, 2024).
Commercial High Streets	A lively centre with various enterprises for eating, shopping, and leisure (Rathi, 2024).	They substantially contribute to a city's financial well-being, creating a vibrant and diversified metropolitan atmosphere (Rathi, 2024).
Boulevard	Wide roadways featuring rows of trees and other vegetation are called boulevards (Rathi, 2024).	Along with offering leisure areas and supporting environmentally friendly practices, boulevards improve a city's aesthetic appearance (Rathi, 2024).
Flyovers and Elevated Roads	Raised constructions such as flyovers and elevated roadways are intended to avoid ground-level queues for traffic (Rathi, 2024).	Modern urban transportation design heavily relies on structures like this because they increase vehicle mobility and lessen traffic (Rathi, 2024).
Industrial Access Roads	Industrial access roads facilitate the movement of resources and commodities between industrial zones (Rathi, 2024).	By enabling the seamless operation of industrial sectors, efficient industrial routes support a city's economic development(Rathi, 2024).

Tertiary	All roads designed to stop in a cul-de-sac permanently (Law Insider, 2024).	
Narrow Alleys and Bylanes	Small urban paths, twisting pathways, known as narrow alleys and bylanes, provide a window into its rich cultural and historical past (Rathi, 2024).	These types of streets help cities retain their historical and cultural identity and add to their distinct character (Rathi, 2024).
Pedestrian Promenades	A car-free atmosphere is emphasised by pedestrian promenades, which are areas set aside for people (Rathi, 2024).	Pedestrian-friendly zones encourage a more ethical and healthful urban lifestyle, and they also foster local company expansion and community involvement (Rathi, 2024).
Residential Lanes	Located amid residential areas are peaceful streets adorned with trees (Rathi, 2024).	In addition to offering a tranquil haven from the city's bustle, these streets foster a feeling of belonging and promote a harmonious lifestyle (Rathi, 2024).
Waterfront Promenades	Pedestrian-friendly areas around waterways or oceans are known as waterfront promenades (Rathi, 2024).	They boost urban life in general, enhance the visual appeal of urban areas, and offer recreational options (Rathi, 2024).
Green Alleys and Parks	These are areas with lots of vegetation that serve as walkways (Rathi, 2024).	Urban heat island effects are lessened, well-being is encouraged, and green areas enhance ecological responsibility (Rathi, 2024).

Historic Street	Preservation of architectural elements, cultural sites, and an atmosphere of sentimentality define historic streets (Rathi, 2024).	A city's identity and cultural legacy are preserved when historic streets are retained and incorporated into urban designs (Rathi, 2024).
Art Street	Urban spaces that have been revitalized as outdoor galleries that display various paintings, graffiti, and street art are known as art streets (Rathi, 2024).	Artists can showcase their imaginative talents and integrate creativity into the public environment by using these streets as bright canvases (Rathi, 2024).
Urban River	Urban rivers are those that run through cities and have been assimilated into the urbanisation process (Parrinello, 2014).	Serves an urban ecosystem by providing water supplies and as a public space for a transit hub (Miladan & Istanabi, 2022)
Railroad	A permanent road consisting of a roadbed with a row of rails fastened to ties (Merriam-Webster Dictionary, 2024).	This affects the urban areas' imageability as it can partition urban areas, which can have an impact on how urban form changes (Miladan & Istanabi, 2022)

There are also many other functions of the path. Filomena et al. (2019) mentioned that individuals typically select paths that minimise rotational shifts instead of distance, which the concept of continuity recalls. Once they are recognised, the pathways'

continuation is necessary for functionality (Lynch, 1960). Therefore, the continuity in the pathway, whether its pavement, size, or path's name, is vital as its function is to navigate and give individuals clues on how to proceed with their journey whether they know or not in that area (Lynch, 1960). Research from Zairudin et al. (2021) on the Kuala Muda pathway demonstrates evidence for this claim as they found that the weakest main path is the unnamed road without any attraction on both sides with the addition to no boundary leading to an unclear direction and endpoint. Therefore, a path with continuity not only functions as guidance for its users but also enhances their overall navigation experience, ensuring they can proceed confidently and efficiently through the urban environment.

Furthermore, according to Lynch (1960), paths possess directional character and are recognisable and continuous, as it is simple to differentiate one way along the line from the other. Most individuals thought of the pathway's starting points and endings because they were curious about the destinations of those paths (Lynch, 1960). Hence, Lynch (1960) argued that a well-defined path with distinct beginnings and ends contributed to the city's cohesiveness and provided a sense of direction to everyone passing through it. Consequently, it is apparent that many individuals overlook the various functions of a path. Therefore, it is crucial to design paths that fulfil all their functional properties effectively, in order to achieve the best results for the cultural image of the urban environment.

2.2.2 Designing Paths

Designing paths, especially in urban areas, is a complex process that requires careful consideration of various factors. According to Lynch (1960), the most effective way to organise the entire urban structure is through its pathways. It takes a multidisciplinary approach to design routes in urban environments, requiring a thorough understanding of the urban context, user demands, and environmental factors. The foundation of pathways

thinking is the notion of adaptability, which guides innovative methods for dealing with unpredictability (Zandvoort et al., 2019). Hence, it is essential to plan ten steps when designing a path as shown in Figure 2.2. As mentioned by Omar (2019), streets are places for social expression as much as they are ways of access, and the attractiveness or dullness of a city's streets can be used to convey different aspects of the city.

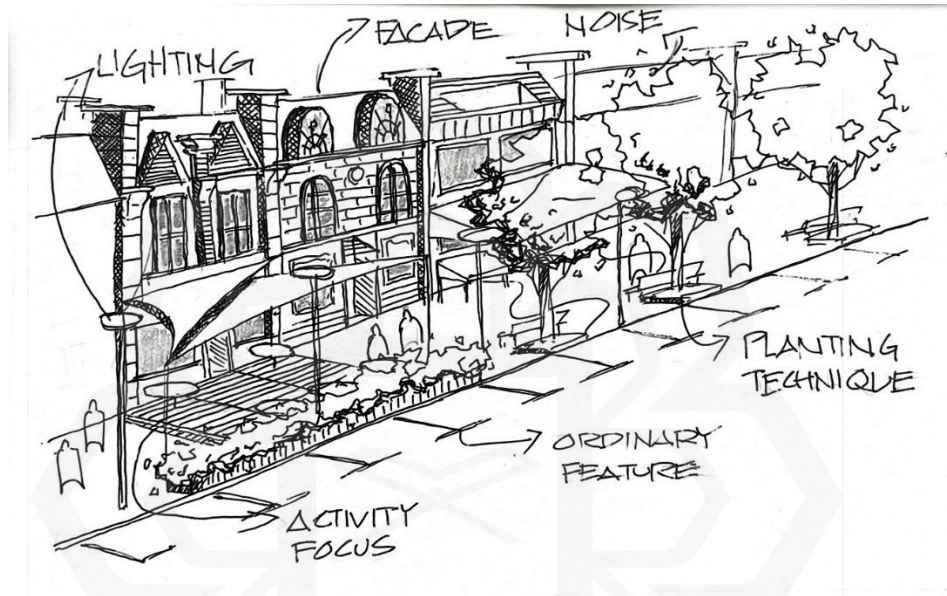


Figure 2.2 Example of path design (Adapted from Lynch, 1960)

According to Lynch (1960) study, a pathway needs something unique that distinguishes the important boundaries from other types of routes. The example of qualities given by Lynch (1960) include:

- A specific usage or activity focuses along their edges.
- Distinctive scent or noise.

- An ordinary feature as well as planting technique.
- An extraordinary façade texture.
- A certain layout of illumination.
- The unique location attributes.

The path can be seen as a continuity and cohesive entity if these properties are applied uniformly along the axis (Lynch, 1960). Continuity is an unbroken expansion in time, location, order, or permanence without the required alteration (Abbas & Al Khafaji, 2023). According to Abbas and Al Khafaji (2023), since they are complementary, the call for continuity and the urge to adapt constantly coexist as variables associated with human impact. Hence, a pathway needs to have a continuous quality as it will also affect the visual hierarchy, ultimately leading to how the city's image is composed (Lynch, 1960). Figure 2.3 exhibits the example of visually strong points for a path.

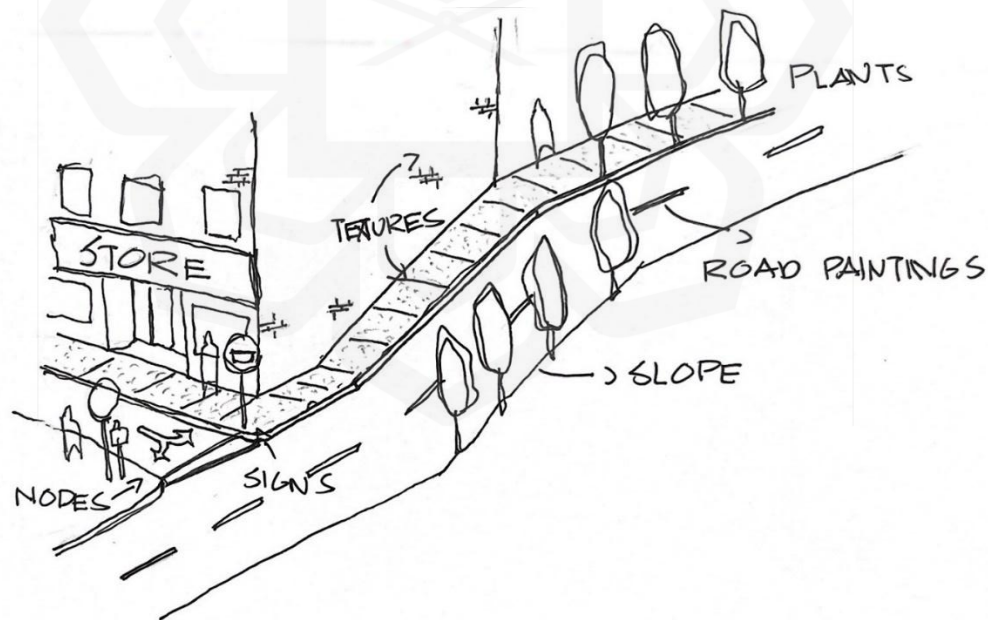


Figure 2.3 Example of visually strong points for a path (Adapted from Lynch, 1960)

As stated by Lynch (1960), clarity of direction is another important parameter when designing a path. It appears that users imbue a road with a feeling of direction, either irreversible or pointed and think of a street with its intended destination (Lynch, 1960). Hence, providing a sense of clarity on a path will lead users comfortably and securely as it will be easier for users to familiarise themselves with the location. It is the trait of being understandable and unambiguous. As mentioned by Lynch, (1960) constantly twisting a path will make the user confuse, making a straight road, has a distinct direction naturally. On the other hand, routes with several sharp bends under ninety degrees or multiple little turns maintain their basic direction (Lynch, 1960). Lynch (1960) stated that to provide the path with an appearance of advancement and make the opposing directions seem unique, it should be visually supported by strong points to give direction a distinction. Elements such as slope, signs, stores, nodes, colours, textures, plants, asymmetric design, and road paintings all give benefits on the directional and clarity of the path, and with the help of all these features, the path also becomes a reference point for other things such as scale (Lynch, 1960). Figure 2.4 shows the directional quality elements.

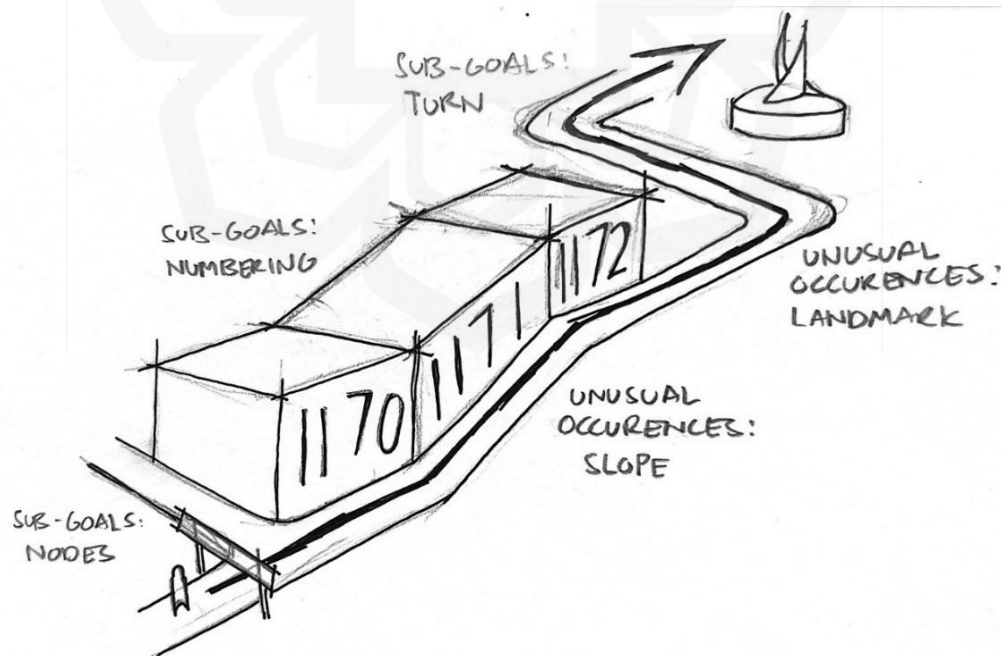


Figure 2.4 Directional quality elements (Adapted from Lynch, 1960)

A path that is both directional will be scalable and can be distinguished by its ability to feel one's location throughout its whole length as well as the distance covered, and the approximate remains to be covered (Lynch, 1960). Lynch (1960) found that naturally, characteristics that make scaling easier also typically provide a feeling of direction and can be accomplished by landmarks, nodes, or prominent locations throughout the pathway. Other techniques include house numbering, checkpoint marking, or gradient change that can lead to a sequence of unusual occurrences and sub-goals for the path's user to navigate, producing experiences and memories (Lynch, 1960). These elements contribute to creating a more understandable and hospitable urban environment, which is further explored in Bentley et al.'s (1985) research.

Bentley et al.'s (1985) research contrasts the alienating settings that are frequently imposed nowadays by highlighting the unique qualities that provide for understandable, hospitable, and controlled spaces. According to Bentley et al. (1985), there are seven criteria to create a conceptual connection between thoughts and the actual structure of the environment, and these criteria are essential for making a place responsive. Therefore, these criteria can be used or assessed since a pedestrian pathway is a public space in an urban environment. A more responsive public space with cultural depth can be achieved by implementing and understanding these criteria. The criteria concluded by Bentley et al. (1985) are as follows:

1. **Permeability:** Denotes the level of design excellence that influences where humans can and cannot travel.
2. **Variety:** The level of design that influences the variety of applications that individuals can utilise.
3. **Legibility:** The degree to which the design influences how simple it is for individuals to comprehend the chances it presents.

4. **Robustness:** The aspect of design that influences how many uses a location can have by its users.
5. **Visual appropriateness:** The level of design excellence that influences whether the place's intricate look informs visitors of their options.
6. **Richness:** Design quality that influences people's selection of sensory experiences.
7. **Personalization:** The level of design excellence that influences how much a person personalizes a space.

Consequently, users of a well-designed pathway will benefit from efficiency, safety, direction, and experience. Therefore, the path is an important element in urban design, and as Lynch (1960) has quoted, "None of the element types isolated above exists in isolation in the real case. Districts are structured with nodes, defined by edges, penetrated by paths, and sprinkled with landmarks. Elements regularly overlap and pierce one another" (p.48). A well-thought-out path can improve the whole experience of individuals interacting with their surroundings and effectively enhance all the features of the urban landscape as mentioned in the Quran surah Al-Mulk, verse 15:

هُوَ الَّذِي جَعَلَ لَكُمُ الْأَرْضَ ذُلُولًا فَامْشُوا فِي مَنَاكِبِهَا وَكُلُوا مِن رِّزْقِهِ
وَإِلَيْهِ النُّشُورُ

“He is the One Who smoothed out the earth for you, so move about in its regions and eat from His provisions. And to Him is the resurrection of all.”
Al-Mulk, verse 15

It is a verse that commands Muslims to explore all His regions with ease, visiting rural areas and every part of His territory on numerous quests for trading and earning. In

relation to this study, humans need to provide linkages or paths between places for the benefit of mankind. A stronger bond between the urban environment and its people will be cultivated, and the community's identity will be strengthened via the thoughtful planning, designing, and implementation of pedestrian pathways that also provide cultural imageability, an ideal concept based on the Quranic perspective. Consequently, assessing pedestrian pathways as paths is crucial for fostering a harmonious and culturally rich urban environment.

2.3 PEDESTRIAN PATHWAYS AS PATH

This topic explores the foundation of pedestrian pathways, connectivity and accessibility, pedestrian comfort, and a set of guidelines and ends with an Islamic point of view. According to Irafany et al. (2020), the Latin word *pedesterpedestris*, which means "people who walk" or "pedestrians", is where the word pedestrian originates. An additional definition of a pedestrian is a person who travels by walking from one location to another (Irafany et al., 2020). According to the Cambridge Dictionary (2024), the meaning of pedestrian is a person strolling, particularly in a place where cars travel. In Merriam-Webster Dictionary (2024), the definition of pedestrian from an adjective sense brings forth its original meaning: to be someone who moved slowly as if walking instead of galloping along on a horse or in a carriage. Urban paths have always served as an insight into the living conditions of its residents, and pedestrians have long engaged in related activity there (Tian et al., 2022). Hence, walking is the most ubiquitous, sustainable, and ancient mode of transportation that represents the most important travelling network for urban dwellers that also provides pleasure and exercise (Distefano et al., 2023; Mendzina & Vugule, 2020; Nahdatunnisa et al., 2023). Figure 2.5 shows the distinction between paths and pedestrian pathways.

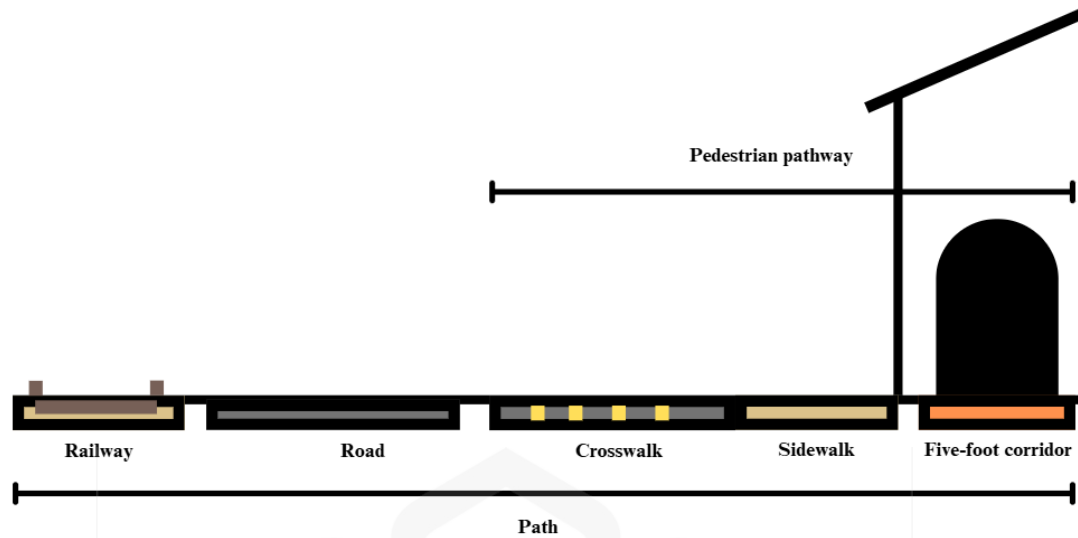


Figure 2.5 Path and Pedestrian Path

Most social activities that people engage in nowadays, such as commerce, meetings, entertainment, mingling, and protests, have historically been on the street (Mendzina & Vugule, 2020). According to Tian et al. (2022), as material civilization develops further, the streets take on new roles as the demarcation between living, working, and administrative zones, as well as a vital conduit for trade, entertainment, and leisure activities. When building a pedestrian walkway, it is essential to consider the requirements of diverse community groups, including senior citizens, individuals with limitations, expectant mothers, and kids, to ensure inclusivity (Suminar & Kusumaningrum, 2022). According to Hetyorini et al. (2023), establishing harmonious and accessible urban places for people of all social classes is made possible by using pedestrian walkways with tactile and ramps, which contribute significantly to the community's sense of ease, comfort, and safety in their daily activities. Hetyorini et al. (2023) argued that activities in an urban environment are expected to run smoothly and become livelier if the community is encouraged to use pedestrian routes. Consequently, the pedestrian pathway is an essential structural element that benefits society, especially in urban areas. Other factors, such as

walking experience, are also important. The benefits of providing for pedestrians are shown in Figure 2.6.

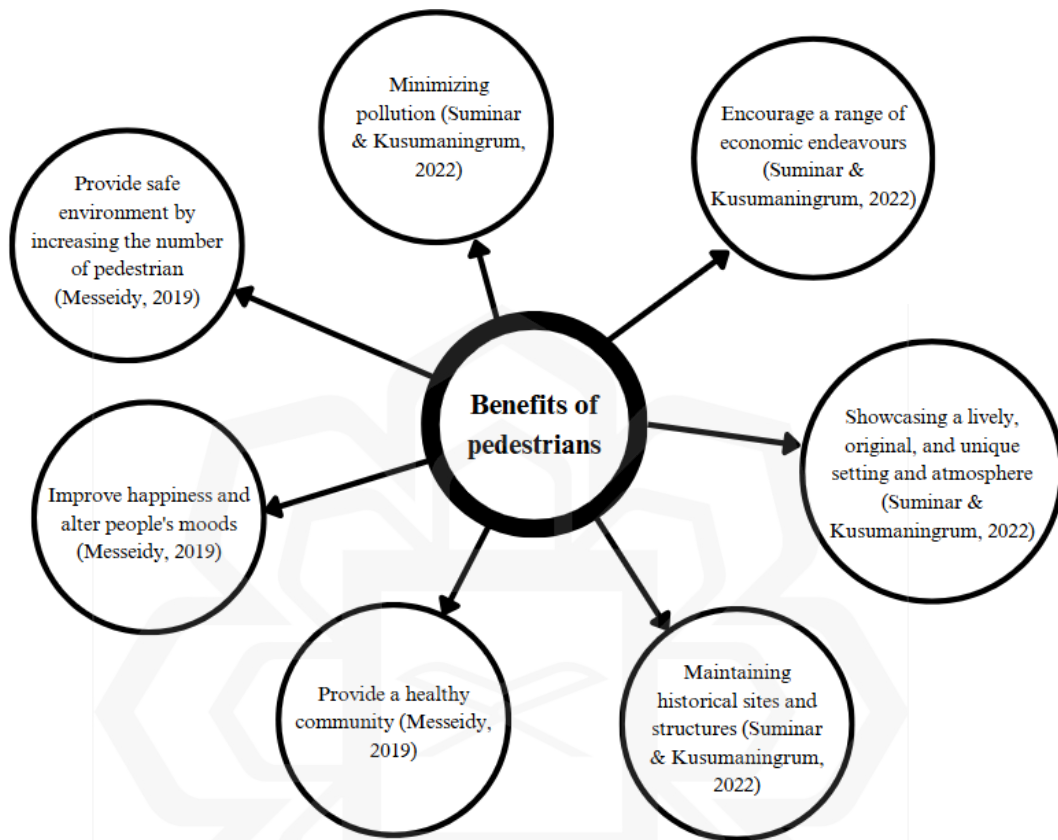


Figure 2.6 Benefits of providing for pedestrians

These paths are essential for fostering health, safety, and community involvement in addition to being routes for pedestrians. Pedestrian pathways stimulate physical exercise, lessen traffic congestion, and support environmentally sustainable transportation by offering accessible and safe paths for bicyclists and walkers. Paolinelli and Fortuna (2022) stated, "To move towards a more sustainable urban environment, it is necessary to overturn the current paradigm where motorized transit influences and often undermines people's freedom of movement" (p. 12). Hence, promoting a healthier, safer, and more engaged

community is crucial by designing pedestrian pathways that enhance accessibility and connectivity, positively influencing the urban cultural image.

2.3.1 Pedestrian Pathways as Connectivity and Accessibility

The urban environment thrives on pedestrian traffic because it provides the communities with accessibility and connectivity while contributing to the sense of place that public areas are frequently known for. A linked path system with accessibility and connectivity features inside an urban area is known as a pedestrian network (Jabbari et al., 2023). The pedestrian network is, undoubtedly the world's most intricate urban transportation system (Pearce et al., 2021). Pearce et al. (2021) argued that connectivity, walkability, and pedestrian accessibility are just a few of the network-based assessments that depend on it since it connects every mode of transportation. However, Fonseca et al. (2022) argued that investigating the pedestrian infrastructure's connectivity and accessibility can only provide a limited understanding of the many aspects influencing satisfaction and people's walking decisions. Studying pedestrian networks, therefore, requires considering additional neighbourhood and micro-scale street characteristics based on Fonseca et al. (2022) research. Nonetheless, understanding pedestrian activity requires a grasp of both accessibility and connectivity, which are an interconnected concept (Pearce et al., 2021). Therefore, connectivity and accessibility are a vital criterion for a pedestrian pathway.

Connectivity is an essential component of the urban environment that guarantees easy access to various sections of the city, which is necessary to effectively operate urban areas. The street network's connectivity significantly impacts how pathways link together and how individuals walk on them (Jabbari et al., 2023). Street connectivity is one key element influencing walkability (Sun et al., 2021). The quantity of connecting streets per unit area indicates how connected the street network is, as defined by Jabbari et al. (2023).

Connectivity is the criteria that bond individuals and environments in an urban area. As supported by Jabbari et al. (2023), streets are interconnected according to the connectivity criterion, which links people and locations. Pearce et al. (2021) define connectivity as the convenience of getting from one location to another location or the clarity and variety of paths within a network. Due to their interconnection, street networks' connectivity is frequently evaluated, considering it a replacement for pedestrian accessibility to nearby locations (Pearce et al., 2021). This proved that connectivity affects accessibility. As mentioned by Pearce et al. (2021), when time and distance are reduced, greater connection always leads to improved accessibility.

New research found that connectivity in a pedestrianized environment is much higher than previously studied. For example, Pearce et al. (2021) research, found that connectivity was enhanced via pedestrian networks, with link-node ratio, pedshed, and pedestrian path directness values generating scores up to 120% in suburban regions. When utilizing its pedestrian network, suburban regions seemed more linked than the congested grid-like urban districts, as indicated by connectivity assessed via the link-node ratio (Pearce et al., 2021). This is explained by the increase in routes that result from employing pedestrian networks, which enable coverage of a larger region, allowing a higher degree of accessibility. This increased connectivity underscores the crucial role of accessibility in planning pedestrian pathways.

One of the enabling criteria that firmly connects the built environment with urban performance is accessibility (Jabbari et al., 2023). The connections between each location in an urban system determine how accessible a specific area is (Jabbari et al., 2023). Syukri Yahya and Mohd Safian (2023) define pedestrian accessibility as the degree to which walking and cycling are effectively encouraged as alternatives to driving to a location. Pearce et al. (2021) viewed accessibility as the compatibility of land use patterns and transportation. Individual's comfort in walking from one location to another can also be referred to as pedestrian accessibility (Jabbari et al., 2023; Syukri Yahya & Mohd Safian,

2023; Pearce et al., 2021). For instance, the accessibility criteria can be considered to enhance the pedestrian network through such goals as multi-modal transit, thereby connecting suburban regions that rely heavily on cars (Jabbari et al., 2023). As a result, proximity, the locations and distances between objects, determines accessibility (Pearce et al., 2021).

An urban environment must be accessible for everyone to use and traverse its resources and infrastructure, regardless of their financial situation or physical capabilities. Prioritising accessibility for everyone and implementing interventions are necessary to meet this objective (Martínez-Chao et al., 2024). Recent studies showed that accessibility affects pedestrian activity. According to Pearce et al. (2021), research from four neighbourhoods in Istanbul proves that the greatest predictor of observed pedestrian activity across all neighbourhoods, accounting for 38%, was accessibility to various land uses. Accessibility also relates to walkability as, according to Muhammad Mulyadi et al. (2022), access to public transit and patterns of land use impact the amount of pedestrian movement. Syukri Yahya and Mohd Safian (2023) argued that it is possible to decrease obesity, enhance fitness, safety, and health, and support environmental sustainability by enhancing pedestrian accessibility. Syukri Yahya and Mohd Safian (2023) also mentioned that incorporating pedestrian accessibility can provide foreign tourists with an enhanced urban experience, enabling them to fully enjoy the city's natural and cultural assets. Hence, this proves that connectivity and accessibility are crucial criteria for a pedestrian pathway in an urban environment. Additionally, considering the factors of a comfortable pedestrian pathway is essential to ensure these pathways effectively support accessibility and connectivity.

Recent Malaysian urban design agendas increasingly prioritise connected, accessible pedestrian networks such as Kuala Lumpur's Structure Plan 2040 targets a transit-oriented city with public transport as the default and walking distances of <400 m between key nodes (Chan, 2025); the River of Life retrofit delivers a continuous 10.7 km

promenade and cycleway, strengthening pedestrian connectivity in the historic core (C40 Cities, 2022); PLANMalaysia's (2024) Healthy Walkable City guidance formalises continuous, shaded and universally designed pavements; and Penang's 2025 Beach Street loop pilot advances a climate-responsive, pedestrian-friendly zone (Mok, 2025), together signalling a national shift from car-centric streets to legible, inclusive walking corridors.

2.3.2 Factors of a Comfortable Pedestrian Pathway

Comfort depends heavily on the individual experiencing the scenario and is a function of their sentiments about something (Irafany et al., 2020). It is a pleasant sensation of relaxation and painlessness (Cambridge Dictionary, 2024). People's comfort levels when walking is influenced by the environmental quality of the pedestrian route; thus, when designing, it is important to consider factors such as pedestrian size, excellent design, materials, and space and surface for walking (Irafany et al., 2020). According to Irafany et al. (2020) research, the purpose of an individual becoming a pedestrian is categorized into two types: functional and optional. Walking to work or school is an example of functional pedestrian activities that are regular routines or sporadic events that occur all year round and are categorized as required or obligatory (Irafany et al., 2020). In contrast, optional pedestrian goes for an activity such as a leisure walk or recreational walk without a clear objective or additional social engagements (Irafany et al., 2020). Irafany et al. (2020) also mentioned that for pedestrians to use it for recreation, strolling, and engaging in social activities, proper pedestrian routes should accommodate their needs. Other than that, the primary consideration should be comfort when designing pavement or pedestrian amenities, considering the characteristics of the pedestrian path (Irafany et al., 2020). Table 2.2 presents the factors influencing pedestrian comfort in relation to their needs, based on the study by Irafany et al. (2020).

Table 2.2 The factors for a comfortable pedestrian pathway (Adapted from Irafany et al., 2020)

Factors	Affects
Mobility	• A criterion for pedestrians is the amount of space necessary to do their daily tasks with ease. • The width, surface, and not having obstacles on the track affect how far a pedestrian can travel.
Accessibility	• Making pedestrian pathways accessible requires walkers to access and reach the target destination places without hindrances or obstructions.
Continuity	• It is necessary to allow pedestrians to engage in walking activities in a sustainable way without having to halt or split up.
Safety	• For pedestrians, informative signs are a constructive way to get a general idea of the amenities in the region they are walking through.
Convenience	• Weather and environmental conditions, as well as the overall condition of the pedestrian path, are factors that affect pedestrian needs. • One way to provide protection is to plant trees, benches, or other proper functional structures at strategic places.
Security	• Pedestrians should not have to live in constant fear of potentially fatal crimes.

	• Using the concept of CPTED or providing adequate lighting to lower the crime risk.
Beauty	• When engaging in their activities on foot along the pedestrian route, pedestrians must have a comfortable physical ambience. • Trees and parks will attract pedestrians and subsequently revitalize weary pedestrians.
Circulation	• The size of roadways and pedestrian pathways, the point of commencement and precise destination of pedestrian movement, the intention of a journey, the time of the day, and the number of people all affect pedestrian circulation.
Nature	• Climate variables, such as rain, wind, and temperature, influence individuals' attraction to walking and have an immense effect on pedestrian behaviour.
Odours	• Unpleasant odours or smells from unmaintained garbage cans, open drain systems, or vehicle exhaust will reduce pedestrian's comfort.
Shape	• To provide comfort, the pedestrian pathway design's form needs to be modified in accordance with human requirements. • Form, size, colour, and texture are the four (four) physical features of the pedestrian path that will contribute to the pedestrian experience.
Noise	• Unwanted noise can be harmful to people's health and the comfort of their surroundings at particular volumes and times. • Plants are required as a buffer surrounding the pedestrian walkway in order to reduce noise pollution.

Cleanliness	• A spotless state, offering anything tidy in addition to enhancing the area's appeal while maintaining comfort for pedestrians.
Supporting elements	• Pedestrian pathways do not only provide functions or aesthetics but also provide comfort for users. • Pavement, lighting, signage, sculptures (vocal points), bollards, seats, shade plants, canopies, and utilities are all necessary complementary components of pedestrian routes that will tend to the user's comfort.

The number of walks that people take on a good pedestrian walkway that meets high requirements for safety, comfort, enjoyment, and attractiveness is significantly influenced by the pathway's quality (Arifah & Hidayah, 2021; Firdaus et al., 2024). As mentioned by Arifah and Hidayah (2021):

Planning for pedestrian lane needs must be well planned according to the rules and standards of pedestrian path planning by considering pedestrian perceptions and preferences and prioritising pedestrian safety and comfort in order to improve their walking experience and create a sense of belonging and pleasure in walking (Arifah & Hidayah, 2021, p.2)

As a result, the pedestrian path is a crucial component of urban planning since it prioritises comfort over aesthetics, supporting business ventures that can breathe new life into ageing urban areas (Firdaus et al., 2024). Consequently, it is vital that any pedestrian pathway be planned to achieve its maximum potential and expand beyond its functional purposes. Therefore, careful planning for pedestrian pathways is essential to ensure they meet these high standards and contribute positively to the cultural image of an urban environment.

2.3.3 Planning for a Pedestrian Pathways

Planning for a pedestrian pathway involves designing and organising pathways to ensure connectivity, accessibility, usability, and comfortability to accommodate pedestrians effectively. Pedestrian facilities and surrounding environments that are accessible to everyone demonstrate characteristics of continuity, connectivity, safety, and sustainability (Ghadzlie et al., 2024). It is a vital step towards achieving a proper pedestrian pathway that allows for a walkable environment in an urban setting. Ghadzlie et al. (2024) mention that walkability depends heavily on pedestrian paths. Therefore, assessing the pedestrian guidelines and design elements reported by the government is important.

In Malaysia, excellent paths also include the policies and guidelines issued by the Department of Town and Country Planning (2017), as shown in Table 2.3. According to Public Works Department Malaysia (2002), although pathways along roads are not mandated by law, they are generally considered essential in all built-up regions and required in certain rural areas. The requirements of the elderly and those with disabilities should always be considered when pedestrian pathways are offered (Department of Public Works Malaysia, 2002). Therefore, this guideline will guarantee that the community's goal of establishing a pedestrian-friendly environment will be used effectively. Table 2.3 shows the related guidelines, including Roads, Drains and Buildings Act 1974 (Act 133) - Part II: Road, Section 25, and Pedestrian-Friendly Healthy Cities (Healthy Walkable City) Guidelines (Department of Town and Country Planning, 2017).

Table 2.3 Design Guidelines for Pedestrian Pathway (Adapted from Department of Town and Country Planning, 2017).

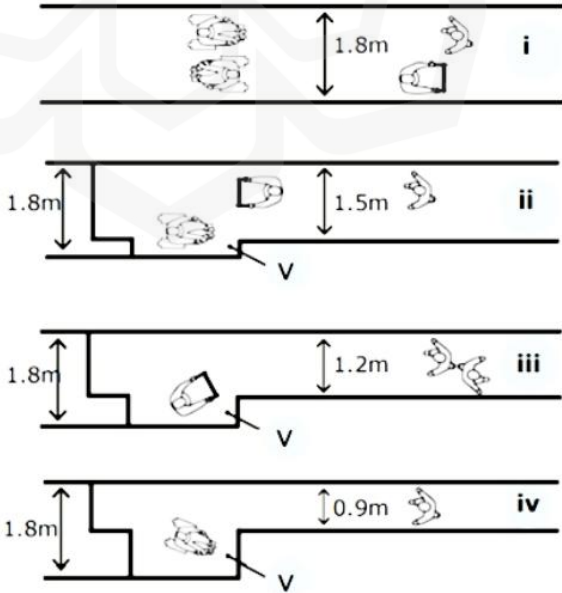
No.	Guidelines
1.	i. For a route of two (2) continuous directions, a walkway width of 1.8 metres (6 feet) is needed. This width is comfortable for all user groups, including wheelchair users (Figure 2). ii. Two frequent route directions require a minimum of 1.5 metres in width, and every 25 metres must include space for two wheelchair users (maximum) (Figure 2). iii. A two-way street that rarely is used must be at least 1.2 meters wide and include 1.8×1.2 metres of turning space for wheelchairs for every 25-metres distance (maximum) (Figure 2). iv. Wheelchair users should have at least 1.8 metres by 1.8 metres of turning room along a rarely traveled path, with a minimum width of 0.9 metres (Figure 2). v. A turning area should be provided every 25 meters for wheelchair users (Figure 2.7). 

	Figure 2.7 Pedestrian walkway suitable width (Department of Town and Country Planning, 2017).
2.	Wider walkways with a minimum width of 1.8 metres are recommended for neighbourhood centres and primary focus areas.
3.	There are walkways on both sides of the street, especially in the focus area where there is a higher concentration of people.
4.	Bicycle and pedestrian planning can coexist in one scheme. Together, the bike pavement width (1.5 metres) and walkway width (1.8 metres) equal 3.3 metres.
5.	Bicycle lanes and walkways must connect and make all of the following locations accessible: business districts, residential zones, essential neighbourhoods, and public focus areas.
6.	The curb must be installed so that cars and pedestrians have their own route. In the absence of a curb, soft landscaping components and road bollards can be employed.
7.	A lift, or ramp, must be available at the start and finish of the path.
8.	Pedestrian walkways require non-slip surfaces, consistent strong lighting, and water absorption in both hot and humid conditions.
9.	To provide blind or visually impaired people with a guide, tactile blocks must be placed along every walkway.

The characteristics and design elements of a pedestrian pathway were also reported by the Department of Town and Country Planning (2019) as shown in Table 2.4.

Table 2.4 Characteristics of a Pedestrian Pathway (Department of Town and Country Planning, 2019)

Characteristics	Description
Universal Design	Using Universal Design concepts, especially for paths that led to public gathering places and transportation services.
Landscapes	Apply by using plants and trees for pedestrian shading that increases comfort.
Continuous network	Reducing interference for pedestrians by minimizing the amount of curb cutting.
Focal area	A pedestrian pathway shall be continuously connected to a focal area that is clear and comfortable.
Alternative pathway	Other pathways surrounding the required residential area are available for use at night due to safety reasons.
Visibility	In order to guarantee that the public way is not shielded from view or obstructed, the layout design must be implemented with the notion of natural surveillance.
Supporting elements	Design a pathway that is cozy, secure, and visually appealing by adding the necessary support, such as chairs and roads.

Consequently, almost all vehicle trips involve some type of pedestrian activity, making pedestrians a crucial aspect of the traffic system (Department of Public Works Malaysia, 2002). Walking becomes engaging, pleasant, and safe when pedestrian paths are thoughtfully and strategically planned while offering a chance to increase the amount of public space in the city (Mendzina & Vugule, 2020). The perception that cars are the primary mode of transportation in cities can be altered by creating appealing public spaces that forbid motorized vehicles (Mendzina & Vugule, 2020). Thus, this will automatically alter the perception of a pedestrian pathway as urban space, highlighting its role as a vessel similar to motorized vehicles, allowing individuals to travel from one place to another.

In Islam, it is the responsibility of every Muslim, individually and collectively, to produce and maintain a healthy environment. As mentioned in Surat Al Maidah verse 32:

مِنْ أَجْلِ ذَلِكَ كَتَبْنَا عَلَى بَنِي إِسْرَءِيلَ أَنَّهُ مَن قَتَلَ نَفْسًا
بِغَيْرِ نَفْسٍ أَوْ فَسَادٍ فِي الْأَرْضِ فَكَأَنَّمَا قَتَلَ النَّاسَ
جَمِيعًا وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا وَلَقَدْ
جَاءَتْهُمْ رُسُلُنَا بِالْبَيِّنَاتِ ثُمَّ إِنَّ كَثِيرًا مِّنْهُمْ بَعْدَ ذَلِكَ فِي
الْأَرْضِ لَمُسْرِفُونَ ﴿٣٢﴾

“Because of that, We decreed upon the Children of Israel that whoever kills a soul unless for a soul or for corruption [done] in the land - it is as if he had slain mankind entirely. And whoever saves one - it is as if he had saved mankind entirely. And Our messengers had certainly come to them with clear proofs. Then indeed many of them, [even] after that, throughout the land, were transgressors.” Al Maidah verse 32

It is a verse that preaches non-violence and respect for life. Looking after an individual's life is similar to looking after the community's life. In this sense, preserving human life also refers to how a planner, landscape architect, or other relevant association contributes to the social, environmental, and economic facets of human existence peacefully and serenely. Therefore, in relation to this study, a pedestrian pathway is a space that can allow and encourage individuals to be healthy. Individuals who use a pedestrian pathway daily can achieve a healthy lifestyle through the promotion of regular physical activity and providing safe, accessible routes as pedestrian pathways play a vital role in enhancing public health. Additionally, well-designed pedestrian pathways contribute to the cultural imageability of urban environments, creating spaces that reflect and enhance the community's identity and belonging.

2.4 PEDESTRIAN PATHWAY: THE CONCEPT OF CULTURE AND IMAGEABILITY

This topic discusses the principles of culture, the notion of imageability, and cultural imageability in an urban environment all within the context of pedestrian pathway. Regardless of individual contrasts, culture fosters concord among people since respecting another's culture is imperative for collaboration and integration (Kapur, 2020), thus creating an inclusive society. In this study, culture is understood as lived, intangible practices such as shared beliefs, rituals, memories, languages and everyday customs enacted in public space through which people continually reproduce identity and social cohesion along pedestrian routes; on these corridors, recurring practices (markets, festive processions, prayer rhythms, greetings) become collective memory anchors that deepen attachment to place (Kurin, 2004). According to Kourtit and Nijkamp (2022), when it comes to historical features in urban areas, as well as intangible effects like the urban atmosphere, culture, and creativity, are crucial variables in determining it to be cohesive and equitably urban growth. This was supported by Ajani et al. (2021), they mentioned that culture significantly influences the growth and sustainability of social welfare even though human civilisation evolves at varying rates, and understanding of cultural distinctions can be helpful in determining which cultural components influence society's development or impediments. Together, these traits characterise the diversity and complexity of cultural backgrounds worldwide, emphasising the role that common knowledge, values, principles, and traditions play in forming both identities, sense of belonging, sense of place, and place attachment in an urban environment. Hence, there is a significant stance in which the imageability of the urban environment is concurrent with cultural development.

Lynch's groundbreaking study helped to analyse two visual qualities within an urban built environment: imageability and legibility. The elements are powerfully and instantly recognised because of these two features (Lynch, 1960). In the built environment context, Lynch (1960) defines imageability as "a quality in a physical object which gives it a high probability of evoking a strong image in any given observer" (p. 9). According to

Lynch (1960), people would effectively generate highly insightful, easily recognisable mental representations of their environment via colour, form, and designs. Lynch (1960) also stated that a higher sensation can also refer to legibility or visibility where the object can impact with its dominant characteristics whether it is to be seen. Hence, drawing the attention of the residents and visitors would be easy in highly imageable areas as it is unique and noteworthy. Extending Lynch's notion of imageability beyond visual form, imageability can also be understood as emerging from symbolic and affective cues such as familiar sounds, smells, micro-events, and social performances that enable individuals to recognise, remember, and value a path. While legible design remains essential, it is the multi-sensory, lived experience that transforms a route into a memorable place (Lynch, 1960). Furthermore, Lynch (1960) concluded that with a highly imageable city, keen individuals could grasp new sensuous experiences without sabotaging their memories of the city, making them highly aware of their surrounding environment. Lynch (1960) also emphasises that imageability does not always imply something rigid or systematically arranged, nor is it obvious at a glance, as the whole image of the environment is convoluted, and straightforward designs are dull. Therefore, it is possible to strengthen the images by using cultural elements or altering the environment (Lynch, 1960). Consequently, this shows that it is vital to understand the principles of culture together with the notion of imageability to develop and achieve successful cultural imageability in an urban environment.

2.4.1 Principles of Culture

The term culture derives from the Latin *cultus* meaning “cultivation” or “refinement”, implying the deliberate development of qualities that command esteem over time (Kapur, 2020). Contemporary definitions emphasise learned behavioural patterns and their material expressions: ingrained dispositions (Ajani et al., 2021) and distinctively human practices and artefacts (White, 2022). In short, culture denotes the historically shaped ways of life of

a group in place—material possessions, institutions, philosophies, arts and tools (Ajani et al., 2021; White, 2022). Nonetheless, it remains a complex, contested construct without a single agreed definition (Causadias, 2020; Spencer-Oatey, 2021). Table 2.5 summarises further definitions from Spencer-Oatey (2021), Bakar and Ramli (2019), and Minkov (2014).

Table 2.5 Definitions of Culture (Adapted from Bakar & Ramli, 2019; Minkov, 2014; Spencer-Oatey, 2021)

No	Definitions
1.	Culture is an intricate system encompassing all of man's learned skills and behaviours from his time in society.
2.	Perspectives, beliefs, and various symbolic-meaning frameworks are transferred and generated, and these elements combine to form culture, shaping human behaviour.
3.	A physical, extrasomatic continuation of objects and events reliant on symboling.
4.	Separating individuals belonging to a group or category by means of collective mental indoctrination.
5.	A population's culture comprises experience-derived products that are arranged, acquired, or produced by its members. These products include imagery, encodement, and the meanings associated with them that are passed down from previous generations to present-day people, or that are developed by specific individuals.
6.	The manner of life and its expressions are unique to a community that speaks a specific language.

Nonetheless, according to Minkov (2014), making the concept of culture more understandable or attempting to come up with a definition that would satisfy everyone was not worth the effort. Instead of focusing on lingering problems, researchers ought to boost their efforts to find any ecological, social, or cultural factors that could be connected to known differences in human behaviour (Minkov, 2014). Minkov (2014) added that there is no indisputable justification for one theoretical abstract conception of it being superior to another. Causadias (2020) supported this by stating several scholars even mentioned abandoning culture as it hinders scientific development. Precise definitions of culture can prevent questionable research practices, such as treating it as a substitute or fixed variable while ensuring clarity about its nuanced role in development and avoiding confusing statements (Causadias, 2020; Minkov, 2014). Therefore, a comprehensive grasp of the meaning of culture can guide the creation of culturally appropriate and effective initiatives to solve some of the most critical practical and research concerns nowadays while keeping prejudices and assumptions at bay (Causadias, 2020; Raeff et al., 2020). According to Minkov (2014), in a pragmatic sense, culture can be characterized by the scope and subjects of the research interests of its researchers. Therefore, in this context, designing pedestrian pathways that reflect cultural nuances can enhance their effectiveness and relevance in urban environments.

Generally speaking, culture is an amalgamation of the shared attitudes, activities, values, and beliefs of particular social groupings toward individuals, traditions, and historical events in a given location and period (Bakar & Ramli, 2019). It is a dynamic system created by shaping people, places, and practices, where the whole and its parts are inseparable and mutually influence each other (Causadias, 2020). Hence, it is important to explore the elements of culture, as shown in Figure 2.8.

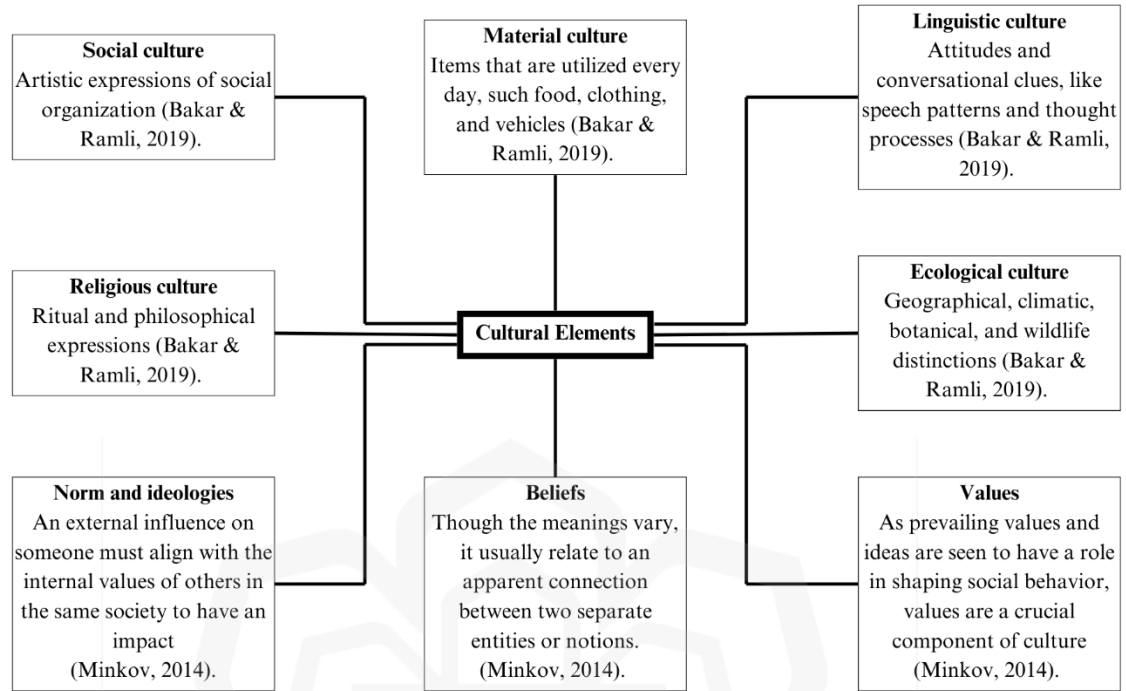


Figure 2.8 Elements for a Culture (Adapted from Bakar & Ramli, 2019; Minkov, 2014)

Thus, every society's social structure possesses unique traits, such as its culture, which guides its evolution (Ajani et al., 2021). As supported by White (2022), once developed, culture is an entity unto itself since it is an inheritance carried down through the generations, consisting of a series of items and events connected by cause and effect. These cultural traits shape the way communities interact with their environment and influence urban design decisions. Understanding these cultural nuances is essential for creating urban spaces that resonate with the community. Therefore, incorporating cultural considerations into the design of pedestrian pathways can enhance their usage and potential.

Culture collectively refers to a group of people's shared values, beliefs, customs, practices, and habits that influence their activities, places, and traditions, in summary. This was supported by Causadias (2020) that stated the primary and most important element of

culture as a system is people and the second fundamental element of culture as a system is places. It is the product of previous acts and a powerful influencer of present and future deeds, constantly evolving and molding how people and communities engage with their surroundings. These are recurring themes in all definitions of culture, regardless of their diversity as supported by Braff & Nelson (2020). To be more precise, culture is acquired, transmitted, symbolized, integrated, dynamic, holistic, and adaptable (Braff & Nelson, 2020). As a thorough ideal conception of human knowledge, conviction, and behaviour, culture serves as society's path of introspection (Ajani et al., 2021). Therefore, individuals must raise knowledge of cultural characteristics in addition to these factors (Kapur, 2020). Table 2.6 describes the example of characteristics of culture.

Table 2.6 Characteristics of Culture (Adapted from Ajani et al., 2021; Kapur, 2020; Spencer-Oatey, 2021)

Characteristics	Descriptions
Cultures are collective.	These common cultural traits bind people together since they cause people to act socially and instinctively while predicting the behaviour of others. Culture transmits information from one generation to the next through promoting a sense of identity and belonging within a society.
Cultures are ever-changing.	Such dynamics can be seen in everyday life and societal processes, as cultural influences alter attitudes, choices, and actions. The outcome of people's constant interaction with their cultural context is a constantly changing and adapting cultural environment that reflects the subtleties and complexity of human cultures.
Culture contains interpretation.	Meaningful aspects within a society are frequently associated with implications that resonate with symbolic culture. It emphasises how concepts and signals are used to mediate human culture, underlining

	the significance of symbolic communication in the formation of cultural expression and knowledge.
Culture aids in problem-solving.	Cultural sensitivity and awareness enhance effective communication and understanding between individuals and groups engaged in problem-solving. By acknowledging and appreciating cultural differences, multiple parties can participate in productive discussions and cooperative problem-solving initiatives.
Culture is cultivated and learned.	This learning happens via social interactions with peers, families, schools, and the community. In addition, people also actively engage in cultural rituals and activities, which aid in internalising and acquiring cultural norms and traditions.
Culture is expressed at several depth levels.	The three essential layers of a group's culture are (1) observable artefacts (physical evidence), (b) values (increased awareness), and (c) fundamental underlying assumptions (Pre-conscious). These levels must be distinguished while examining a culture.
Culture affects how biology functions.	In some way, people's cultures dictate what they eat, when, how much, who they eat it with, and under what regulations. A cultural belief that rattlesnake meat is repulsive can disrupt digestion, while those who see it as acceptable experience no such issues.
Cultural identities and affiliations with social groups.	Cultural group identities often lead us to differentiate between ingroup and outgroup members, typically favouring the ingroup in our evaluations. This impacts on other people's sense of belonging and sense of distinction.

Consequently, as quoted by Causadias (2020), “There is no culture without people and no people without culture” (p.311) and “there is no culture without places and no places without culture” (p.311). Emphasising the close connection between people and culture and the idea that people and their cultural surroundings have an intrinsic influence on each other. People are shaped by the cultural norms, beliefs, and practices they live under,

accentuating the interdependence of human existence and the representation of culture. A representational approach of culture focuses on how culture is expressed through conduct and influences people's perceptions of their own experiences (Raeff et al., 2020). Through this understanding of culture, pedestrian pathways therefore as integral parts of urban environments, can reflect and enhance cultural imageability by incorporating elements that resonate with the community's identity. Hence, the concept of imageability is in play to cater to the representational approach to cultural image.

2.4.2 Notion of Imageability

The urban environment is where every building, street, and park has its character and can take people to different times and places. This encapsulates the essence of imageability, highlighting the remarkable ability of elements, designs, and spaces to elicit intricate and vivid mental imagery (Lynch, 1960). The rapid growth of urbanisation, particularly during the Industrial Revolution, has brought about significant changes in resource utilisation and urban design for most European cities (Grabowski, 2019), and it has become more and more necessary to comprehend how urban settings affect human experience. Kevin Lynch, a visionary urbanist, set out to explore this urban terrain and discover the city's enigmas and its profound impact on its people. Figure 2.9 illustrates the formation of imageability.

Lynch developed a book called *The Image of the City* (Lynch, 1960), and according to Filomena et al. (2019), it is one of the most prominent ideas in behavioural geography and spatial cognition ever developed. Here, the author is neither interested in the city's intricate technical issues or poetry nor the creative potential of the place (Chapman, 1962). According to Filomena et al. (2019), Lynch's research focuses on how people see and interpret cities and how external urban objects shape people's mental images of cities. Figure 2.10 demonstrates the usage of imageability in different subjects throughout the years.

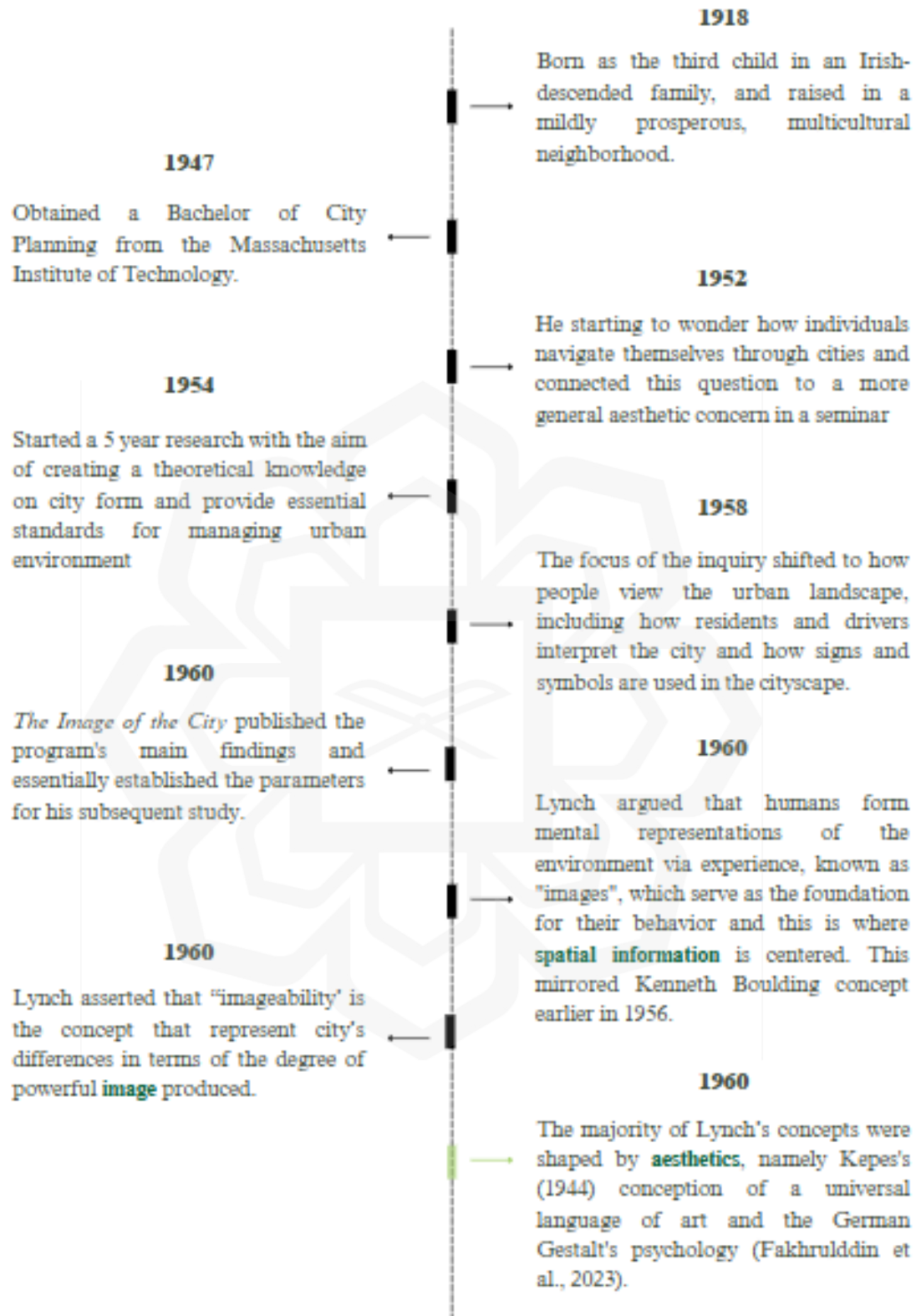


Figure 2.9 Timeline of the formation of imageability

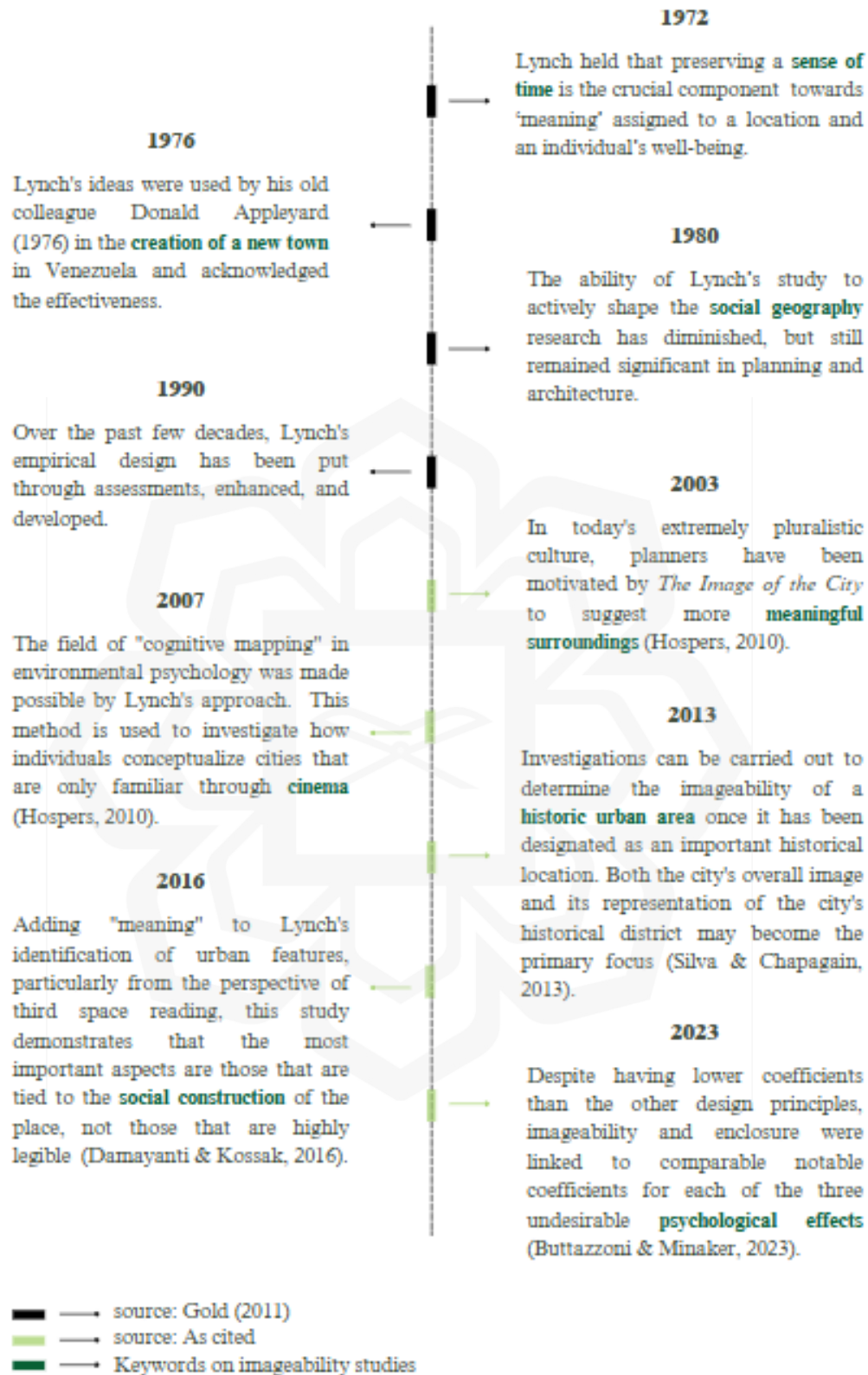


Figure 2.10 Usage of imageability in different subjects

Due to its alignment with the ‘Gestalt Theory’ and ‘Gestalt Laws of Perceptual Organization’, the concept of ‘imageability’ acquired a lot of attention and approval as both of them have the same central idea highlighted on wholeness (Fakhrulddin et al., 2023). The Gestalt Laws of Perception strengthen the relationship between spatial and meaning in building an excellent city form. The relation between ‘Imageability’ and ‘The Gestalt Laws of Perception’ is shown in Figure 2.11. Therefore, the concept of imageability was widely accepted among practitioners and scholars (Fakhrulddin et al., 2023).

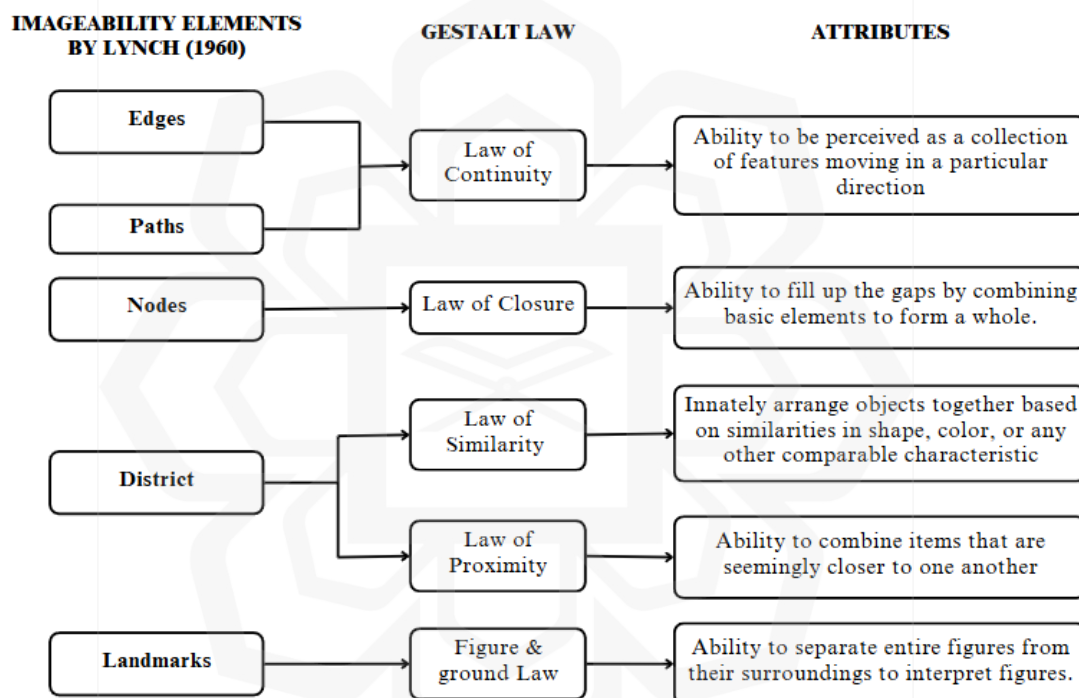


Figure 2.11 The similarity between Gestalt Law and Imageability (Adapted from Fakhrulddin et al., 2023)

Through Lynch’s study, the city was shown to be more than just a conglomeration of buildings and roads; it was a living, breathing organism with a unique personality. According to Lynch (1960), “By the intensity of its life and the close packing of its

disparate people, the great city is a romantic place, rich in symbolic detail” (p. 119). People can visualize a city by absorbing its aspects via their senses, which is crucial for its effectiveness (Abeynayake et al., 2022). Chapman (1962) stated that it is abundantly clear that clarity, coherence, and recognisable structure are necessary if modern cities are to reverse the current tendency in their progress toward visual disorder. Motivated by these findings, Lynch continued to explore, attempting to identify the components that resulted in a potent mental diagram. As a result of Lynch’s investigation, Lynch learned more about how different individuals view and interact with urban environments and how the city appears to have a narrative conveyed through its streets, buildings, and public spaces.

Unplanned images, intensity, and perplexity in situations when familiarity implies understanding were the factors that led to the belief that an urban image was shaped by its surrounding form (Lynch, 1960). Every image is unique, and an individual can gain a significant sense of emotional security from a well-designed environmental image (Lynch, 1960). Lynch (1960) claimed that an individual’s generalized mental image of their surroundings is an essential construct during the way-finding process, meaning that the surrounding environment’s visual quality within the city plays a pivotal role in navigating its users. This proves that a highly imageable urban area provides security in a minute way while also improving the overall experiences of individuals.

Individuals could settle into new surroundings quickly if an urban area had good imageability (Lynch, 1960), protruding from the notion of imageability on comfort and a sense of attachment. Humans will feel more secure and comfortable in an area they recognise, and an easily readable and memorable area operates this motion. An image should serve several attributes and have many interpretations within, allowing individuals with abundant choice to extend their minds in perceiving things (Lynch, 1960). Images should be compliant with time or environmental changes. A good image within the urban area should be transmittable, whether it is to the residents or visitors, as a good image can lead to two major results, which are economic and perceivable factors (Lynch, 1960).

Furthermore, Lynch (1960) stated that “A landscape loaded with magical meanings may inhibit practical activities” (p. 138), highlighting the disadvantages of imageability in some instances. Culture, sentiment, mythical elements, legends, and folklore can forbid further modern development due to its root and sacredness within the land. When an established mindset hinders straightforward adaptability to new approaches and demands, even cautious allocation of resources can be jeopardized (Lynch, 1960). Lynch (1960) further stated that uncomplicated development will be easily achieved when the land has no significance. Interpretation and deep knowledge of the past of a significant area is a crucial solution for modern usage to maintain its inhabitants' culture and traditions.

Other than that, according to Fakhruddin et al. (2023) study, imageability is defined as “the mensuration of how easily a physical environment or a setting can invoke clear cognitive images in the mind of perceivers” (p.2). This concept highlights the uniqueness and quality of a city’s features, which can elicit harmonious images, making the city memorable and readable for its residents (Fakhruddin et al., 2023). Lynch (1960) defined paths, edges, districts, nodes, and landmarks as the five essential components that enhance a city’s imageability and can contribute to shaping mental images. According to Lynch (1960), the foundation of an imageable environment should consist of three key elements: identity, meaning, and structure, as shown in Figure 2.12. Identity denotes the observable qualities of things, meaning deals with their symbolic representation, and structure relates to the environment's fundamental components and spatial interactions (Lynch, 1960). Fakhruddin et al. (2023) stated that Lynch’s study on elements with imageability primarily deals with the physical aspect of the city, resulting in it focusing more on the ‘identity’ and ‘structure’ elements and less on the ‘meaning’ element, which remained sparsely establish. Spiritual and physical elements are important aspects of the image of a city (Al-Alwan et al., 2022). Therefore, an integrated cultural component within the city element is an important aspect of completing the three foundations of imageable elements, resulting in a higher chance of a city gaining an identity.

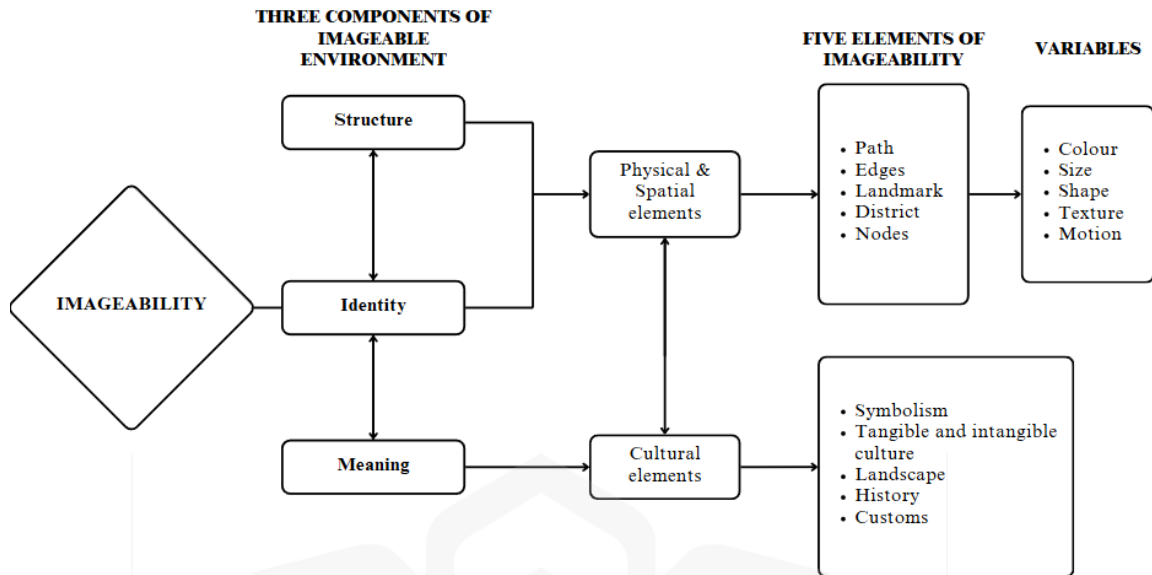


Figure 2.12 Components of Imageability (Adapted from Fakhruddin et al., 2023)

In the Islamic point of view, Allah the Exalted often mentions visions and is accompanied by the mention of hearing and heart. God reminds Muslims of these three blessings, especially visions as mentioned in Surah An-Nahl verse 78:

وَاللَّهُ أَخْرَجَكُم مِّن بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا وَجَعَلَ
 لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ لَعَلَّكُمْ تَشْكُرُونَ

"And Allah brought you out of the wombs of your mothers while you knew nothing, and gave you hearing, sight, and intellect so perhaps you would be thankful." An-Nahl verse 78

This means that Muslims should do their best to take care of what they see and what is to be seen as all creation by the approval of Allah. Therefore, concerning this study, creating and designing beautiful scenery that brings tranquillity and a favourable ambience is encouraging. It is also important that an individual nowadays is familiar with their identity and surrounding environment by having a sense of pride in their culture and history, especially for those living in urban areas. With the understanding of imageability and culture, cultural imageability can emerge as a concept and to further enhance this concept, designing pedestrian pathways that integrate cultural elements can significantly contribute to the overall imageability of urban areas. These pathways not only promote a sense of community but also encourage individuals to engage with their surroundings in a meaningful way.

2.4.3 Cultural Imageability in an Urban Environment

According to Lynch (1960), identity, structure, and meaning are the three categories into which urban features are interpreted or examined. As mentioned, cultural imageability comes from exploring the third category, meaning. According to Birdsall et al. (2021), how cultures and histories are chosen, presented, and appropriated must all be carefully considered. This will realise the crucial relationship between the inhabitants and their common histories, cultural features, and most importantly, their identities that were shaped throughout time (Birdsall et al., 2021).

It is challenging to draw attention to a city's competitive advantages in terms of culture if it lacks distinctive features (Li & Sahari, 2022). Given that "culture" and "heritage" have been widely viewed as significant forces behind urban renewal in recent decades, conceptualising the representational component is even more vital (Birdsall et al., 2021). This further underscores that the concept of cultural imageability is consequential. According to Kourtit and Nijkamp (2022), the history and cultural richness of urban areas

worldwide frequently reflect their socioeconomic status, historical significance, and characters. Therefore, with the representation of culture, an identity can be formed in any urban place. Like the Eiffel Tower in Paris, France, tulips in the Netherlands, and yellow rice wine in Shaoxing, China, regional cultures can effectively convey the distinctiveness of a location (Li & Sahari, 2022). In order to understand more about the effects of culture on urban areas, Figure 2.13 demonstrates the analysis made by Kourtit and Nijkamp (2022) that assesses the factor of urban cultural success.

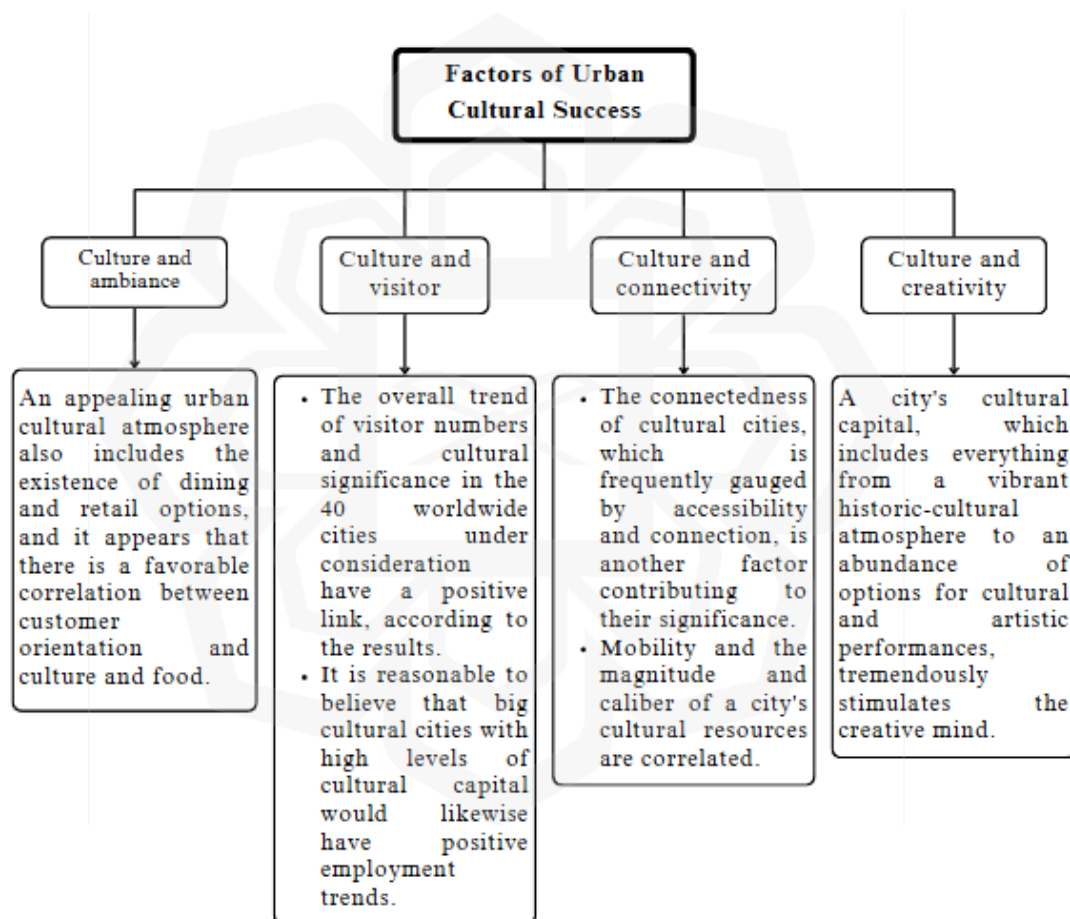


Figure 2.13 Factors of Urban Cultural Success (Adapted from Kourtit & Nijkamp, 2022)

Overall, the usage of culture can be an intelligent one that transcends the arts and legacy and forges new paths for creativity and transformation across a range of societal spheres (Tajtaková & Olejárová, 2021). Regional culture is the lifeblood of urban life and the foundation upon which cities grow (Li & Sahari, 2022). A city with a significant cultural heritage should thus be mindful of how culture is passed down to its citizens amidst its fast expansion to preserve its historical culture. This is aligned with the Islamic teachings that mentioned humans as a vicegerent on earth, as mentioned in the Quran, Surah Al-An'am verse 165:

وَهُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ الْأَرْضِ وَرَفَعَ بَعْضَكُمْ فَوْقَ بَعْضٍ
دَرَجَاتٍ لِّيَبْلُوَكُمْ فِي مَا آتَاكُمْ إِنَّ رَبَّكَ سَرِيعُ الْعِقَابِ وَإِنَّهُ لَغَفُورٌ
رَّحِيمٌ ١٦٥

"For He it is Who has appointed you vicegerent over the earth and has exalted some of you over others in rank that He may try you in what He has bestowed is upon you. Indeed, your Lord is swift in retribution, and He is certainly All Forgiving, All-Compassionate." Al-An'am verse 165

This implies that humans are responsible for taking care of what is given to them and not disrupting it with greed. Hence, this study aims to understand and manage the urban environment and cultural image in which most people live nowadays. Pedestrian pathways play a crucial role in this context, as they provide a tangible connection between people and their cultural surroundings. By incorporating cultural elements into these pathways, cities can enhance their cultural imageability and foster a deeper sense of belonging. This approach not only preserves the urban identity but also promotes sense of place and place attachment.

2.5 PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY

In this section, the term cultural imageability is infused with pedestrian pathways to better understand the implications of a pedestrian pathway with cultural imageability. Pedestrian walkways are important urban spaces that people remember as they move through and create mental maps of the city (Hasan et al., 2022). These maps create an appealing mental image of the city and are filled with various walking, resting, shopping, communication, gathering, and cultural exchange devices (Hasan et al., 2022). Trancik (1986) argued that today's urban residents are compelled to forge a social life on private, regulated land rather than participating in a street-centered collective life. Individual perceptions of how to use urban space have drastically changed (Trancik, 1986). Hence, it is important to assess and understand the cultural image of the pedestrian pathway. Nowadays, environmental psychology and contemporary technology are typically combined to provide an analytical viewpoint on the walking experience, according to Tian et al. (2022). On the street threshold, streetscape indicators influencing the pedestrian experience include crosswalks, walkways, and route width (Khaled et al., 2022). Khaled et al. (2022) additionally argued that individual perceptions and sensitivities also directly and indirectly impact the overall condition of the walking atmosphere due to physical attributes. This is true since, according to Tian et al. (2022) study, they found that physical surroundings are the most important component of the walking experience. Figure 2.14 demonstrates the variables for walking behaviour.

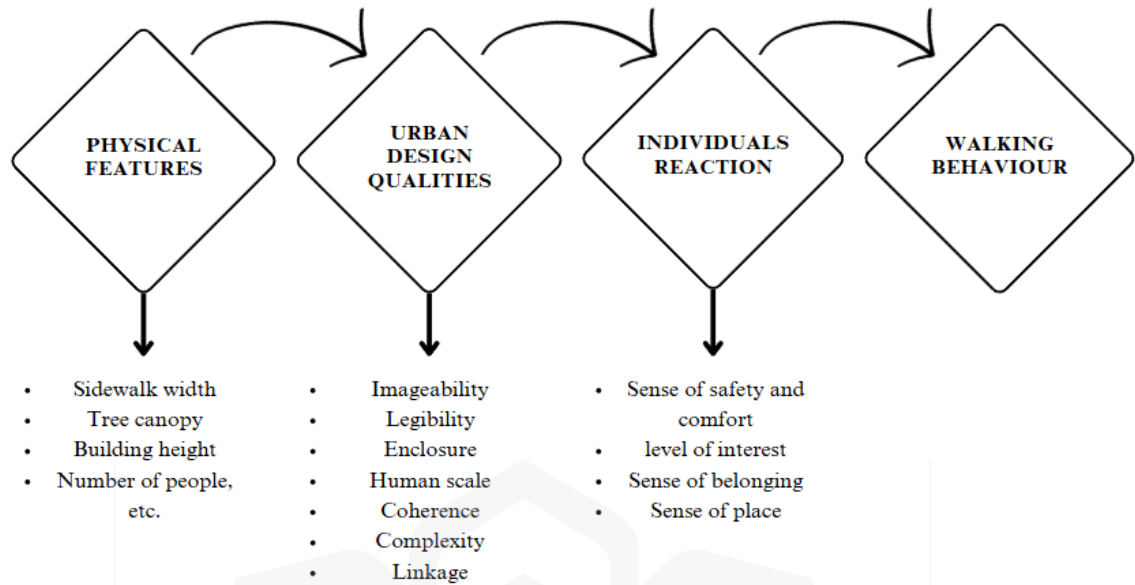


Figure 2.14 Variables of walking behaviour (Adapted from Khaled et al., 2022)

Khaled et al. (2022) mentioned that by assessing these intervening factors, researchers can more clearly establish the connection between the physical components of the street environment and walking behaviour. By building the physical environment, tactics can be developed to produce a satisfying sensory experience (Tian et al., 2022). Urban design elements like a sense of ease, a sense of safety, and a level of interest are distinct from how individuals respond to a place; that is, how people see the spatial atmosphere, giving their perception and preferences (Khaled et al., 2022).

Pedestrian compatibility and a generally well-kept urban setting are traits of a practical, liveable, and well-planned city (Mendzina & Vugule, 2020). According to Fauzi et al. (2023), since walking counts as one of the activities associated with travelling, pedestrian pathways must be considered a component of the transportation network. The pedestrian pathway is an architectural design with an identifiable form and functions as a place (Fauzi et al., 2023). According to Shawket and Shaban (2023), easy navigation is

made possible by well-planned routes that are thoughtfully connected to various forms of transportation, which eases traffic and improves mobility all around. Additionally, pedestrian walkways enhance the urban environment's camaraderie and social framework (Shawket & Shaban, 2023). Furthermore, walking fosters positive relationships between people and the environment through engagement in social and cultural walking activities, admiration of architectural beauty, and walking among people (Nahdatunnisa et al., 2023).

Mendzina and Vugule (2020) stated that in an urban setting, a pedestrian street is a linear construction that doubles as a popular tourist destination and an essential pedestrian route for locals. According to Khaled et al. (2022), the urban's cultural, social, physical, and visual elements can all be the tourism scene. Through heritage tourism, visitors can get up close and personal with historical and contemporary cultural events, arts and crafts, local food, and landscapes (Khaled et al., 2022). In order for pedestrian pathways within cultural heritage regions to draw tourists and educate locals, they must be revitalized (Murad Lubis et al., 2022). Murad Lubis et al. (2022) continued stating that ensuring the area's sustainability involves protecting its cultural legacy and viability, such as establishing a pedestrian zone to enjoy the historical area. Moreover, establishing a pedestrian zone will support the city's economic growth and help preserve its cultural legacy (Mendzina & Vugule, 2020). Thus, besides supporting green efforts and promoting a healthy lifestyle, a pedestrian pathway can help enhance and preserve the local cultural identity. Distefano et al. (2023) assert that walking-related experiences are deeply ingrained among specific cultural practices and rely on traditional and geographical contexts, so ignoring cultural features when identifying the factors that positively affect individuals' willingness to walk can result in inefficient regulations. Hence, preserving historically significant street design and cultural and historical environments is essential (Mendzina & Vugule, 2020), and this can also be done through intervention.

Mastrolonardo (2021) then mentioned that the younger generation's overall standard of living and knowledge might be enhanced by intervening in the road's

linguistics, psychology, and cultural abilities. Additionally, (Murad Lubis et al., 2022) concluded in their research that pedestrian security and safety are the primary components of pedestrian lanes, according to a theoretical analysis of safety factors in pedestrian routes in cultural heritage regions. Thus, safety is an important factor that should be considered to successfully apply cultural aspects to pedestrian pathways. Other than that, structural diversity, accessibility, entertainment, cultural attractions, the presence of historical monuments and landmarks, and architectural variance are some of the intervening features of streetscapes, resulting in other benefits that impact temporary good mental health (Fancello et al., 2023). According to Gargiulo & Sgambati (2022), every urban feature elicits a response from people, influencing how walkable they believe an area to be and what they will do in the future. Therefore, in locations of historical significance, creating suitable and enjoyable pathways for cyclists and pedestrians serves as a valuable tool for urban renewal and a method of drawing tourists and residents year-round that will draw benefits (Gargiulo & Sgambati, 2022) such as:

- It benefits the identity and valuation of cultural assets and increases local competitiveness and tourism appeal.
- The constant presence of bystanders can enhance the sense of security, place quality, and quality of life while lowering crime and isolation among individuals.

These benefits will ultimately affect the place's image, making it memorable and resulting to higher imageability.

In conclusion, urban areas enable people to connect socially, culturally, and economically through a complex network of urban spaces rather than only in isolated locations or regions designated for a specific purpose (Martínez-Jiménez & Salinas-Pérez, 2019). It is important to comprehend the city as a landscape encompassing an array of impulses capable of generating education and culture before it can be regarded as an

educational and cultural entity (Martínez-Jiménez & Salinas-Pérez, 2019). According to Tian et al. (2022) research, streets' historical and cultural roles should be fully explored to influence walkers' physical and mental health, encourage walking as exercise, and enhance public health. Gargiulo and Sgambati's (2022) research also confirms that pedestrian pathway promotes active mobility, and encouraging active mobility not only helps to appreciate the territory's cultural, historical, scenic, and architectural assets but also has a significant positive impact on several other elements of life quality. Hence, the presence and assimilation of cultural assets or features in pedestrian pathways can benefit individuals and the urban environment in many ways.

Globally and locally, several corridors show how pedestrian routes become cultural imageability in practice: Cheonggyecheon, Seoul (a restored stream-corridor hosting festivals and everyday leisure, tying movement to national memory), the High Line, New York (an elevated path whose curated art, planting palettes and industrial remnants narrate neighbourhood identity), La Rambla, Barcelona (a legible, tree-lined spine where markets, performance and processions encode shared rituals), and, in Malaysia, Jonker Walk, Melaka and Armenian Street, George Town (night markets, baba-nyonya heritage, murals and shophouse frontages that script repeatable social encounters). Across these cases, continuous access, inclusive comfort, and distinctive sensory cues are intentionally combined with programmed activity so that a mere route becomes a memorable cultural corridor, a place where movement is routinely converted into memory, identity, and belonging. The examples were shown in Table 2.7.

Table 2.7 Examples of Pedestrian Pathways with Cultural Imageability

Image	Pedestrian Pathway
	Cheonggyecheon, Seoul
	High Line, New York
	La Rambla, Barcelona
	Jonker Walk, Melaka
	Armenian Street, George Town

2.5.1 Pedestrian Pathways as Place Identity

Identity is a constantly shifting social interaction and self-discovery process rather than a static trait. Like people and places, cities have a dynamic, ever-changing identity (Keshtkaran, 2019). Identities are the sum of values, relationships, and characters. In the social sciences, where it is more prevalent, the phrase refers to something or someone's "uniqueness" from various angles and goals (Kaymaz, 2013). In an urban context, identity is the individual's subjective perception of continuity and sameness through time and across different places and social contexts (Kroger, 2007). A variety of spatial and non-spatial characteristics influenced identity. Tangible aspects such as path systems, proper public transit, parks, and architectural designs are examples of spatial qualities, while non-spatial attributes might be cultural, historical, social, or even cognitive and emotional aspects that are less detectable (Arefi & Aelbrecht, 2022).

The notion of place identity was first introduced by Proshansky (1978) in "The City and Self-Identity". Proshansky (1978) defines place identity as a "dimensions of self that define the individual's identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, feelings, values, goals, preferences, skills, and behavioural tendencies relevant to a specific environment" (p. 155). Proshansky's theory suggests that place identity comprises a variety of positively and negatively valenced perceptions of physical environments. Physical environments such as family, school, and neighbourhood are thought to be the three main variables that underline how physical settings affect an individual's formation of place-identity and result in a child's development of their social roles (Proshansky et al., 1983).

A city's identity has a role in its perception, and the first step towards an efficient image is recognising an element, according to Lynch (1960). Lynch (1960) emphasises that a city's legibility is determined by the entire general pattern of the recognisable elements, and what takes a picture a substance is its uniqueness, spatial relationship to the observer,

and its emotional meaning. As a result, the ability to quickly recognise a city is a key component of its identity, and this ability arises from how its constituent pieces interact and are assembled. Other than that, place identity significantly impacts how built heritage is preserved and understood in a particular area. A place's identity is intricately linked to the historical and cultural value attached to its architectural monuments, historical places, and urban infrastructure. Narration of the past in heritage structures conveys historical information with cultural significance, thus it is perspicuous that it is a unique indication of place identity (Kaymaz, 2013). Modern legacy for future generations can be made nowadays, affecting tomorrow's place identity since, according to Kaymaz (2013), other than ancient buildings, locals and tourists also link the city's image and identity with modern and contemporary structures.

It is prevalent among scholars and professionals that urban perception and identity are essential for urban planning (Arefi & Aelbrecht, 2022). These diverse, multidisciplinary conversations have been further enlarged and broadened by various direct and indirect elements related to urban perception and identity (Arefi & Aelbrecht, 2022). In industrialised nations, the general perception of urban design has shifted to emphasise the building process to define place identity (Pan et al., 2022). According to Paolinelli and Fortuna (2022), a growing number of academics are concentrating on paths as essential components of collective urban identity, even though economists, sociologists, urbanists, and architects have all studied the structure of cities in detail. Furthermore, according to Jurković et al. (2021), one of the most critical tasks that can be done to raise people's quality of life is to find the quickest solution to the problem of pedestrian pathways within cities. Fauzi et al. (2023) also mentioned that to link locations necessary for pedestrians and create a strong image of the city, pedestrian routes must initially be constructed.

As mentioned before, a pedestrian pathway is considered a public space; therefore, according to Pan et al. (2022), effective public spaces significantly impact surrounding communities even when not physically adjacent. This is because social-spatial engagement

is a fluid process permeable to surrounding places (Pan et al., 2022). Pan et al. (2022) argue that the concept of public space centred on place-making, which is the process of utilising an area's assets, resources, and values to build a space that promotes individual wellness, satisfaction, and psychological well-being in order to fortify a sense of place and identity. Hence, constructing a pedestrian pathway can lead to or enhance an urban area's identity.

Modern ideas are developing in which public open spaces are intended to support various activities, communicate a feeling of belonging and well-being, and emphasise bikes and pedestrians over motor cars (Paolinelli & Fortuna, 2022). To determine what attributes are necessary to promote walking and bicycling while strengthening the sense of place and identity inside cities, the design of sustainable mobility has gained relevance (Paolinelli & Fortuna, 2022). Pan et al. (2022) stated that movement-related imagery can spark attention and produce memories and identities. Additionally, an example of research in India concluded that by extracting components from India's urban forms, cultural characteristics and symbols play a significant role in visual attractiveness and will effectively represent the location identity (Pan et al., 2022). Other than that, the aesthetic appeal of pedestrian pathways can be enhanced using urban landscape design (Fauzi et al., 2023). Abdul Rahim et al. (2023) argued that one important indicator of environmental recognition and navigation in an urban area is how intelligible pedestrian paths are. It could potentially be achievable to create an intelligible space with the integration of pedestrian networks and ease of access to destinations (Abdul Rahim et al., 2023). Hence, the simplicity and comfort with which pedestrians can navigate the layout and road design to conveniently explore new locations and towns is highlighted by an intelligible space (Abdul Rahim et al., 2023). Consequently, creating urban identity can be achieved through a pedestrian pathway.

2.5.2 Pedestrian Pathways Provide Place Attachment

The sentimental connection people have with particular locations that make individuals feel secure and at ease is known as place attachment (Nursyamsiah & Setiawan, 2023; Strandberg, 2023; Yuan et al., 2023). Interpersonal association between a person and a place is called place attachment (Chang et al., 2023). It is a holistic idea encompassing various behavioural processes, locations, participants, and social interactions (Chang et al., 2023). According to Ilovan and Markuszewska (2022), the three psychological steps to place attachment are thinking, feeling, and behaviour, and it is both a physical and social element. The core components that contribute to urban identity consist of a sense of place and a sense of attachment (Kaymaz, 2013). Chang et al. (2023) and Strandberg (2023) mentioned that an individual's determination to stay connected to a place is a crucial component of place attachment. Studies reveal that consistency and the psychological and emotional aspects of the image of a place are the primary drivers of place attachment (Strandberg, 2023). Figure 2.15 demonstrates the relationship between place image, place attachment, self-resemblance, and propensity to remain (Strandberg, 2023).

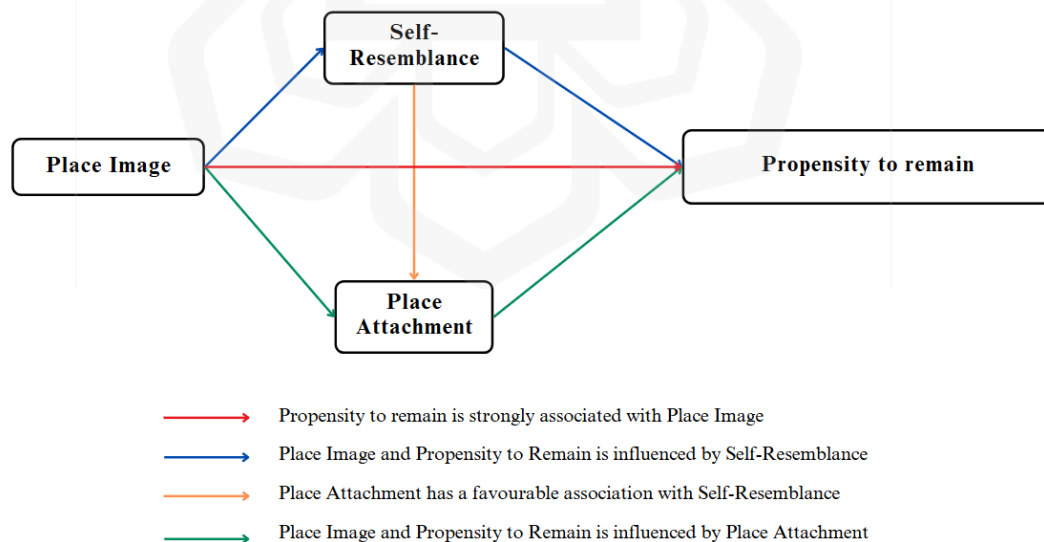


Figure 2.15 The relationship between place image, place attachment, self-resemblance, and propensity to remain (Adapted from Strandberg, 2023).

Moreover, it can be said that this connection, which ties people to locations, is dynamic and involves sophisticated daily, seasonal, and lifelong temporal dynamics. Ilovan and Markuszewska (2022) mention that although it is fostered and endures over time, place attachment is susceptible to shifts that could either reinforce or weaken the corresponding link. The first reason was that individuals and societies form multiple attachments to places depending on sociological and environmental changes (Ilovan & Markuszewska, 2022). The other reason for it being a dynamic aspect, according to Ilovan and Markuszewska (2022), is that people's sense of authority over their living environment has an impact on place attachment motion, which means that place attachment is seldom constant because reactive interactions fluctuate parallelly with time. Thus, it can be said that longer stays or engagements are frequently correlated with greater attachments, as place attachment has temporal aspects that might change throughout a person's life. This was related to the concept of a sense of place.

A study by Masterson et al. (2019) concluded that in response to the requests for progressing past an inert representation of a sense of place that prioritises continuity over change, an emphasis on the dynamism of place has evolved. Place attachment, defined as a psychological attachment to a particular location, and place meanings, which are conceptual descriptions of place, are both included under the general phrase "sense of place" (Lingard & Turner, 2023; Masterson et al., 2019), and it possesses the capacity to connect ecological and social concerns (Duggan et al., 2023). The combined effect of place identity, place attachment, and place meanings is known as a sense of place (Balestreri et al., 2023). The term sense of place describes individuals' sentimental connection to a location (Duggan et al., 2023). According to Duggan et al. (2023), in addition to currently being regarded as one of the various environmental services, sense of place has also been recognised as an occurrence in and of itself.

According to Relph (1976), a person's location is their physical reality, which might influence how they relate to their surroundings. The presence of a genuine sense of place

is closely associated with a location's identity, according to Relph (1976). In combination with urban shifts, a sense of place can give rise to innovative kinds of people-place relationships, fresh narratives about place and changes, and new symbolic perceptions or meanings of place (Raymond et al., 2023). Other than that, a sense of place has also been frequently connected to one's living situation, such as the quality of life, medical condition, and general well-being, in line with these larger comprehensive conceptions of health (Lingard & Turner, 2023). Subjectivity and experience also play an important part in determining a sense of place. As a result, how individuals understand and relate to their physical surroundings impacts the formation of a sense of place. Effective connections to individuals can produce beneficial implications, and an appropriate setting must be comfortable enough to allow these experiences to occur (Kaymaz, 2013), which correlates to a sense of belonging, as mentioned by Dost and Mazzoli Smith (2023).

Additionally, place attachment is linked to outdoor physical activity and can be altered by thoughts and interactions with surroundings (Koohsari et al., 2023). Van den Berg et al. (2022) argued that walkability is crucial for developing place attachment in addition to being a community feature. Other than encouraging people to walk, walkable communities can also increase spontaneous social interactions among pedestrians (Van den Berg et al., 2022). For instance, American research discovered a favourable correlation between people's perceptions of their neighbourhood's walkability and their likelihood of getting enough exercise (Koohsari et al., 2023). Place attachment is, therefore, influenced by these social interactions in the living environment and serve as the foundation for the social framework (Van den Berg et al., 2022). Koohsari et al. (2023) mentioned that people who feel more connected to their neighbourhood could also be more inclined to engage in physical exercise because they have more favourable opinions of the built environment present.

Consequently, Koohsari et al. (2023) research concluded that walking for transportation and leisure was positively correlated with place attachment qualities. Their

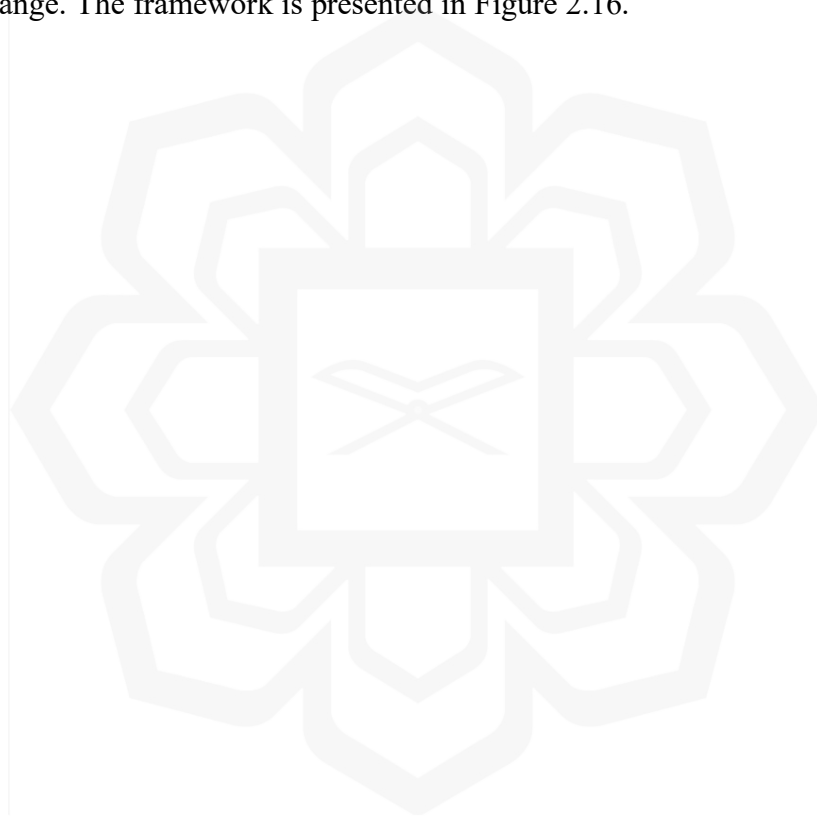
research indicates that studies should consider attachment when examining correlations between the built environment and physical activity since it appears to be connected to physical activity based in neighbourhoods. In Van den Berg et al.'s (2022) research, place attachment positively correlates with perceived neighbourhood walkability directly and indirectly. Walkable communities are critical to community stability and well-being because they foster a sense of place attachment (Van den Berg et al., 2022).

2.6 THEORETICAL FRAMEWORK OF PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT

Pedestrian pathways play a major role in cultural imageability in an urban environment by improving the visibility and accessibility of cultural representation, promoting social interaction, and cultivating a sense of belonging and place identity. They function as passageways that support travel and provide a stage for identity and cultural expression. Cities develop dynamic, accessible environments that celebrate and reflect their distinct cultural history by prioritising pedestrian access. This can, therefore, result in more visitors, a more vibrant economy, and a more intense sense of place and place attachment among locals.

In addition, they are essential for promoting tourism, a thriving economy, and environmental sustainability, all of which enhance a community's general liveability. Essentially, pedestrian pathways are crucial in forming and enhancing a location's cultural imageability by adding personality, charm, and a distinct feeling of identity. Cities become more imageable when there is a dynamic interaction between the physical form and cultural content, allowing locals and visitors to experience and live culture. It became culturally inclusive spaces that transcend barriers and promote mutual appreciation via cross-cultural exchanges and encounters.

As the social, economic, and environmental factors that impact the area and the people there change, they also evolve continuously. To manage the imageability and identity of the urban landscape, it is crucial to take an inclusive and participatory approach. In doing so, the pedestrian path can catalyse innovation and creativity and a source of cultural diversity and social cohesiveness. Cultural imageability on a pedestrian pathway can generally influence a sense of place and significant attachments. In order to maintain the continuity of the urban landscape identity across time, it is important to assess pedestrian pathways as a subject that should be integrated or assimilated to provide for a better change. The framework is presented in Figure 2.16.



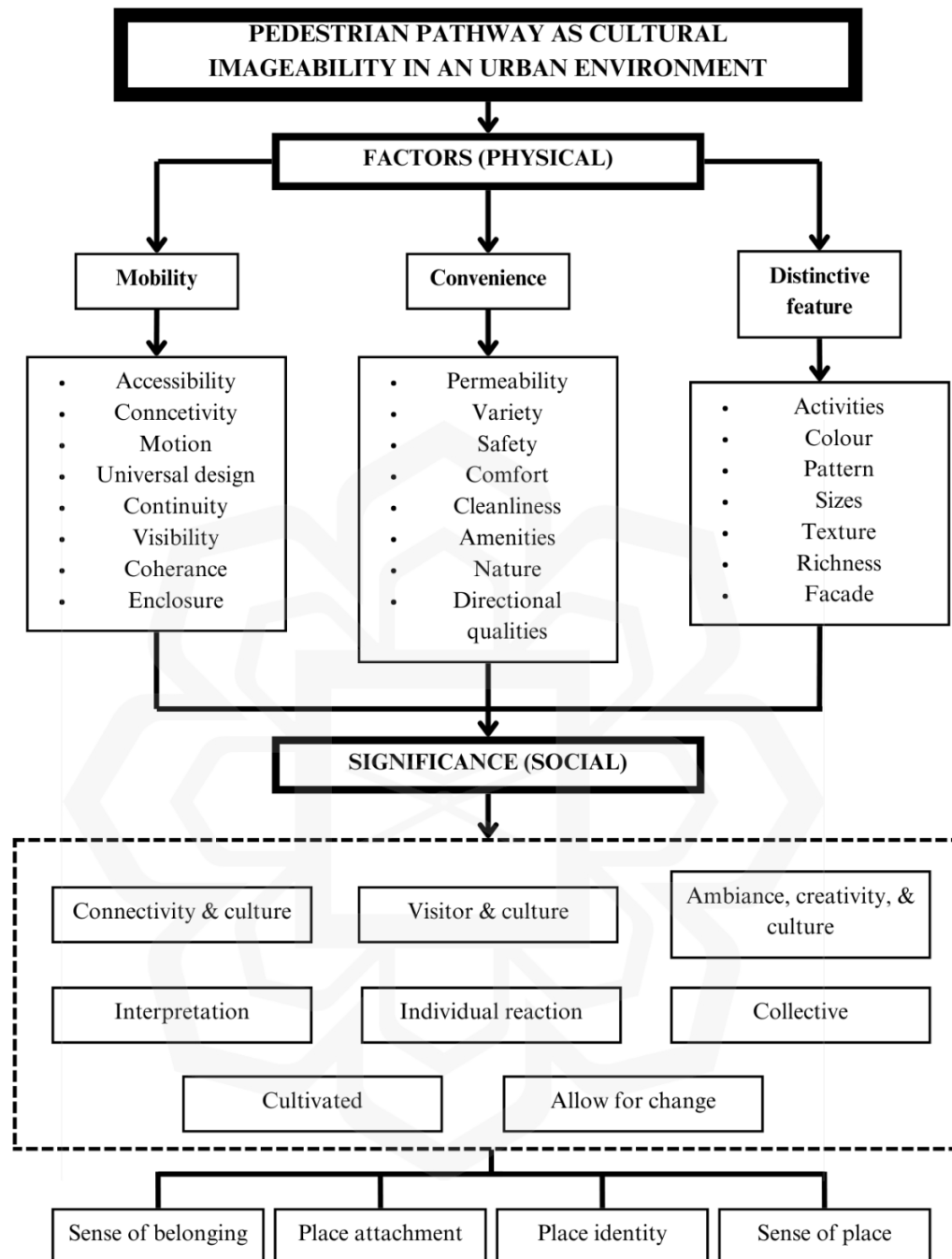


Figure 2.16 Theoretical framework based on the discussed topics

2.7 CHAPTER SUMMARY

In conclusion, this chapter has enlightened four theoretical concepts and ideas related to the research topic. The first section explores the theory of path. The second section delves into the pedestrian pathway as a path, its connectivity and accessibility, and its guidelines, while the third section unfolds the concept of culture and imageability. The fourth section explains the integration of pedestrian pathways with the concept of cultural imageability. All these sections were then tied back to the Islamic point of view on His creation and mankind as vicegerent. This chapter ends with a summary and a theoretical framework that shows the understanding of all the concepts related to the research topic. Finally, it ends with a conclusion. The research approach used to accomplish the goals and objectives of the study is presented in Chapter Three. The next chapter also explains each approach's analysis methodology.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter includes detailed research methods, instruments, and data collection strategies. The methods employed for gathering data for this study comprise a mixed method technique that includes survey questionnaires and observation, which are covered in this chapter. These two instruments were applied to achieve the study's aim and objectives.

3.2 RESEARCH DESIGN

In order to attain the aim and objectives while answering the research questions, this research employs an exploratory research design. A study known as exploratory research aims to investigate a phenomenon or provide an answer to a query (Singh, 2021). This makes it a suitable research design since it aims to evaluate pedestrian pathways towards forming cultural imageability in an urban environment. It can be labelled as a query that needs an answer. An exploratory approach on this topic leads to more systematic findings, as mentioned by Singh (2021); further exploratory approach towards the subject will result in more efficiency since the nature of the subject being investigated makes it impossible for the researcher to alter an aspect. Another reason to implement an exploratory approach is that the subject and nature of the research are to evaluate a pedestrian pathway and cultural imageability that were both an entity within a social context, the urban environment. As argued by Nattress (2020), there is universal consensus that exploratory research is a valuable element of the scientific operation, particularly when grasping

society, even when procedures are cluttered, and outcomes are dubious. As Casula et al. (2021) mentioned, a researcher's unique, biographically distinct interests are highlighted together with adaptability and practicality in an exploratory approach to research. Hence, to understand more about implementing the exploratory approach towards pedestrian pathway as cultural imageability in an urban environment, Figure 3.1 demonstrates the basic information on exploratory research design approach by referencing Pawar (2020) and Singh (2021).

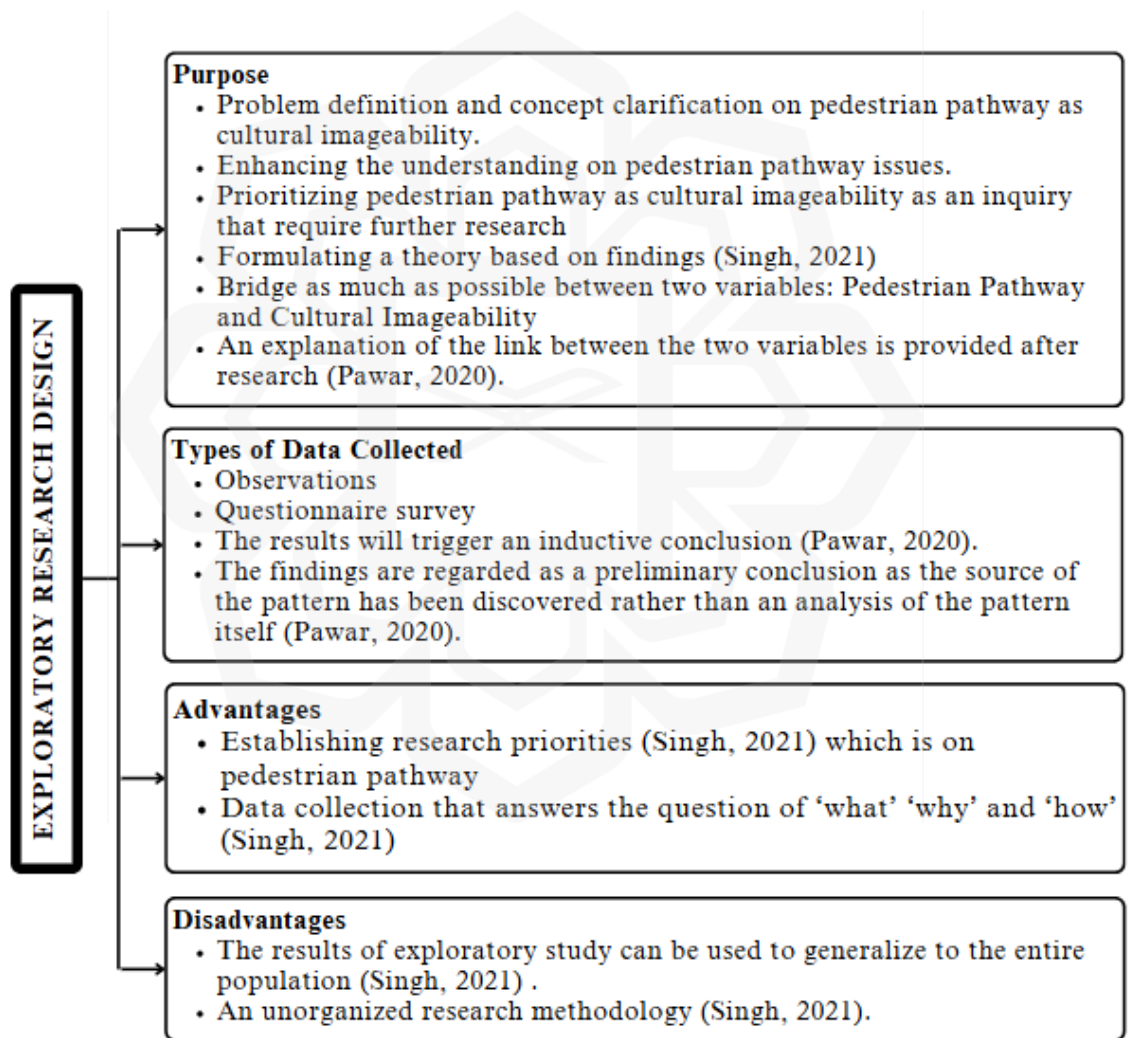


Figure 3.1 Exploratory research design based on the research

The objectives and issues of the study are addressed by employing a mixed-method research technique. In a single investigation or research area, mixed methods involve collecting and analysing data, integrating outcomes, and drawing conclusions utilising qualitative and quantitative techniques or methodologies (Hands, 2022; Palinkas et al., 2019). The use of both qualitative and quantitative techniques will lead to a more detailed understanding of the research subjects mentioned by Hands (2022); it is intended to provide a thorough analysis of the phenomena being studied, which is pedestrian pathway as cultural imageability. It is also argued by Wallwey and Kajfez (2023) that combining several methodologies to investigate and construct intricate ideas and generate findings that can both be applicable and represent the nuances of human experience and unique circumstances expands the scope and complexity of research. This is in line with the subject of the research, which is to study pedestrian pathways as cultural imageability that will ultimately result in the physical factors and human experience. As individuals perceive, understand, and comprehend the external environment in every moment of their daily lives, this represents the analytical purpose of qualitative research: to convey and evaluate it (Cropley, 2019), whereas established parameters are the focus of idealised quantitative research according to the conclusion made by Aspers and Corte (2019). When using a mixed methods approach, each set of techniques contributes significantly to reaching the project's overall objectives, and its value and results are increased by its capacity to counteract the shortcomings of the other set while working in harmony with it (Palinkas et al., 2019). Hence, many research instruments can be used to collect data whilst utilising an exploratory research design with a mixed-method approach to proceed with the research as shown in Table 3.1.

Table 3.1 Other research done using similar methods

Author	Exploratory Research Area	Methodology and Instrument Approach
Ernawati (2019)	Uses a quantitative approach to evaluate the community's environmental perceptual quality of a historic street of Kayutangan.	Images quantitative questionnaire – divided into two sections
Ernawati (2021)	Uses a quantitative approach to evaluate three basic urban design perceptual qualities and visual preferences of three different streets of Malang City.	Images quantitative questionnaire – divided into two sections
Zhang et al. (2022)	Uses a mixed-method approach to explore the spatial relationship between the scenic spot and viewpoints of Wuhan University.	Visual observation (in the form of fixed-point photography and grid overlay to quantify proportions) Images quantitative questionnaire (through social media)
Aminuddin et al. (2022)	Uses a mixed-method approach to explore the impacts of place attachment on the sense of place within traditional streets of Jalan Tunku Yaakub and Jalan Kampung Perak in Alor Setar, Kedah.	Semi-structured interviews – divided into two sections. Visual observation
(Hidayat et al., 2022)	Uses a quantitative method using ratings to measure the quality of pedestrian infrastructure	Uses a "star" codification system, where more stars indicate better pavement quality known as the P-index method.

3.3 QUESTIONNAIRE SURVEY

One of the best methods for enhancing the understanding or evaluability of the items being studied is visual aids (Shr et al., 2019). According to Charoenruk and Stange (2021), images transmit a lot of information, which can impact respondents' comprehension of inquiries and the material they remember and believe is essential to responses. It is a method that is transmitted through visual comprehension. As such, a series of inquiries that included images have been designed for this study's questionnaire, which was intended to

be completed by participants. The purpose of the questions was to achieve each of the three research objectives, which are investigating the factors of a pedestrian pathway as cultural imageability in an urban environment, evaluating the significance of pedestrian pathway as a cultural imageability for the urban environment, and proposing an exposition of a pedestrian pathway as cultural imageability in an urban environment.

The questionnaire survey will result in more quantitative data. However, the questions were blended with qualitative insights into a structured format as they were used to gather information from the users of the pedestrian pathway about their demography, experiences, and opinions. They consisted of three sections of close-ended questions. The patterns and correlations detected using quantitative data will support the study findings. The study was able to gather people's opinions, preferences, and experiences on a pedestrian pathway through the use of questionnaires. The researcher can learn more about respondents' perceptions of the pedestrian pathway and what aspects make it have cultural imageability by asking them about their encounters. It is also a cheap method that is quick and accurate. As Cleave (2021) mentioned, using a questionnaire survey is cost-effective, fast data collection, accurate, and scalable.

3.3.1 Questionnaire Survey Design

The closed-ended questionnaire included a checklist question and a five-point Likert scale. Respondents of all ages should find it straightforward to complete. The questionnaire was created in Malay and English to guarantee that Malaysians of various cultural backgrounds can comprehend it. The questionnaire survey's study objective-related questions are shown in Table 3.2.

Section A – Demographic data

- To authenticate their demographic data, checklist questions on the respondents' age, gender, ethnicity, marital status, education level, occupation, disability, and companion on pedestrian pathways were used.
- Although deployed online, the survey was supplemented by on-site intercepts and purposive outreach along both corridors to recruit under-represented users, thereby improving coverage of key social groups without formal quotas or weighting.

Section B – Pedestrian pathway usage and experience

- This section assessed the respondents' experiences and attitudes toward a pedestrian pathway. Objective answers and a five-point Likert scale were employed to determine each participant's best response.
- This section can evaluate elements affecting pathway usability by gathering user experiences and the overall condition of the pathway. From a user-centric standpoint, these ideas were essential for comprehending the factors of pedestrian pathways as cultural imageability.

Section C – Pedestrian pathway as cultural imageability

- In this section, participants are given the opportunity to define a pedestrian pathway with cultural imageability using their interpretations. Their thoughts on the critical elements and features of a pedestrian pathway were also included in this section.
- Comprehending these viewpoints helps to understand the significance of the pedestrian pathway as a cultural image that strengthens the urban environment.

Table 3.2 Questionnaire sections

Section A: Demographic Data	Section B: Pedestrian pathway purposes	Section C: Pedestrian pathway as cultural imageability
1. Gender 2. Age 3. Ethnicity 4. Marital Status 5. Education level 6. Occupation 7. Disability 8. Companion	9. What is a pedestrian pathway? 10. How frequently do you use a pedestrian pathway? 11. When do you usually use a pedestrian pathway? 12. At what time do you usually use a pedestrian pathway? 13. What is the purpose of your using a pedestrian pathway? 14. What is the purpose of a pedestrian pathway? 15. What features of convenience do you like on a pedestrian pathway? 16. How do you rate your satisfaction with a pedestrian pathway to public urban transportation?	17. What is a pedestrian pathway with cultural imageability? 18. What kind of activities do you like on a pedestrian pathway? 19. Based on the photographs provided, please rank according to the pathway that you will likely use? 20. How does cultural imageability affect pedestrian pathways? 21. How to create cultural imageability on a pedestrian pathway? 22. In your opinion, what is the significance of a pedestrian pathway as cultural imageability in an urban environment?
	<i>To achieve research objectives 1 & 3</i>	<i>To achieve research objectives 2 & 3</i>

3.3.2 Sampling Calculation

There are two cities in Malaysia with a population of one million or more, 35 cities with a population of 100,000 to 1,000,000, and 115 cities with a population of 10,000 to 100,000, according to World Population Review (2024). Therefore, this study chose 100,000 people as the population sample by taking the average population size. The discovery of minor effect sizes is possible with a sample size of 100,000 since it offers strong statistical power for various investigations. This guarantees that the results are trustworthy and generalizable to the entire population. Taro Yamane's formula, developed in 1967, was used to determine the sample for this study. To determine the proper sample size of the study, an 8% (8% precision level) margin of error (MOE) is described with a 95% confidence level. According to Laine (2022), with a 95% confidence level, a margin of error from 4% to 8% is usually deemed sufficient. However, the true challenge is obtaining an accurately representative sample (Laine, 2022). Therefore, the sample size is determined by applying Yamane's formula, which is as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n : Sample size

N : Population size

e : Margin of Error (MOE)

1 : Statistical constant

Substitute numbers into the formula:

$$\begin{aligned} n &= \frac{100,000}{1 + 100,000 (0.08)^2} \\ &= 156 \text{ (Rounded)} \end{aligned}$$

It is determined using Yamane's formula that the number of samples is 156.25 people and was rounded off to 156 people.

The researcher applied random sampling since the sample is 156 people, and according to Thomas (2020), every individual in the general public has an equal probability of being chosen using this sampling technique. Randomization ensures that research conducted on this sample has superior internal and external validity and decreases the risk of research flaws such as selection and sampling biases (Thomas, 2020). Ernawati (2021) also mentioned that the sampling method that best represents the population is random sampling. A research project's likelihood to be effective relies on the population selected and its representation of the intended audience (Siva et al., 2019). In addition, the researcher applied an online questionnaire survey method to collect data. This was done to save time because of the number of samples selected. According to Siva et al. (2019), online survey research is considerably quicker and simpler using survey writing software programs and online survey providers. Online tools are available for creating questionnaires, contacting sample populations, storing replies, and visualizing survey data (Siva et al., 2019). Therefore, with the advancement of online technologies nowadays, the researcher intends to use them to his advantage.

3.4 AN OBSERVATION APPROACH

Utilizing their senses of assessment in regulated or naturalistic scenarios where events are occurring, researchers employ observation as a strategy for gathering real-time data (Satapathy, 2019). Researchers use their sense of observation to gather vibrant and rich data from various accessible places (Satapathy, 2019). The researcher chose these instruments to evaluate a pedestrian pathway's quality and cultural representation. Some of the benefits of using observation as an instrument by Satapathy (2019) are as follows:

1. Observation can be considered one of the most appropriate and organic approaches employed by researchers during investigation and study.
2. It provides the researcher with a rare opportunity to collect continuous and real-time data about an object, event, person, or phenomenon in its natural setting, which is its social and cultural milieu.
3. Within the constraints of time and resources, an enormous quantity of data can be gathered on the behaviour of multiple individuals at once or about an occurrence.

Hence, these benefits will significantly affect the researcher and his research, providing advantages in many directions. Numerous features, including architectural elements, colours, shapes, patterns, pedestrian behaviour, and pathway quality, all contribute to the cultural imageability of the pedestrian pathway and will be included in an observation checklist. The combination of both quantitative and qualitative data allows observations to be quantified, making statistical analysis and comparison across various pathways in urban environments easier. Since impartiality is an important aspect of collecting data, a checklist aids in preserving fairness while evaluating the pedestrian pathway as cultural imageability by outlining specific criteria for observation. Finally, it is simple to modify checklists to incorporate additional variables and adapt them to various urban environments. Thanks to its versatility, it can be customized to answer particular research questions or account for evolving field circumstances. Moreover, the researcher employed a complete non-participant observation. In this case, the researcher observes rather than participates; nevertheless, considering the research needs, he or she can intervene explicitly or discreetly (Satapathy, 2019). Other than that, the researcher applied a structured observation, which, according to Satapathy (2019), provides a direction or framework for monitoring an object, event, or phenomenon by systematically organising everything. Therefore, the researcher provided a set of criteria to evaluate the pathway quality and cultural features of the pedestrian pathway. Finally, the researcher does the observation in an uncontrolled manner individually, meaning the researcher does not control the variables but just observes through its natural flow unassisted.

3.4.1 Observation Checklist Criteria

The set of criteria for applying the observation was structured based on the theoretical framework in Chapter 2 and the content was based by various authors taken from the literature. The researcher believes an effective observation will be achieved based on these criteria. The criteria were also tailored to be as generalizable as possible so that they can be used to observe any type of pedestrian pathway's cultural imageability anywhere. These are the combination of four sets of criteria to observe the pedestrian pathway's physical quality and cultural values. The set of criteria are shown in Table 3.3.

Table 3.3 Observation Criteria Checklist

Criteria	Content	Justification
General information	Name of Street	- Allows for precise identification of the location. - Carries historical, cultural, or social significance.
	Type of Street	- Helps classify the observations according to the street's primary function. - Street types have distinct design features and usage patterns that impact the pedestrian experience.
Mobility	Length and Width	- Spatial characteristics and overall scale. - The flow of pedestrian traffic and potential congestion points.

	Continuity	- Essential for encouraging pedestrian movement. - Contribute to the degree of sense of safety and security.
	Accessibility	- Assess the extent to which pathways are designed to be barrier-free. - Ensures that pathways are usable by people of all abilities, including those with disabilities.
	Circulation	- Ensures that pedestrian pathways support efficient movement, reducing conflicts and enhancing the overall functionality
Convenience	Comfort	- Comfortable pathways encourage more people to walk, thereby enhancing the vibrancy of urban spaces. - The quality and condition of the overall pathway is either suitable or not.
	Directional character	- The overall sense of orientation and direction, reducing confusion and making the urban environment more navigable.
	Safety	- Safe pathways encourage more pedestrian use, especially during evening hours. - Helps in understanding how safe pedestrians feel while using the pathway.
Distinctive feature	Attractiveness	- Recording attractive features helps in identifying cultural and artistic elements

		that contribute to the pathway's imageability. - Attractive pathways can evoke positive emotions and a sense of pride in the community, contributing to social cohesion and a strong sense of place.
	Uniqueness	- Uniqueness involves identifying features that make the pathway stand out from others. - Add depth to the pedestrian experience and vitality of the area.
	Activities	- Can influence pedestrian movement patterns, encouraging exploration and engagement with the surroundings.

3.4.2 Site Selection

3.4.2.1 *Jalan Hang Jebat (Jonker Walk), Melaka*

Within the UNESCO core, Jonker Walk functions as a fine-grain heritage retail spine linking the Melaka River promenade, Dutch Square and short cross-streets (Williams, 2010), with continuous five-foot ways, dense doorway rhythm and weekend evening pedestrianisation that temporarily inverts the street hierarchy in favour of walking; its micro-blocks, tight junction spacing and active frontages yield high intersection density and short walking loops, while night markets, festive events and everyday trading act as memory anchors, making it an ideal corridor where mobility, convenience and distinctive features co-produce cultural imageability and allow clear observation of inclusive comfort and legibility. The corridor is 500 m long and 5 m wide on average; 350 m was selected because it captures the most active, culturally expressive stretch (highest footfall,

continuous five-foot ways, heritage frontages), contains the full mix of micro-conditions required for P-Index scoring and is a manageable unit for repeated observation passes and intercept surveys, excluding edge segments affected by traffic conflicts or intermittent works. Figure 3.2 shows the length covered at Jalan Hang Jebat.

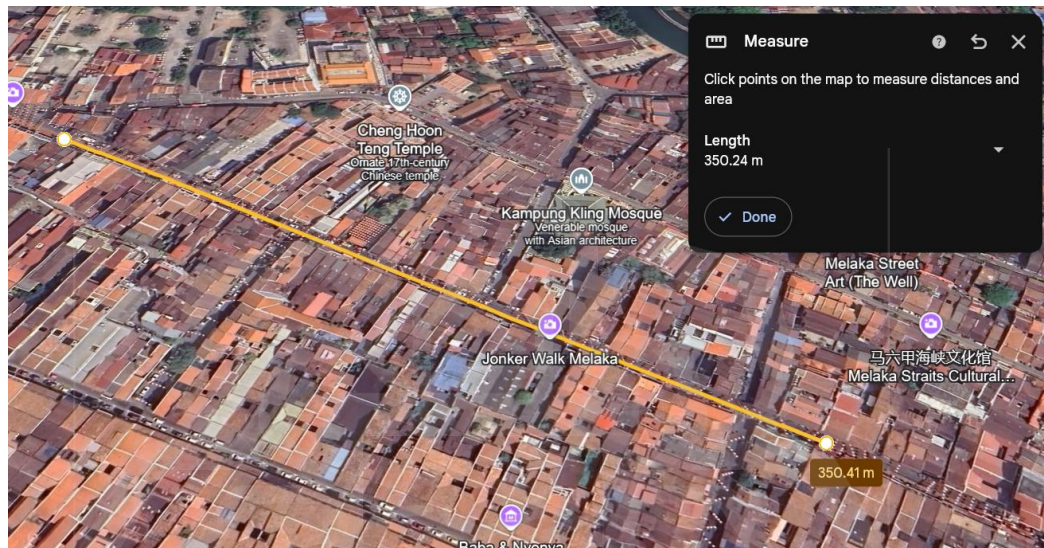


Figure 3.2 Length of Jalan Hang Jebat covered for research

3.4.2.2 *Jalan Tuanku Abdul Rahman, Kuala Lumpur*

Jalan Tuanku Abdul Rahman is a historic and an iconic metropolitan spine running from the Masjid Jamek/Dataran Merdeka precinct towards SOGO/Bandaraya–Chow Kit (Ku Hussain, 2024), interlacing with the LRT/MRT/bus grid and flanked by large-format retail and institutional blocks; its network features longer blocks, heavy vehicular flows and segmented pedestrian upgrades, producing strong macro-connectivity to transit and commerce but inconsistent micro-continuity, thus providing a contrasting test bed where mobility is robust yet distinctiveness and inclusive comfort are uneven which is ideal for stress-testing the framework and exposing the gap between movement utility and cultural meaning. The pedestrian route is 1,900 m long with 5 m average walkway width on each side; as shown in Figure 3.3, 460 m was chosen to represent the core retail spine where

pedestrian flows, crossings and frontage activity are most intense, to ensure comparability of scale with Jonker Walk, to include typical continuity/comfort/distinctiveness conditions (and observed weaknesses), and to enable repeatable, time-banded observation loops without dilution by institutional or construction-affected segments at either end.

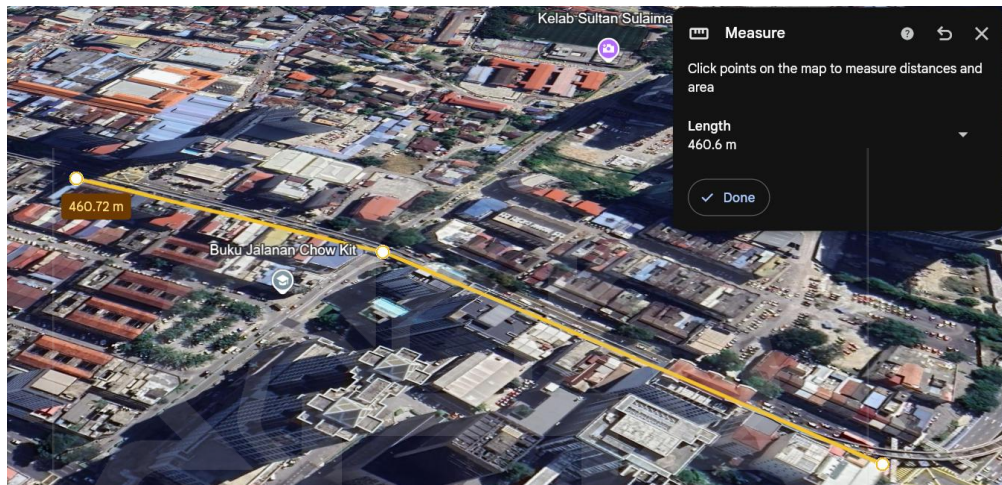


Figure 3.3 Length of Jalan Tuanku Abdul Rahman covered for research

3.5 METHOD OF ANALYSIS

Due to the mixed-method approach used in this study, a descriptive technique was used to analyse the data gathered from the questionnaire survey and the observation checklist. Based on the research questions and objectives, Table 3.4 illustrates the data collection techniques employed in this study. Every piece of data must be entered into a computerized system and reviewed.

Table 3.4 Method, analysis, and expected findings

Research Questions	Research Objectives	Method	Analysis Technique	Expected Findings
What Are the factors of a pedestrian pathway as a cultural imageability in an urban environment?	To investigate the factors of a pedestrian pathway as a cultural imageability in an urban environment.	Questionnaire Survey	Descriptive analysis (SPSS)	The factors of the pedestrian pathway as cultural imageability.
		Observation	P-index method	The relationship between pedestrian pathway and cultural imageability.
Why does pedestrian pathway important as a cultural imageability for the urban environment?	To evaluate the significance of pedestrian pathway as a cultural imageability for the urban environment.	Questionnaire Survey	Descriptive analysis (SPSS)	The effect of the cultural representation imbedded in a pedestrian pathway in an urban environment. The benefit of a pedestrian pathway

		Observation	P-index method	with cultural imageability in an urban environment.
How can pedestrian pathways as cultural imageability contribute to improve the urban environment?	To propose an exposition of pedestrian pathway as cultural imageability in an urban environment.	Questionnaire Survey	Descriptive analysis (SPSS)	Preferred pedestrian pathway design and elements that contribute to the cultural imageability of an urban environment.
		Observation	P-index method	

3.5.1 Descriptive Analysis for Questionnaire

Using the information gathered from the online survey, the researcher conducted a descriptive statistical analysis using the SPSS (Statistical Package for Social Science) Version 27 software. The following analysis was done on the data:

1. Descriptive statistics, such as frequency and percentage, were used to analyse and show the respondents' demographic background data.

2. Applying statistical analysis to a set of parameters classified according to ordinal or nominal categories—chi-square, cross-tabulation, and RII rank—the pedestrian pathway quality, cultural imageability, and pedestrian experience level were examined.
3. Individual interests in a cultural imageability pedestrian pathway will be analysed and reported using statistical analysis and the RII rank.
4. The questionnaire was scored using a five-point rating scale that ranges as follows:

- a) Strongly agree - 5 points
- b) Agree – 4 points
- c) Neutral - 3 points
- d) Disagree - 2 points
- e) Strongly disagree - 1 point

Descriptive analysis allows for a methodical investigation of respondents' perceptions of pedestrian pathway cultural imageability. It facilitates summarising their preferences and perceptions of different urban paths' quality, historical relevance, and cultural integration. Descriptive analysis makes finding recurrent themes and patterns in respondents' assessments of cultural imageability easier. This entails identifying shared characteristics that either positively or negatively affect the pedestrian pathway appeal and overall cultural identity. It also allows for succinct and straightforward results, which facilitates the interpretation and comparison of various pedestrian pathway characteristics between respondents.

3.5.2 P-Index Method for Observation

In a number of studies on pedestrian pathways, mean or weighted mean scores are analysed in several studies on pedestrian pathways. Mean or weighted mean scores are analysed in conjunction with observation checklists. A thorough strategy for evaluating pedestrian pathways is to use a combination of techniques, including descriptive analysis, P-Index conversion, weighted averages, and mean scores in reference to Hidayat et al. (2022) and Venerandi et al. (2024) research. Information on important parameters such as mobility, convenience, and distinctive features is gathered using observation checklists. In order to determine the average performance of a pathway for each criterion, observations are made for each criterion, and mean scores are computed. Each criterion was scored on a range from 1 to 3, and the mean score for each criterion is calculated as follows:

$$\text{Mean} = \frac{\text{Sum of all values}}{\text{Number of values}}$$

The number of items in the observation checklist determines the scale of weighting used in the development of the P-Index assessment technique for this study, which has an impact on the final result. Since convenience has the most components (22 out of 51), it is given the most weight. Mobility and distinctive features have fewer items (14 and 15, respectively) and are given equal but lower weights. This approach ensures that convenience, with more sub-items to assess, has a larger impact on the overall pathway evaluation score. This approach guarantees that the influence of every category on the overall P-Index precisely mirrors its existence and significance in the observational evaluation. In other words, convenience factors have a greater impact on the pedestrian's experience since they are addressed by more checklist items. This justifies giving them a higher weight. Despite having fewer checklist items and thus making up a smaller portion of the total score, mobility and distinctive features are equally significant for the pathway's performance and cultural appeal. To appropriately represent the corresponding significance

and complexity of the criteria, criteria with more evaluation points are frequently assigned greater weights, which is consistent with accepted norms in the literature. This weight structure guarantees that the evaluation will continue to be methodologically clear and conceptually coherent. This method ensures that the final P-Index appropriately represents a thorough and impartial evaluation of pedestrian paths, especially with regard to cultural imageability. Based on the relative relevance of each criterion, weights are assigned, and the weighted mean is determined as follows:

$$\text{Weighted mean} = \frac{W_1M_1 + W_2M_2 + W_3M_3}{W_1 + W_2 + W_3}$$

W = Weight
M = Mean

The total pedestrian pathway's cultural imageability can be reflected by mapping the weighted mean score, which ranges from 0 to 100, onto the P-Index scale. The P-Index aims to provide a more standardized and intuitive interpretation. The contents of the P-Index method have been altered to fit this research subject and theme. Instead of using the same weightage for each criterion, this study uses a weighted mean to get the P-index. Each star represents a 20-point increase on the P-Index scale that can facilitate more natural classification and visualization of the pedestrian pathway performance. A straightforward transformation can be used to change the weighted mean score to the P-Index scale (0 to 100) as shown in Figure 3.4.

$$\text{P-Index} = \left(\frac{\text{Weighted mean score}}{\text{Maximum score}} \right) \times 100$$

P-Index value	Star rating	Description
0-20	★	Lacks cultural imageability
21-40	★★	Limited cultural imageability
41-60	★★★	Moderate cultural imageability
61-80	★★★★	Strong cultural imageability
81-100	★★★★★	Excellent cultural imageability

Figure 3.4 Pedestrian pathway P-index of cultural imageability

Ultimately, the outcomes are interpreted by descriptive analysis. This entails providing a realistic explanation of the scores and P-Index. The classification system based on stars makes comparing and assessing various paths easy. Setting precise objectives and benchmarks to improve cultural imageability was made simpler by this. Consistency in evaluation is guaranteed using a standardized scale (P-Index) corresponding to a star rating. This uniformity is essential for the study findings to remain valid and reliable across many studies and circumstances. This comprehensive methodology for assessing pedestrian paths in urban contexts combines mean scores, weighted mean, P-Index conversion, and descriptive analysis. In addition to giving the data context and meaning, it offers quantitative measurements, enabling a deeper comprehension of the pedestrian pathway as a cultural imageability in an urban environment.

3.6 TRIANGULATION DESIGN

When conducting research, triangulation refers to the process of addressing research questions utilizing several datasets, techniques, theories, and/or investigations (Bhandari, 2023). With the use of this research technique, the researcher can lessen the likelihood that any research biases will be present in the study and increase the validity and reliability of the conclusions (Bhandari, 2023). Therefore, it was applied to this study to ensure that the results will be as accurate as possible with no biases.

According to Bhandari (2023), there are four types of triangulations in research: (i) data triangulation, (ii) methodological triangulation, (iii) investigator triangulation, and (iv) theory triangulation. This study employed a methodological triangulation approach since it uses two types of methods: quantitative and qualitative. As mentioned by Bhandari (2023), several approaches are taken to the same research subject when methodological triangulation is employed.

As data gathered using many approaches combine, triangulation enables the researcher to be more confident in the data, and it can reveal hidden phenomena (Hameed, 2020). Therefore, in relation to this research, through the incorporation of numerous perspectives and data sources, triangulation offers a more thorough knowledge of pedestrian pathways as cultural imageability. The phenomena of cultural imageability are multifaceted and subject to several influences, and by looking at them from several perspectives, the triangulation approach has the ability to grasp their complexity. The researcher can also adapt to various study environments and problems by using methodological flexibility provided by triangulation design. However, Hameed (2020) argued that triangulation's efficacy is predicated on the idea that the advantages of one approach offset its disadvantages. Hence, this research will guarantee the advantages of the quantitative data gathered. Figure 3.5 demonstrates the triangulation design.

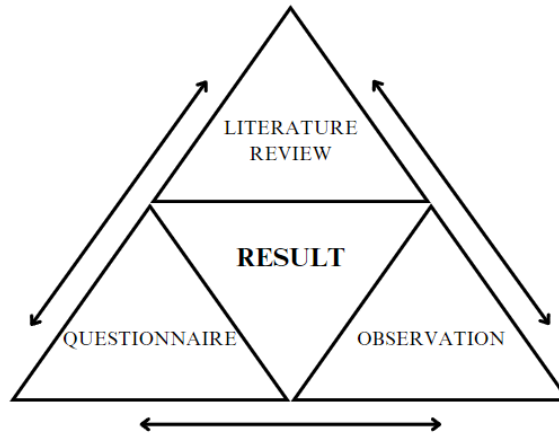


Figure 3.5 Triangulation design

3.7 CHAPTER SUMMARY

This chapter thoroughly explains the research methodologies and the techniques chosen to gather the necessary data. The first technique, a questionnaire, gathers information based on the user's perspective, while the second technique, observation, is based on the researcher's perspective. The results are assessed and evaluated in the next chapter.

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1 INTRODUCTION

This chapter discusses the results and data analysis for the observation and questionnaire surveys and ends with the interpretation. The results of the questionnaire survey are presented in the first section, the results gathered from the observations are presented in the second section, and the interpretation of both results is presented in the third section. This chapter fulfils the aim of the research, which is to evaluate pedestrian pathways towards the formation of cultural imageability in an urban environment.

The first section of this chapter analyses the data from the survey questionnaire. The questionnaire survey was administered from July 15, 2024, to August 18, 2024, using Survey Monkey's online platform. 177 people completed the questionnaire, and the Statistical Package for Social Sciences (SPSS) program for Windows version 27.0 was used to analyse all the data acquired. Chi-square, cross-tabulation, and Relative Importance Index (RII) analysis were employed to analyse additional data. Moreover, the observation was conducted physically on the researcher's chosen pedestrian pathways. The locations were a) Jalan Tuanku Abdul Rahman, Kuala Lumpur, and b) Jalan Hang Jebat (Jonker Walk), Melaka. The criteria for filling out the checklist were all based on a literature review and were analysed using a scoring system with predetermined values. Further descriptive analyses were conducted using weighted average scores and p-index scores. The third chapter then interprets all results from the questionnaire survey and observations.

4.2 RESULTS OF QUESTIONNAIRE SURVEY

This section presents the results of the questionnaire survey. The questionnaire survey consists of three sections consisting of a multiple-choice format. Section A presents the demographic information of the respondents; Section B presents pedestrian pathway usage and experience; Section C presents pedestrian pathways as cultural imageability.

4.2.1 Background of Respondents

This section provides information on the respondents' general background. Questions related to respondents' gender, age, ethnicity, marital status, education level, occupation, disability, and usage of a pedestrian pathway were asked during the survey. As shown in Table 4.1, the result indicates that the male respondents are more than female respondents, with 54.2% male while female is 45.7% of the total respondents. According to the age distribution of the 177 respondents, respondents from the 20 to 29 years old category are the highest, with 51.4% of the total respondents. The questionnaire is equally distributed to the respondents aged 15 to 19, with 15.3%; 30 to 45, with 14.7%, which is the lowest; and finally, those above 45 years old, with 18.6 %. Based on the ethnic category, the results indicates that most the respondents are Malay, with 76.3% of the respondents, while the remaining are Chinese which comprises of 11.9% and Indian resulted to 9.6%. Other ethnic groups comprised of 2.3% include Serani, Indonesian, and English. According to the marital status category of the 177 respondents, more than half of the respondents are single, with a total of 70.1%, while the remaining respondents are married, with a total of 29.9%.

The education level category indicates that most of the respondents are in tertiary education (diploma/degree) with 73.5% of total respondents. The second highest go to secondary education with 15.8% while postgraduate education received 10.1% of the total respondents. Only 0.6% of the total respondents have no formal education and 0% have only primary education. According to the occupation category, the highest respondents are

students with 41.8%, while 32.2% of the respondents work in private sector. Only 13.6% work in the government sector, 9.0% are self-employed and 2.8% of the total respondents are retired. The remaining 0.6% covers other which is a housewife.

Based on the disability category, almost all the respondents have no disability with a total of 97.2% while the remaining 2.8% of respondents have disability. Out of the 177 respondents that contributed to the usage of pedestrian pathway, 37.95% of respondents use the pedestrian pathway alone which is the highest. 36.2% of the respondents use the pedestrian pathway with their friends and finally, 26.0% of the respondents use it with their families. Table 4.1 shows the overall summary of the individual background of the respondents.

Table 4.1 Summary of the individual background of the respondents

Characteristics	Category	Frequency	
		Number (n)	Percentage (%)
Gender	Male	96	54.2
	Female	81	45.7
	Total	177	100
Age	15-19	27	15.3
	20-29	91	51.4
	30-45	26	14.7
	>45	33	18.6
	Total	177	100
Ethnicity	Malay	135	76.3
	Chinese	21	11.9
	Indian	17	9.6
	Others	4	2.3
	Total	177	100
Marital status	Single	124	70.1
	Married	53	29.9
	Total	177	100
Education level	No formal education	1	0.6
	Primary	0	0.0
	Secondary	28	15.8
	Tertiary (diploma/degree)	130	73.5
	Postgraduate (master/Phd)	18	10.1
	Total	177	100
Occupation	Retired	5	2.8
	Government sector	24	13.6
	Private sector	57	32.2
	Self-employed	16	9.0
	Student	74	41.8
	Other	1	0.6
	Total	177	100
Disability	Yes	5	2.8
	No	172	97.2
	Total	177	100
Companions on pedestrian pathway	Alone	67	37.9
	With friends	64	36.2
	With families	46	26.0
	Total	177	100

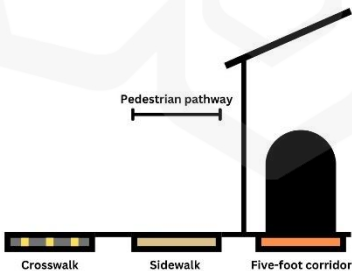
4.2.2 Pedestrian Pathway Usage and Experiences

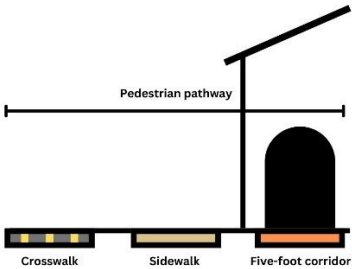
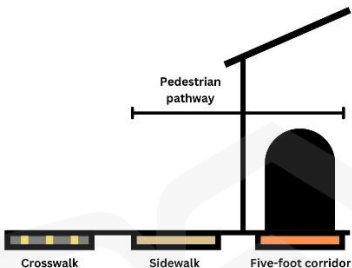
This section provides information on pedestrian pathway usage and experience. Questions related to understanding pedestrian pathway, frequency of usage, day of usage, time of usage, purpose of usage, pedestrian pathway purpose, pedestrian pathway convenience feature, and satisfaction level of connectivity.

4.2.2.1 Understanding a Pedestrian Pathway

The results in Table 4.2 indicates that, out of 177 respondents, nearly half of the respondents' answers crosswalk, sidewalk, and corridor which is 48.6%. In comparison, 28.8% of respondents answer sidewalk and corridor while 22.6% of the respondents answer sidewalk.

Table 4.2 Respondents' understanding of a pedestrian pathway

Category	Images	Frequency	
		Number (n)	Percentage (%)
Sidewalk		40	22.6

Crosswalk, sidewalk and corridor		86	48.6
Sidewalk and corridor		51	28.8
Total		177	100

A cross-tabulation test was used to identify the relationship between respondents' age and their understanding of pedestrian pathways. The result indicated that there is a significant relationship between respondents' age and their understanding of pedestrian pathways (Chi-square= 181.152, df=12, p=0.000); this is presented in Table 4.3. According to the result, the understanding of a pedestrian pathway varies depending on the age group. For example, most respondents in the 20–29 age range identified it as a crosswalk, sidewalk, and corridor, but respondents in the >45 age range preferred to describe it as a sidewalk.

Table 4.3 Chi-square test on respondents' age and their understanding of a pedestrian pathway

Category	Age	
	Value	p-value
Respondents understanding of a pedestrian pathway	181.152	0.000
Chi-square= 181.152, df=12, p=0.000		

4.2.2.2 Frequency of Pedestrian Pathway Usage

In reference to Table 4.4, the results indicates that most respondents use the pedestrian pathway a few times a week with 35.6%. 29.4% of respondents use the pedestrian pathway a few times a month while 24.3% use it every day. Other than that, only 10.7% use the pedestrian pathway less than once a month.

Table 4.4 Respondents' frequency of pedestrian pathway usage

Category	Frequency	
	Number (n)	Percentage (%)
Everyday	43	24.3
A few times a week	63	35.6
A few times a month	52	29.4
Less than once a month	19	10.7
Total	177	100

A Chi-Square test is shown in Table 4.5 to investigate the relationship between respondents' understanding of a pedestrian pathway and their frequency of pedestrian

pathway usage. There is a significant association between how respondents define a pedestrian pathway and how often they use it (Chi-square = 185.206, df=12, p=0.000). Whereas understanding a pedestrian walkway as simply a sidewalk is related to less regular utilisation, respondents who regarded them as crosswalks, sidewalks, and corridors were likely to utilise them more frequently.

Table 4.5 Chi-square test on respondents' understanding of pedestrian pathway and their frequency of usage.

Category	Understanding pedestrian pathway	
	Value	p-value
Respondents' frequency of pedestrian pathway usage	185.206	0.000
Chi-square= 185.206, df=12, p=0.000		

4.2.2.3 Day of Pedestrian Pathway Usage

Based on Table 4.6, the result shows that 37.9% of the respondents usually use the pedestrian pathway on both weekday and weekend. 33.9% of respondents use it on weekend only and 28.3% use it on weekday only.

Table 4.6 Day of pedestrian pathway usage by the respondents

Category	Frequency	
	Number (n)	Percentage (%)
Weekend	60	33.9
Weekday	50	28.3
Both	67	37.9
Total	177	100

4.2.2.4 Time of Pedestrian Pathway Usage

According to the result in Table 4.7, out of 177 respondents, 54.8% of the respondents use the pedestrian pathway in morning around 6a.m. until 12p.m. and 52.5% of respondents' answers evening which is around 6p.m. until 12a.m. Other than that, 52% use it on afternoon around 12p.m. until 6p.m. and finally, only 10.2% use it at night which is around 12a.m. until 6a.m.

Table 4.7 Time of pedestrian pathway usage by the respondents

Category	Frequency	
	Number (n)	Percentage (%)
Morning (6am-12pm)	97	54.8
Afternoon (12pm-6pm)	92	52.0
Evening (6pm-12am)	93	52.5
Night (12am-6am)	18	10.2

The chi-square analysis in Table 4.8 examines the relationship between respondents' time of pedestrian pathway usage and the days on which they use the pathways. Significant results are observed (Chi-square= 5.572-15.407, df=3, p=0.002-0.134) indicating a strong association between the time of pedestrian pathway usage and the respondents' day of pathway usage. As a result, it is concluded that while afternoon usage looks more evenly spread over weekdays and weekends, it does not exhibit a strong correlation with any day of usage, other time categories such as morning, evening, and night have noticeable relationships with the day of usage.

Table 4.8 Chi-square test on respondents' time of pedestrian pathway usage and their day of usage.

Respondents' time of pedestrian pathway usage	Day of usage	
	Value	p-value
Morning (6am-12pm)	11.038	0.012
Afternoon (12pm-6pm)	5.572	0.134
Evening (6pm-12am)	15.407	0.002
Night (12am-6am)	14.661	0.002
Chi-square= 5.572-15.407, df=3, p=0.002-0.134		

4.2.2.5 Purpose of Using a Pedestrian Pathway

Based on the results in Table 4.9, more than half of the respondents use the pedestrian pathway for strolling which accumulated to 53.1%. 38.4% of respondents use the pedestrian pathway for shopping, 30.5% of respondents use it to go to their school or university while 29.9% use it to commute to work and 29.4% use it for exercise. The remaining 4.5% of respondents answer other, which is holiday, meeting people socially, and everyday commute.

Table 4.9 Respondents' purpose of using a pedestrian pathway

Category	Frequency	
	Number (n)	Percentage (%)
Commuting to Work	53	29.9
Going to School or University	54	30.5
Strolling	94	53.1
Shopping	68	38.4
Exercising	52	29.4
Other	8	4.5

The chi-square analysis presented in Table 4.10 investigates the relationship between respondents' occupation and their purpose for using pedestrian pathways. The results indicate significant associations for certain purposes while showing no significant relationship for others (Chi-square= 5.202-205.104, df=6-54, p=0.000-0.518). The chi-square analysis concludes that while more leisurely or general activities like strolling, shopping, and exercising do not significantly correlate with occupational status, traveling to work and attending school or university are strongly associated with respondents' occupations.

Table 4.10 Chi-square tests on respondents' purpose of using a pedestrian pathway and their occupation.

Respondents' purpose of using a pedestrian pathway	Occupation	
	Value	p-value
Commuting to Work	26.719	0.000
Going to School or University	60.863	0.000
Strolling	6.454	0.374
Shopping	10.278	0.113
Exercising	5.202	0.518
Other	205.104	0.000
Chi-square= 5.202-205.104, df=6-54, p=0.000-0.518		

4.2.2.6 Pedestrian Pathway Purpose

A ranking analysis was made using the Relative Importance Index (RII) analysis related to the respondents' purpose of using pedestrian pathway and the result was shown in Table 4.11. RII analysis that is based on the rating scale of 3 responses was used to gauge responses from the respondents on their purposes.

Table 4.11 Pedestrian pathway purpose

Pedestrian pathway purpose		Responses							
		Score 1st		Score 2nd		Score 3rd		RII	Rank
		F	Rscore	F	Rscore	F	Rscore		
Accessibility: Access to different areas		106	318	44	88	27	27	0.8154	1
Convenience: Encourage walking		41	123	82	164	54	54	0.6422	2
Activities: The presence of activities		30	90	51	102	96	96	0.5423	3

As shown in Table 4.11 above, the highest RII score represents the most common purpose of a pedestrian pathway as acknowledged and agreed by the respondents. Based on the result, the highest RII score of the pedestrian pathway purpose is 0.8154 is accessibility that provide people with access to different areas. This is then followed by convenience with RII score of 0.6422 which can encourage people to walk. The final ranking of pedestrian pathway purpose with the score of 0.5423 is activities which cater to the presence of activities on a pedestrian pathway.

4.2.2.7 Pedestrian Pathway Convenience Feature

Responses on the pedestrian pathway convenience feature by the respondents are shown in Table 4.12. Based on the table below, the highest agreed convenience feature by the respondents is safety with 79.1%. The second highest feature is well-connected with 67.8% and third and fourth highest is cleanliness with 58.8% and spacious with 55.4%. This is then followed by amenities with 51.4%, views with 36.1%, green spaces with 32.2%,

odours with 20.3%, and pattern with 19.8%. Finally, the lowest pedestrian pathway convenience feature agreed by the respondents is noise with 5.3%.

Table 4.12 Pedestrian pathway convenience feature by the respondents

Category	Frequency	
	Number (n)	Percentage (%)
Safety	140	79.1
Well-connected	120	67.8
Spacious	98	55.4
Amenities	91	51.4
Views	64	36.1
Green spaces	57	32.2
Odours	36	20.3
Pattern	35	19.8
Noise	27	15.3
Cleanliness	104	58.8

4.2.2.8 Satisfaction of Pedestrian Pathway Connectivity to Public Transportation

Another Relative Importance Index (RII) analysis was done on the respondents' satisfaction of pedestrian pathway connectivity to public transportation. This RII allowed the researcher to identify the satisfaction level of users towards the connectivity of a pedestrian pathway towards public transportation.

Referring to Table 4.13, the highest RII score represents the most satisfaction level towards the connectivity of a pedestrian pathway ranked by the respondents. The result indicates that train stations have the highest satisfaction level of connectivity to pedestrian

pathways with RII score of 0.7379. This is followed by the car park as the second rank of satisfaction in pedestrian pathway connectivity towards public transportation with RII score of 0.7051. Respondents ranked bus stops third with an RII score of 0.7006, taxi station with RII score of 0.6655, and bike rack with RII score of 0.6633. The lowest satisfaction level ranked by the respondents is the ferries station with an RII score of 0.6486.

Table 4.13 Satisfaction of pedestrian pathway connectivity to public transportation by the respondents

Satisfaction with pedestrian pathway connectivity	Responses										RII		Rank
	Very dissatisfied		Dissatisfied		Neither		Satisfied		Very satisfied				
	F	Rscore	F	Rscore	F	Rscore	F	Rscore	F	Rscore			
Train station	9	9	20	40	23	69	90	360	35	175	0.7379	1	
Car park	6	6	28	56	31	93	91	364	21	105	0.7051	2	
Bus stop	5	5	30	60	34	102	87	348	21	105	0.7006	3	
Taxi station	6	6	30	60	60	180	62	248	19	95	0.6655	4	
Bike rack	6	6	27	54	67	201	59	236	18	90	0.6633	5	
Ferries station	6	6	20	40	90	270	47	188	14	70	0.6486	6	

There is a high correlation between respondents' satisfaction with pedestrian pathway connectivity to public transportation and their occupation, as indicated by the Chi-square test results shown in Table 4.14. Every public transportation option, including the bus stop, train station, taxi station, car park, bike rack, and ferry station, has extremely high Chi-square values (Chi-square=194.048-214.879, df=30-36, p=0.000). This indicates that occupation has a considerable impact on respondents' satisfaction with pedestrian pathway connectivity to different transportation choices, as there is a very little probability that these associations happened by accident.

Table 4.14 Chi-square test on satisfaction of pedestrian pathway connectivity to public transportation by the respondents and their occupation

Respondents' satisfaction of pedestrian pathway connectivity to public transportation	Occupation	
	Value	p-value
Bus stop	202.195	0.000
Train station	206.875	0.000
Taxi station	194.048	0.000
Car park	200.807	0.000
Bike rack	197.757	0.000
Ferries station	214.879	0.000
Chi-square=194.048-214.879, df=30-36, p=0.000		

The relationship between respondents' satisfaction with pedestrian pathway connectivity to transportation and their age group is shown in another Chi-square test results in Table 4.15. These substantial numbers (Chi-square=198.169-216.279, df=20-24, p=0.000) imply that respondents' satisfaction levels with pedestrian pathways' accessibility to public transportation varied significantly depending on their age group. This suggests that people's age has a significant role in influencing their level of satisfaction of pedestrian pathway connectivity to public transportation.

Table 4.15 Chi-square test on satisfaction of pedestrian pathway connectivity to public transportation by the respondents and their age

Respondents' satisfaction of pedestrian pathway connectivity to public transportation	Age	
	Value	p-value
Bus stop	216.279	0.000
Train station	198.169	0.000
Taxi station	212.798	0.000
Car park	202.028	0.000
Bike rack	202.199	0.000
Ferries station	201.274	0.000

Chi-square=198.169-216.279, df=20-24, p=0.000

4.2.3 Pedestrian Pathway as Cultural Imageability

This section provides information on pedestrian pathways as cultural imageability. Questions related to understanding pedestrian pathway with cultural imageability, activities at pedestrian pathway, types of pedestrian pathway, the effect of cultural imageability, creating cultural imageability, and the significance of pedestrian pathway as cultural imageability.

4.2.3.1 Understanding Pedestrian Pathway with Cultural Imageability

Responses of respondents' understanding of pedestrian pathway with cultural imageability are shown in Table 4.16 below using RII analysis. Based on Table 4.16 below, the unique characteristics and atmosphere of the pathway contribute to a strong sense of place,

grounding me in the local context and ambience’ have the highest RII score which is 0.8282. This is then followed by ‘a path that creates deep connection to the place and its people with an RII score of 0.8203 as second and ‘the sharing of cultural experiences fosters a feeling that I’m being part of a larger community’ ranked as third with an RII score of 0.8181. The fourth ranked with an RII score of 0.7889 is ‘these pedestrian pathways help me in understanding and reflecting on my own identity in the context of a diverse world’ and the final ranked would be ‘spending my time in a pedestrian pathway with cultural imageability can create a lasting emotional bond with the place’ with an RII score of 0.7887.

Table 4.16 Respondents’ understanding of pedestrian pathway with cultural imageability

Understanding pedestrian cultural pathway with imageability	Responses												Rank	
	Very dissatisfied		Dissatisfied		Neither		Satisfied		Very satisfied		RII			
	F	Rscore	F	Rscore	F	Rscore	F	Rscore	F	Rscore				
The pathway's unique characteris tics create a strong sense of place.	2	2	2		4	27	81	84	336	62	310	0.8282	1	
A path that creates deep connection	4		4	0		0	29	87	85	340	59	295	0.8203	2

Cultural experience s make me feel part of a larger community	2	2	4	8	20	60	101	404	50	250	0.8181	3
These pedestrian pathways reflect my own identity.	2	2	1	20	37	111	75	300	53	265	0.7889	4
Pedestrian pathways with cultural imageability create a lasting emotional bond with the place.	4	4	8	16	34	102	79	316	52	260	0.7887	5

Table 4.17 presents the results of a Chi-square test that examines the relationship between respondents' ethnicity and their understanding of pedestrian pathways with cultural imageability. The Chi-square values for these statements range from 186.088-202.617, df=16-20, p=0.000. These results imply that respondents' understandings of pathways with cultural imageability are significantly influenced by their ethnicity. Every ethnic group approach pedestrian path via unique cultural interpretations and experiences, which impact how satisfied and connected they feel to these areas.

Table 4.17 Chi-square test on respondents' understanding of pedestrian pathway with cultural imageability and their ethnicity

Respondents' understanding of pedestrian pathway with cultural imageability	Ethnicity	
	Value	p-value
A path that creates deep connection to the place and its people.	186.088	0.000
The sharing of cultural experiences fosters a feeling that I'm being part of a larger community.	191.616	0.000
These pedestrian pathways help me in understanding and reflecting on my own identity in the context of a diverse world.	192.211	0.000
Spending my time in a pedestrian pathway with cultural imageability can create a lasting emotional bond with the place.	202.617	0.000
The unique characteristics and atmosphere of the pathway contribute to a strong sense of place, grounding me in the local context and ambience	196.192	0.000
Chi-square=186.088-202.617, df=16-20, p=0.000		

4.2.3.2 Activities at pedestrian pathway

Referring to Table 4.18, the result indicates more than half of the respondents, which is 65.0% have a fondness for food markets as an activity on a pedestrian pathway. 58.2% of respondents prefer arts, 46.3% of respondents prefer street performance, 45.2% prefer fitness, and 44.6% prefer events and festivals. 26.0% of respondents favours parades and the remaining 3.4% of respondents choose other.

Table 4.18 Activities at pedestrian pathway that respondents like

Category	Frequency	
	Number (n)	Percentage (%)
Food markets	115	65.0
Street performance	82	46.3
Parades	46	26.0
Fitness	80	45.2
Events and festivals	79	44.6
Arts	103	58.2
Other	6	3.4

4.2.3.3 Types of pedestrian pathway preferences

Another RII analysis was conducted to identify the respondents' preferences of the type of pedestrian pathway that they would choose to use and was ranked as shown in Table 4.19. The result shows that the highest ranked of the most preferable pedestrian pathway is in Penang which indicates towards convenience by displaying its comfort, nature, safety, variety and permeability with an RII score of 0.7156. The second rank would be in Melaka that shows distinctive features by showcasing its colour, pattern, texture, richness, and activities with an RII score of 0.7062. The last ranked is in Kuala Lumpur with an RII score of 0.5782 which demonstrates mobility by exhibiting its accessibility, connectivity, motion, focal area, and directional qualities.

Table 4.19 Types of pedestrian pathway preferred by the respondents

Type of pedestrian pathway	Responses							RII	Rank
	Score 1st		Score 2nd		Score 3rd				
	F	Rscore	F	Rscore	F	Rscore			
Penang, Malaysia (Convenience - displaying its comfort, nature, safety, variety, permeability)	68	204	67	134	42	42	0.7156	1	
Melaka, Malaysia (Distinctive feature - showcasing its colour, pattern, texture, richness and activities)	67	201	64	128	46	46	0.7062	2	
Kuala Lumpur, Malaysia (Mobility - exhibiting its accessibility, connectivity, motion, focal area, directional qualities)	42	126	46	92	89	89	0.5782	3	

4.2.3.4 The Effect of Cultural Imageability towards Pedestrian Pathway

Table 4.20 shows that results are based on respondents' opinions on the effect of cultural imageability on pedestrian pathways. 67.8% respondents agreed that the sizes of structures around pedestrian pathways are the effect of cultural imageability. This is then followed by colour around the pedestrian pathway with 66.7% respondents agreed. 61.0% of respondents acknowledged that motion in a pedestrian pathway while 57.6% acknowledged that the pedestrian pathway texture is the effect of cultural imageability. Only 42.4% of respondents agreed that the pedestrian pathway pattern is affected by cultural imageability.

Table 4.20 The effect of cultural imageability towards pedestrian pathway as agreed by respondents

Category	Images	Frequency	
		Number (n)	Percentage (%)
Colours around pedestrian path		118	66.7
Sizes of structure around pedestrian path		120	67.8
Pedestrian path texture		102	57.6

Pedestrian
path pattern



75

42.4

Motion in a
pedestrian
path



108

61.0

4.2.3.5 Creating Cultural Imageability on Pedestrian Pathway

The results of the respondents' opinions on how to create cultural imageability on pedestrian pathway was shown in Table 4.21. More than half of respondents, 67.8%, concur that enhanced cleanliness is the most important step towards creating cultural imageability on a pedestrian pathway. 67.2% of respondents agree towards implementing unique design, 54.2% of respondents agree towards increasing visibility, and 52.5% agree towards empowering more activities. Less than half of respondents, which is 47.5%, concur towards encouraging universal design while only 30.5% of respondents agree by intensifying the richness of the pedestrian pathway.

Table 4.21 Respondents' opinions on creating cultural imageability on pedestrian pathway

Category	Frequency	
	Number (n)	Percentage (%)
Intensify richness	54	30.5
Empower more activities	93	52.5
Implement unique design	119	67.2
Enhance cleanliness	120	67.8
Increase visibility	96	54.2
Encourage universal design	84	47.5
Other	0	0

4.2.3.6 Significance of Pedestrian Pathway as Cultural Imageability

In reference to Table 4.22, another RII analysis was done to identify the respondents' opinions on the significance of pedestrian pathway as cultural imageability. As shown in the table below, the highest score of RII which is 0.7514 is improved sense of place. The second highest RII score ranked by the respondents, which is 0.7266, enhances the urban identity. This is then followed by enhancement of ambience and creativity with an RII score of 0.5864 and develop sense of belonging with an RII score of 0.5277. The final RII score ranked by the respondents on their opinion towards the significance is 0.4079 which allows for change.

Table 4.22 Respondents' opinions on the significance of pedestrian pathway as cultural imageability

Significance of pedestrian pathway as cultural imageability	Responses												Rank
	Rank 1st		Rank 2nd		Rank 3rd		Rank 4th		Rank 5th		RII		
	F	Rscore	F	Rscore	F	Rscore	F	Rscore	F	Rscore			
Improved sense of place	62	310	50	200	36	108	18	36	11	11	0.7514	1	
Enhance the urban identity	58	290	48	192	29	87	32	64	10	10	0.7266	2	
Enhance ambience and creativity	22	110	40	160	44	132	46	92	25	25	0.5864	3	
Develop sense of belonging	18	90	23	92	50	150	49	98	37	37	0.5277	4	
Allow for change	17	85	16	64	18	54	32	64	94	94	0.4079	5	

4.3 RESULTS OF OBSERVATION

This section presents observation results. Each chosen area has a unique street design and serves a distinct purpose. This was done to ensure that the observation checklist can be applied to all pedestrianized urban locations in future studies. The first is Jalan Hang Jebat, Melaka, while the second is Jalan Tuanku Abdul Rahman, Kuala Lumpur.

4.3.1 Jalan Hang Jebat (Jonker Walk), Melaka

This study conducts observations along a pedestrian pathway in Melaka. It takes place along Jalan Hang Jebat, also known as Jonker Walk, and is considered a historic street. The pedestrian pathway is 500 meters long and 5 meters wide on average, providing ample space for pedestrian movement; however, this study only uses 350 meters of its whole length. Figure 4.1 displays the current condition of Jalan Hang Jebat, Melaka.



Figure 4.1 Jalan Hang Jebat, Melaka

4.3.1.1 Mobility at Jonker Walk Pedestrian Pathway

Table 4.23 Result of mobility at Jonker Walk pedestrian pathway

Mobility							Score
Continuity	Making it easy for pedestrians to reach their destination as close as possible	Availability of pavement		Yes	No		3
		Total connection	4	Uninterrupted connection	4		3
		Pedestrian pathway is well maintained		Good	Moderate	Poor	3
Accessibility	Easily accessible to connect between essential points in the region	Connection to:	Buildings	Good	Moderate	Poor	3
			Public transport	Good	Moderate	Poor	1
			Parking	Good	Moderate	Poor	2
			Green space	Good	Moderate	Poor	1
			Nodes	Good	Moderate	Poor	3
	Signages are well visible.	Visibility	High	Moderate	Low		2
		Well-maintained	Good	Moderate	Poor		2
	Inclusivity	Ramp accessibility	Fully accessible	Partially accessible	Non-accessible		1
		Tactile paving availability	Full	Partial	Unavailable		2
Circulation	Effectiveness of the pedestrian pathway	Highly effective		Moderately effective	Ineffective		3
	Flow of pedestrian pathway	Smooth		Moderate	Disrupted		2
Total score							31

Table 4.23 presents the mobility results at the Jonker Walk pedestrian pathway, the pathway has excellent continuity with a regularly present and well-maintained pavement, achieving an exceptional 3-score condition rating. The pedestrian pathway has four total links to other

pedestrian pathways, and all of them are uninterrupted, obtaining a 3-score rating. Regarding accessibility, the pathway efficiently connects to buildings, achieving another 3-score. However, access to public transit and green space only received a 1-score, and parking facilities (2-score) were restricted. Meanwhile, access to nodes receives a 3-score. The signage along the pathway is visible (2-score) but not very prominent, with moderate maintenance (2-score). The pathway has a non-accessible ramp (1-score) and partial tactile paving (2-score). The pedestrian flow is classified as moderately effective (2-score), and the overall effectiveness of the pathway is strong (3-score).

A calculation was used to determine the average mobility score at Jonker Walk. The calculation went as follows:

$$\text{Mean} = \frac{31}{14} \approx 2.2$$

The mean score of 2.2, derived from dividing the total mobility score (31) by the number of factors (14), indicates a moderately strong mobility performance for the Jonker Walk pedestrian pathway.

4.3.1.2 Convenience at Jonker Walk Pedestrian Pathway

Table 4.24 Result of convenience at Jonker Walk pedestrian pathway

Convenience						Score	
Comfort	Comfortable surface	Flat	Yes	No		3	
		Anti-slippery material	Yes	No		1	
	Additional amenities	Availability of weather protection	Yes	No		1	
	Supporting elements	Benches	Many	Few	absent	1	
		Gazebo	Many	Few	absent	1	
		Kiosk	Many	Few	absent	3	
		Bin	Many	Few	absent	2	
	Restrictions	Motorised traffic	Permitted at times (am/pm)				2
			Forbidden				
		Cycling	Permitted				3
Forbidden							
Directional character	Sub-goals for user	Slope	Few		absent	Many	2
		Angle of turn	-		45	90	3
		Numbering	Many		Few	absent	1
		Sense of clarity	High		Moderate	Low	3
		Number of turns	Few		absent	Many	3
		Colours	Vibrant		Muted	Neutral	3
		Planting	High		Moderate	Low	1
		Asymmetric design	Balanced		Dynamic	Unbalanced	3
Safety	Availability of crossing facilities	Traffic lights and signs	Yes		No		1
		Road markings	Clear		Faded	Unavailable	3
	Sufficient lighting at night	Ample	Moderate		Minimal		3
	Boundaries/ separators of pedestrian paths with motorized vehicle	Yes	No				1
	Conflict-free	Yes	No				1
TOTAL						45	

Table 4.24 shows the results of convenience at the Jonker Walk pedestrian pathway. Regarding comfort, the route surface is flat and received the highest 3-score. However, there is a noticeable lack of anti-slippery materials and further weather protection since both receive a 1-score. Supporting items such as benches, gazebos, and bins are scarce or absent, with the majority getting either 1-score or 2-score. Meanwhile, the kiosk received a 3-score since there were many of them. Regarding restrictions, pedestrian safety is decreased during those hours because motorized vehicles are allowed during specific periods, receiving a 2-score. Positively, the pathway becomes special for pedestrians only since it is forbidden for cyclists to use the pedestrian pathway, which receives a 3-score. While the slope (2-score), planting and numbering (1-score) are absent and low, there are few numbers and angles of turn, vibrant colours, balanced asymmetric design, and high sense of clarity, which all receive a full 3-score.

Clear road markings (3-score) and sufficient crossing facilities balance out the safety features. However, the lack of traffic lights (1-score) raises questions about the security of pedestrians crossing roads. Additionally, well-lit at night (3-score), the pedestrian path protects pedestrians from criminal activity. Other than that, there are no barriers between motorized cars and pedestrians' paths, which causes conflicts between motorized vehicles and pedestrians, resulting in both receiving a 1-score.

The mean score for convenience was obtained by a calculation. The following equations were made:

$$\text{Mean} = \frac{45}{22} \approx 2.0$$

The mean score for convenience on the Jonker Walk pedestrian pathway is calculated as 2.0, obtained by dividing the total score (45) by the number of evaluated factors (22). This score suggests that while the pathway provides a generally satisfactory level of convenience for users

4.3.1.3 Distinctive Feature at Jonker Walk Pedestrian Pathway

Table 4.25 Result of distinctive feature at Jonker Walk pedestrian pathway

Distinctive feature						Score
Attractiveness	In relation to the design of pedestrian infrastructure, environmental harmony	The design of the pedestrian walkway takes inspiration from its surroundings.	Yes	No		3
		The existence of furniture as a complement	Yes	No		1
		Cleanliness	Clean	Moderate	Poor	2
		Scent	Pleasant	Neutral	Unpleasant	2
		Noise	Quiet	Moderate	Noisy	2
Uniqueness	Aesthetic	Planting design	Unique	Basic	Poor	1
		Facade	Attractive	Basic	Unattractive	3
		Elements design	Attractive	Basic	Unattractive	3
	Lively activities	Vibrant	Basic	No activities		3
	Artistic value	High	Moderate	Low		3
	Colour	Distinct	Common	Subtle		3
	Shape	Distinct	Common	Subtle		3
Activities	Texture	Distinct	Common	Subtle		3
	Number of activities	Many	Moderate	Few		3
	Types of activities	Diverse	Limited	Single		3
Total						38

Table 4.25 demonstrates the results of the observation of distinctive features at the Jonker Walk pedestrian pathway; it performs well on several indicators, displaying a good combination of its strong points. The pedestrian pathway's design, which has a high 3-score, is visually appealing. However, the lack of complementary furniture is a glaring flaw represented in the low 1-score. The pedestrian pathway requires regular maintenance, but overall cleanliness is reasonable (2-score). The scent and noise are neutral and moderate, each receiving a 2-score. The similarly stunning facade enhances the space's aesthetic appeal, which receives a 3-score. The design of the elements, which refers to furnishings

like benches or ornamental pieces, is lovely and receives a 3-score. The pedestrian pathway's lively activities are vibrant, receiving a 3-score, with a further 3-score for artistic value. Its unique use of texture, colour, and shape all contribute to its appeal; each of these characteristics has a 3-score. Furthermore, many activities are available (3-score), which suggests that there are many ways to participate in the place. Moreover, the diversity of activities received a 3-score.

The mean score for distinctive features was obtained by introducing a calculation. The following calculations were made:

$$\text{Mean} = \frac{38}{15} \approx 2.5$$

The mean score for distinctive features on the Jonker Walk pedestrian pathway is calculated as 2.5, obtained by dividing the total score (38) by the number of factors evaluated (15). This relatively high score highlights the pathway's strong performance in creating a visually appealing and engaging pedestrian environment.

4.3.1.4 Cultural imageability P-index Score of Jonker Walk Pedestrian Pathway

To calculate the p-index score of the pedestrian pathway at Jonker Walk, a set of calculations was introduced. The calculations were as follows:

$$\text{Mobility} = \frac{14}{51} \approx 0.3$$

$$\text{Weight for each attributes} = \text{Convenience} = \frac{22}{51} \approx 0.4$$

$$\text{Distinctive feature} = \frac{15}{51} \approx 0.3$$

$$\text{Weighted average} = \frac{(2.2 \times 0.3) + (2.0 \times 0.4) + (2.5 \times 0.3)}{1}$$

$$\approx 2.21$$

$$\text{P-Index score} = \left(\frac{2.21}{3} \right) \times 100$$

$$\approx 73$$

P-Index value	Star rating	Description
0-20	★	Lacks cultural imageability
21-40	★★	Limited cultural imageability
41-60	★★★	Moderate cultural imageability
61-80	★★★★	Strong cultural imageability
81-100	★★★★★	Excellent cultural imageability

Figure 4.2 Cultural Imageability P-index score of pedestrian pathways

The Jonker Walk pedestrian pathway has a weighted average score of 2.21 out of 3, equivalent to a P-Index value of 73. This ranks it in the 4-star rating category based on Figure 4.2 that shows cultural imageability P-index score of pedestrian pathways. Jonker Walk exhibits a strong presence of cultural and visual aspects that resonate with pedestrians and improve the overall walking experience, as evidenced by its 4-star rating, which denotes strong cultural imageability. This implies that the pathway successfully blends cultural and aesthetic elements that add to its distinct identity and facilitate mobility and convenience.

4.3.2 Jalan Tuanku Abdul Rahman, Kuala Lumpur

This study observes a pedestrian pathway in Kuala Lumpur. It is carried out on Jalan Tuanku Abdul Rahman which is categorized as a main arterial street. The pedestrian route is 1900 meters long and has an average width of 5 meters on each side; however, only 460 meters of that entire length are used in this study. Figure 4.3 displays the current condition of Jalan Tuanku Abdul Rahman, Kuala Lumpur.

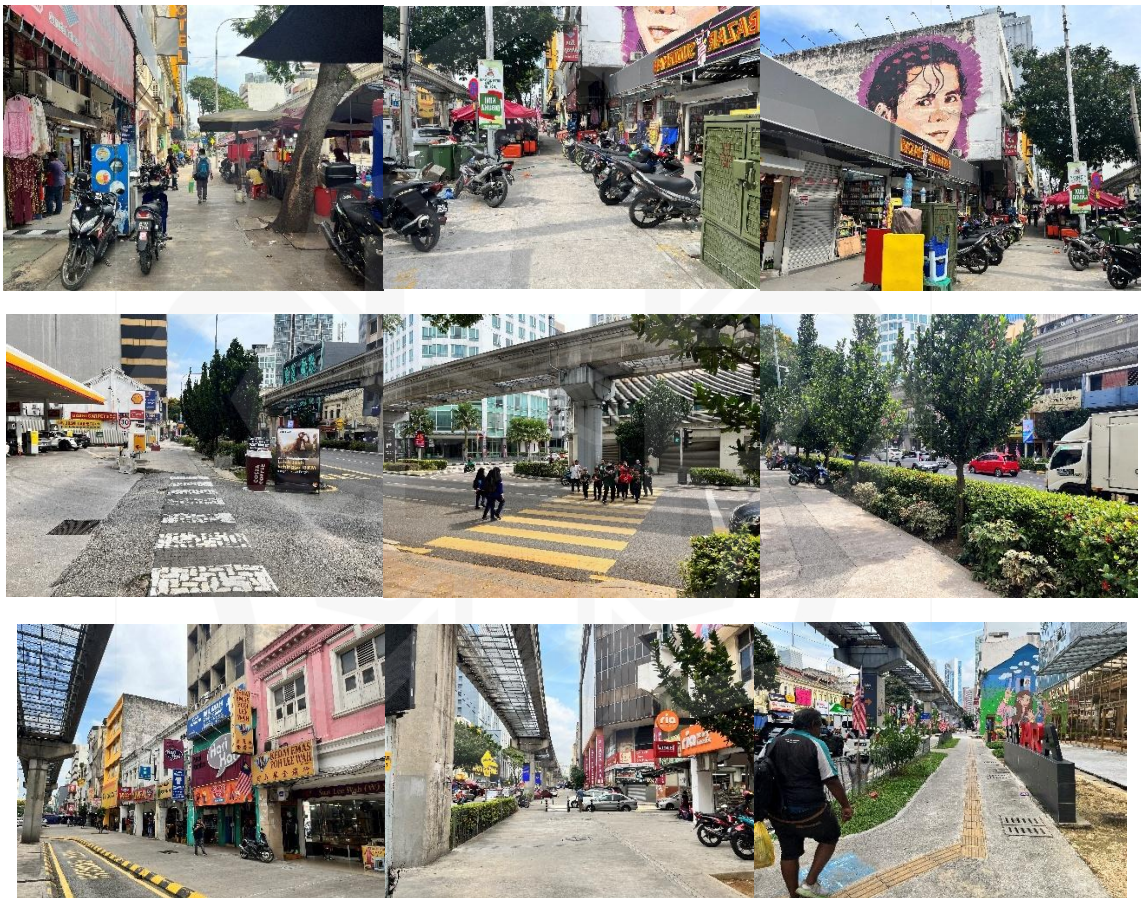


Figure 4.3 Jalan Tuanku Abdul Rahman, Kuala Lumpur

4.3.2.1 Mobility at Jalan Tuanku Abdul Rahman Pedestrian Pathway

Table 4.26 Result of mobility at Jalan Tuanku Abdul Rahman pedestrian pathway

Mobility							Score
Continuity	Making it easy for pedestrians to reach their destination as close as possible	Availability of pavement		Yes	No		3
		Total connection	11	Uninterrupted connection	10		3
		Pedestrian pathway is well maintained		Good	Moderate	Poor	2
Accessibility	Easily accessible to connect between essential points in the region	Connection to:	Buildings	Good	Moderate	Poor	3
			Public transport	Good	Moderate	Poor	2
			Parking	Good	Moderate	Poor	2
			Green space	Good	Moderate	Poor	1
			Nodes	Good	Moderate	Poor	3
	Signages are well visible.	Visibility	High	Moderate	Low		2
		Well-maintained	Good	Moderate	Poor		1
	Inclusivity	Ramp accessibility	Fully accessible	Partially accessible	Non-accessible		2
		Tactile paving availability	Full	Partial	Unavailable		1
Circulation	Effectiveness of the pedestrian pathway	Highly effective		Moderately effective	Ineffective		3
	Flow of pedestrian pathway	Smooth		Moderate	Disrupted		2
Total score							30

Table 4.26 reveals that Jalan Tuanku Abdul Rahman's mobility assessment has an overall score of 30, indicating a robust pedestrian pathway. The pathway pavement availability has a perfect 3-score. Conversely, the pathway's maintenance has a moderate 2-score. The

pathway has good connections towards buildings and nodes and received an excellent 3-score. However, the accessibility towards parking and public transportation is less successful, with a 2-score and 1-score for green space. The relatively high visibility of the signs is 2-score, and the low maintenance of these signs only received 1-score. Ramp accessibility is one of the partially available inclusiveness features, with a 2-score, whilst the availability of tactile pavement is severely insufficient, receiving only a 1-score. With a 3-score, the pathway's circulation is considered highly effective. Nonetheless, the pedestrian traffic flow is rated as moderate (2-score).

The mean score for mobility at Jalan Tuanku Abdul Rahman was obtained by introducing a calculation. The following calculations were made:

$$\text{Mean} = \frac{30}{14} \approx 2.1$$

The mean score for mobility at Jalan Tuanku Abdul Rahman is calculated as 2.1, indicating a moderately strong performance in terms of pedestrian mobility. This score reflects a balance between notable strengths and areas requiring improvement

4.3.2.2 Convenience at Jalan Tuanku Abdul Rahman Pedestrian Pathway

Table 4.27 Result of convenience at Jonker Walk pedestrian pathway

Convenience						Score	
Comfort	Comfortable surface	Flat	Yes	No		3	
		Anti-slippery material	Yes	No		3	
	Additional amenities	Availability of weather protection	Yes	No		1	
	Supporting elements	Benches	Many	Few	absent	1	
		Gazebo	Many	Few	absent	1	
		Kiosk	Many	Few	absent	2	
		Bin	Many	Few	absent	2	
	Restrictions	Motorised traffic	Permitted at times (am/pm)			3	
			Forbidden				
		Cycling	Permitted			1	
Forbidden							
Directional character	Sub-goals for user	Slope	Few		absent	Many	2
		Angle of turn	-		45	90	2
		Numbering	Many		Few	absent	1
		Sense of clarity	High		Moderate	Low	2
		Number of turns	Few		absent	Many	3
		Colours	Vibrant		Muted	Neutral	2
		Planting	High		Moderate	Low	1
		Asymmetric design	Balanced		Dynamic	Unbalanced	1
Safety	Availability of crossing facilities	Traffic lights and signs	Yes		No		3
		Road markings	Clear		Faded	Unavailable	2
	Sufficient lighting at night	Ample	Moderate		Minimal		1
	Boundaries/ separators of pedestrian paths with motorized vehicle	Yes	No				3
	Conflict-free	Yes	No				1
TOTAL						41	

Table 4.27 presents a result of the Jalan Tuanku Abdul Rahman pedestrian pathway's convenience factor. The pathway received a total score of 41 points based on multiple criteria, such as safety, directional character, and comfort. The pathway receives a complete 3-score for having a non-slippery and level surface. Nevertheless, it receives a 1-score because it is devoid of weather protection. Benchmarks, gazebos, kiosks, and bins are examples of supporting elements that are present but insufficient in number, giving these features poor values (1-score and 2-score). Other than that, motorized traffic is forbidden, which receives a 3-score, while cycling is permitted, which receives a 1-score. Next, the directional character looks at the pathway's legibility and clarity. Here, the pedestrian pathway is rated indifferently. With a 2-score, both the slope and the number of turns is suitable for pedestrian travel. However, it only receives a 1-score because there is no visible numbering, which leads to a moderate sense of clarity (2-score). The number of turns is few, receiving a 3-score, while the surrounding colours are muted, receiving a 2-score. A lack of greenery or visually appealing landscaping is indicated by the low rating of 1-score for planting design, a crucial aspect of cultural imageability, and the same goes for its asymmetric design.

Other than that, a 3-score was awarded for the pathway's sufficient Traffic lights and well-placed traffic signs and a 2-score for faded road markings. However, with only a 1-score and no defence against crime, pedestrian safety is a concern, especially at night. Furthermore, the pathway is well-structured in certain sections that provide barriers for a distinct demarcation between motorized vehicle zones and pedestrian paths, earning a 3-score. However, since the pedestrian pathway is wide enough, some motorised vehicles still use it, resulting in conflict between pedestrians and motorized vehicles having a 1-score.

Next, the mean score for convenience at Jalan Tuanku Abdul Rahman was obtained by a calculation. The following equations were made:

$$\text{Mean} = \frac{41}{22} \approx 1.8$$

The mean score for convenience at Jalan Tuanku Abdul Rahman is calculated as 1.8, this score reflects a mix of successes and challenges for the pathway's cultural imageability.

4.3.2.3 Distinctive Feature at Jalan Tuanku Abdul Rahman Pedestrian Pathway

Table 4.28 Result of distinctive feature at Jalan Tuanku Abdul Rahman pedestrian pathway

Distinctive feature						Score
Attractiveness	In relation to the design of pedestrian infrastructure, environmental harmony	The design of the pedestrian walkway takes inspiration from its surroundings.	Yes	No		1
		The existence of furniture as a complement	Yes	No		1
		Cleanliness	Clean	Moderate	Poor	1
		Scent	Pleasant	Neutral	Unpleasant	1
		Noise	Quiet	Moderate	Noisy	1
Uniqueness	Aesthetic	Planting design	Unique	Basic	Poor	1
		Facade	Attractive	Basic	Unattractive	2
		Elements design	Attractive	Basic	Unattractive	2
	Lively activities	Vibrant	Basic	No activities		2
	Artistic value	High	Moderate	Low		1
	Colour	Distinct	Common	Subtle		2
	Shape	Distinct	Common	Subtle		2
	Texture	Distinct	Common	Subtle		1
Activities	Number of activities	Many	Moderate	Few		1
	Types of activities	Diverse	Limited	Single		2
Total						21

The results of distinctive features of the pedestrian pathway at Jalan Tuanku Abdul Rahman are shown in Table 4.28. This shows moderate uniqueness, suggesting that certain elements positively contribute to the pathway's character and appeal. The design receives a 1-score for not taking cues from the surrounding environment. In addition, the pathway's usefulness and aesthetic appeal are diminished by the absence of coordinating furniture pieces like benches or decorative accents, receiving only a 1-score. Three factors that greatly lower the pedestrian experience are noise levels, cleanliness, and scent, with each only receiving a 1-score. The planting design, facade, and elements indicate a basic or low level of visual appeal, all of which receive between 1 and 2-score. The pathway's uniqueness is further constrained by the activities' low vibrancy, which receives only a 2-score. Moreover, the pathway lacks the visual and sensory elements necessary to be a noteworthy and unique urban feature, as seen by its low artistic value (1-score), common colour and shape (2-score), and subtle texture (1-score). The number of activities is also low (1-score), and the types of activities are limited (2-score).

In addition, a calculation was used to determine the average distinctive features score at Jalan Tuanku Abdul Rahman. The calculation is as follows:

$$\text{Mean} = \frac{21}{15} \approx 1.4$$

The mean score for distinctive features at Jalan Tuanku Abdul Rahman pedestrian pathway is 1.4, indicating a low level of uniqueness and appeal in its current state. This score reflects several areas where the pathway falls short in creating a memorable and engaging environment for pedestrians.

4.3.1.4 Cultural Imageability P-index Score of Jalan Tuanku Abdul Rahman Pedestrian Pathway

In order to calculate the p-index score of the pedestrian pathway at Jalan Tuanku Abdul Rahman, a set of calculations was introduced. The calculations were as follows:

$$\begin{aligned}
 \text{Mobility} &= \frac{14}{51} \approx 0.3 \\
 \text{Weight for each attributes} = \text{Convenience} &= \frac{22}{51} \approx 0.4 \\
 \text{Distinctive feature} &= \frac{15}{51} \approx 0.3 \\
 \text{Weighted average} &= \frac{(2.1 \times 0.3) + (1.8 \times 0.4) + (1.4 \times 0.3)}{1} \\
 &\approx 1.77 \\
 \text{P-Index score} &= \left(\frac{1.77}{3} \right) \times 100 \\
 &\approx 59
 \end{aligned}$$

P-Index value	Star rating	Description
0-20	★	Lacks cultural imageability
21-40	★★	Limited cultural imageability
41-60	★★★	Moderate cultural imageability
61-80	★★★★	Strong cultural imageability
81-100	★★★★★	Excellent cultural imageability

Figure 4.4 Cultural Imageability P-index score of pedestrian pathways

The pedestrian walkway on Jalan Tuanku Abdul Rahman, often known as Jalan Tuanku Abdul Rahman, is rated as having moderate cultural imageability, with a P-Index score of 59 in reference to Figure 4.4 that exhibits the cultural imageability P-index score

of pedestrian pathways. Although the road provides certain cultural and visual components that enhance urban experience, this score emphasises that these elements are unlikely to be as noticeable or immersive as possible. It combines unique cultural aspects and practical features like ease of mobility. However, compared to pathways that receive higher ratings, the cultural and aesthetic elements along this pathway are not as developed or continuously engaging. Essentially, the pedestrian pathway at Jalan Tuanku Abdul Rahman indicates that it contributes to the cultural imageability of the urban environment. However, it also has the potential to be a more lively, immersive, and culturally significant experience that would more powerfully involve both residents and tourists.

4.4 CHAPTER SUMMARY

The findings from the observational evaluations of pedestrian pathway as cultural imageability as well as the questionnaire surveys were presented and explained in this chapter. The results provided important new information on the social and physical factors affecting how pedestrian paths contribute to cultural imageability. A strong foundation for assessing pathways in terms of connection, safety, comfort, and cultural distinctiveness has been established by the methodical collection and analysis of comprehensive data on mobility, convenience, and distinctive design elements.

The results set the stage for a thorough interpretation of these findings, emphasising the ways in which certain pathway characteristics influence pedestrian experiences and influence urban places' cultural identities and sense of belonging. The following chapter (Chapter 5) will completely explore these results, articulating their relevance in the context of the study purpose, objectives, and theoretical framework outlined previously in this dissertation, in order to properly comprehend the larger implications and synthesize these findings effectively.

CHAPTER FIVE

FINDINGS AND CONCLUSION

5.1 INTRODUCTION

This chapter discussed the key findings based on the interpretation of the questionnaire survey and observation results. This research's central focus is to evaluate pedestrian pathways towards forming cultural imageability in an urban environment. The findings are summarized and divided into two sections: the physical effect of pedestrian pathways as cultural imageability and the social impact of pedestrian pathways as cultural imageability. The chapter includes the benefits of physical and social effects towards cultural imageability through a pedestrian pathway in an urban environment. The chapter concludes with a discussion of the limitations of the research and recommendations for future research. Recommendations were based on the conclusions and purpose of the study.

5.2 KEY FINDINGS OF PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY

This section discusses the key findings of the research on pedestrian pathways as cultural imageability in urban environments. The research aimed to evaluate pedestrian pathways toward the formation of cultural imageability in an urban environment. The objective of the research is i) to investigate the factors of pedestrian pathways as cultural imageability in an urban environment, ii) to evaluate the significance of pedestrian pathways as cultural imageability in an urban environment, and iii) to propose an exposition of pedestrian

pathways as cultural imageability in an urban environment. Several critical factors that influence these pathways' physical and social effects were identified through a comprehensive analysis of questionnaire responses and observational data. The findings highlight the importance of well-designed pedestrian pathways in enhancing urban connectivity, safety, and accessibility while fostering community and cultural engagement. Examining the physical and social dimensions provides a holistic exposition of how pedestrian pathways and cultural imageability contribute to urban environments.

5.2.1 Physical Effect of Pedestrian Pathway as Cultural Imageability

A key physical component is the pathway's capacity to link locations and provide easy city transportation. The findings show that pedestrian routes significantly improve urban mobility and cultural walking patterns when envisioned as interconnected networks rather than discrete portions. Key locations are connected by well-maintained paths, giving walkers a smooth path around the city. This is in line from findings in Chapter 2, Section 2.4.1. Walking is promoted as a practical form of transportation as this connectedness makes it simple for individuals to go about without any restrictions (as discussed in Chapter 2, Section 2.3.2). Specifically, the findings emphasised the significance of tactile paving, accessible ramps, well-maintained pavements, and pavements as essential components of connectedness and accessibility. Especially for people with physical disabilities, these features made walking easier and more manageable. This is demonstrated by the example of Jalan Tuanku Abdul Rahman in Kuala Lumpur, where a pedestrian network offers direct access to a wide range of urban attractions, and the findings placed a high value on having the ease of getting to different locations. Being able to move around the city easily gives pedestrians greater confidence and encourages them to stroll, which is crucial for experiencing the environment to the fullest. Wider advantages result from more mobility, such as better lives, less traffic, and a livelier urban environment when individuals choose to walk, thus in line from Chapter 2, Section 2.2.2. To put it briefly, strong connection and

mobility infrastructure not only serve the transit purpose of a pathway but also provide the conditions for cultural interaction by attracting people to public areas. The basic layer of cultural imageability is mobility, which is reinforced by obvious physical infrastructure such as pavements and tactile components. A pathway must function effectively as a path before it can acquire cultural significance.

Beyond connection, a pathway's success is greatly influenced by the comfort and ease it offers. The study discovered that the pedestrian experience is significantly improved by specific design elements focused on comfort, safety, and directional character. Clear road markings at crossing places and the use of fences or plants as safety separators, for instance, have been shown to increase walkers' sense of security and make the walkway safer and more convenient (as discussed in Chapter 2, Section 2.3.2). Another essential feature that stood out was enough lighting. A number of participants stated that they avoided paths at night because of inadequate lighting, suggesting that well-lit routes promote use in the evening. A little slope and a level, non-slip surface was necessary for safe and easy mobility, especially for older or impaired people. Meanwhile, it was discovered that the space's aesthetic and sanitary qualities were improved by comfort features such general cleanliness, clear numbering systems, and planting. Other amenities, such as seats, signs, and weather shelters, support these. Since most survey participants said they used pedestrian routes frequently for leisure, exercise, or commuting, these convenience features are essential for frequent usage. The findings also indicated that more safety precautions that are in line with CPTED are required (as discussed in Chapter 2, Section 2.3.2). Together, these findings demonstrate that the inclusion of physical features based on convenience elevates routes beyond mere functionality to become user-centered spaces that serve a diverse range of users. These findings confirm that in order to create a really imageable pedestrian environment, convenience especially through features like lighting, fence, directional numbering, and planting must be combined with connectedness.

The addition of aesthetically and culturally distinctive elements that provide the pathway a specific personality constitutes the third physical component. A pathway can be transformed from a straightforward route into a place of cultural value with an interesting, memorable design. The findings showed that pedestrians greatly value walkways that highlight local character through vivid facades, varied colour schemes, building sizes, and context-specific aesthetics. The space's artistic and symbolic significance is enhanced by elements like distinctive patterns and public art. Melaka's Jonker Walk, for instance, was frequently praised for its unique shophouse design and colonial-era architecture. Building structural sizes and vivid colour schemes were consistently associated with sentiments of historical depth and cultural richness. The pathway's many activities, including food markets, art exhibits, and street play, also produced lively spaces where people could interact with their surroundings in ways that went beyond what was obvious. Local culture was actively reinforced by these creative and participatory events. The findings demonstrated that their inclination to explore and form an emotional bond with the area was greatly increased by the existence of artistic and activity-based value. As a result, unique elements like architecture and the arts not only enhance the surroundings but also foster symbolic value, transforming the pedestrian area into a representation of the local character. In order to increase cultural imageability and expand appeal, inclusive design that recognises many cultural origins in these features was stressed.

5.2.2 Social Effect of Pedestrian Pathway as Cultural Imageability

The perceived character and emotional resonance of a place are significantly influenced by a well-designed pedestrian pathway. Findings indicated that a pathway enhances users' emotional bond with the environment when it incorporates distinctive historical or cultural elements. Given its conventional building proportions, colourful facades, and arts-focused settings (such as street performances), Jonker Walk was frequently cited as an example, creating a unique cultural backdrop. These elements made it possible for pedestrians to

immerse themselves in the local culture and get a personal look at the character of the area. A stroll down the street became a storytelling setting that evoked local memories and stories via the merging of aesthetic and cultural elements. Findings revealed that these routes contributed to the neighbourhood's development of a distinct, identifiable character. In addition to boosting pride and happiness, these imageable attributes created dynamic surroundings that people remember and return to (as discussed in Chapter 4, Section 2.5.2). Therefore, elements like colourful architecture and regional art were not only decorative; they were crucial to creating a feeling of place where people could connect and engage emotionally.

In addition to creating a sense of place, pedestrian pathways that encourage social contact within the neighbourhood help strengthen the sense of community. These social settings foster unity among people, facilitate support systems, and turn streets into welcoming places. Findings showed that pedestrian walkways with a variety of events, including food markets, art exhibits, and street play, have developed into regular meeting places for the local population. Such events transformed Jonker Walk into a weekend gathering place for social and cultural exchange. Findings revealed that these interactive elements promoted informal yet meaningful interactions between strangers and broke down barriers. Public features like seats or performance spaces, along with the layout and scale of the structures, made it simpler for individuals from different backgrounds to coexist peacefully. These common experiences strengthened the idea that "this is our space" and promoted a sense of communal pride. Thus, the pathway served as both a route and a social infrastructure that fostered friendship, trust, and cultural exchange, all of which are essential pillars of inclusive urban life.

Additionally, pedestrian pathways act as anchors for place attachment, which is the long-term emotional connection that people have with a particular setting. The findings highlight how important cultural participation and adaptability are to this bond. The most cherished memories were of pathways that served several purposes. These common

practices were repeated, converting public areas into emotional gathering spots. Respondents discussed how some aspects, such as going back to their favorite food vendors once a week or attending regular performances at locations they knew well, strengthened their place attachment. Routes that were easily incorporated into people's everyday lives and cultural customs developed into locations of personal meaning rather than just being infrastructure (as discussed in Chapter 4, Section 2.5.2). The importance of lighting, numbering, and planting in assisting with memory and familiarity was highlighted by the findings. Users were more likely to feel anchored and connected to the location if a wider range of community interactions were made possible throughout the journey.

Lastly, pedestrian pathways have a significant impact on place identity, which is the symbolic representation and general perception of an area. Building this perception required architectural decisions that reflected cultural representation through elements like vivid schemes, public art, dynamic facades, and structural sizes, according to the findings. Moreover, findings showed that paths that had these markers served as symbolic landmarks that contributed to the narrative of the area's larger history. Historic shophouses, colonial-era facades, and arts and crafts display all combined to make Jonker Walk a familiar and significant place for both residents and visitors. Additionally, elements like planting, numbering, and cleanliness were viewed as signs of intention and care, enhancing the pathway's appeal as a public area. The findings showed that these design features improved residents' perceptions of their cultural identity inside the area as well as how visitors identified the location (as discussed in Chapter 2, Section 2.5.1). Therefore, pedestrian pathways can serve as powerful identity bearers by being designed with visual clues and activities that tell local narratives. These routes infuse the community's ideals into the physical environment while simultaneously fulfilling utilitarian purposes and preserving memory and heritage.

The findings show that pedestrian pathways evolve into cultural imageability when their physical attributes go beyond functionality and create meaningful urban experiences.

In this study, the Factors (Physical Effects) of Mobility—pavements, well-maintained pavements, accessible ramps, tactile paving—and Convenience—cleanliness, shrubs or fence, sufficient lighting, flat and non-slip surface, planting, numbering, minor slope—together with the Distinctive feature set—structure sizes, food markets, colourful scheme, vibrant facades, arts, street play—work in combination to produce the Significances (Social Effects): Sense of place (enhanced experience, cultural immersion, community engagement, dynamic environment), Sense of belonging (social cohesion, community pride, support networks, inclusive spaces), Place attachment (emotional connections, community interaction, cultural engagement, versatility and use), and Place identity (cultural representation, visual identity, narrative spaces, symbolic landmarks). Where these mobility, convenience and distinctive features co-occur, pathways shift from movement conduits to cultural corridors, and cultural imageability is strengthened.

5.3 FRAMEWORK OF FACTORS, SIGNIFICANCES AND EXPOSITION OF PEDESTRIAN PATHWAYS AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT

This section discusses the framework of factors and significances of pedestrian pathways as cultural imageability in an urban environment based on the key findings. The proposed framework of factors provides a comprehensive summary of what various elements in a pedestrian pathway can contribute to the formation of cultural imageability in an urban environment. It offers practical guidelines to create a pedestrian pathway that are not only functional but also engaging, inviting, preserving and displaying cultural value. The framework highlights the importance of encouraging a walking culture and enhancing the overall urban experience by viewing pedestrian paths as linked networks rather than discrete elements. It showcases three factors which is mobility, convenience, and distinctive features which contain various important elements that compels pedestrian pathways to form cultural imageability. This framework is important in order to construct

pathways that is comfortable, pleasant, and simple to use, which improves the user experience and encourages frequent use. It emphasises the role of pathways in representing and celebrating cultural diversity, which fosters sense of belonging and place, place attachment and identity among users. Therefore, this highlights how crucial it is to create pedestrian pathways that can provide these factors through these elements, as they not only give physical contribution but concomitantly offer social benefits as well.

Furthermore, the proposed framework of significances offers a thorough synopsis of the numerous advantages that explain why pedestrian pathways are important as cultural imageability in an urban environment. It offers several positive impacts by the creation of pedestrian pathways that foster cultural imageability such as sense of place, sense of belonging, place attachment, and place identity. The framework improves users' experiences by showing how pathways with cultural imageability can help them form emotional and psychological bonds towards an urban space and as emblems of the community's history and values, it demonstrates the significance of a path in expressing local culture and arts. This framework is vital since local heritage and culture-inspired paths can transform a simple pedestrian pathway into an essential component of the urban fabric, greatly enhancing users' connection and experience. It encourages the development of vibrant, welcoming spaces that can accommodate a range of activities, increasing their adaptability and cultural imageability. The importance of pedestrian pathways as cultural imageability is thus highlighted.

Moreover, the proposed framework provides a comprehensive exposition of how pedestrian pathways as cultural imageability can contribute towards the improvement of the urban environment from multiple perspectives, including pedestrian, urban design, economic, environmental, and academic viewpoints. It concludes that improving the pedestrian experience, supporting sustainable urban design, boosting the local economy, promoting environmental sustainability, and contributing to academic knowledge are keyways these pathways enhance urban environments. These pathways become integral

components of the urban fabric, celebrating and sustaining cultural heritage and community values. Figure 5.1 presents the framework of pedestrian pathway as cultural imageability.

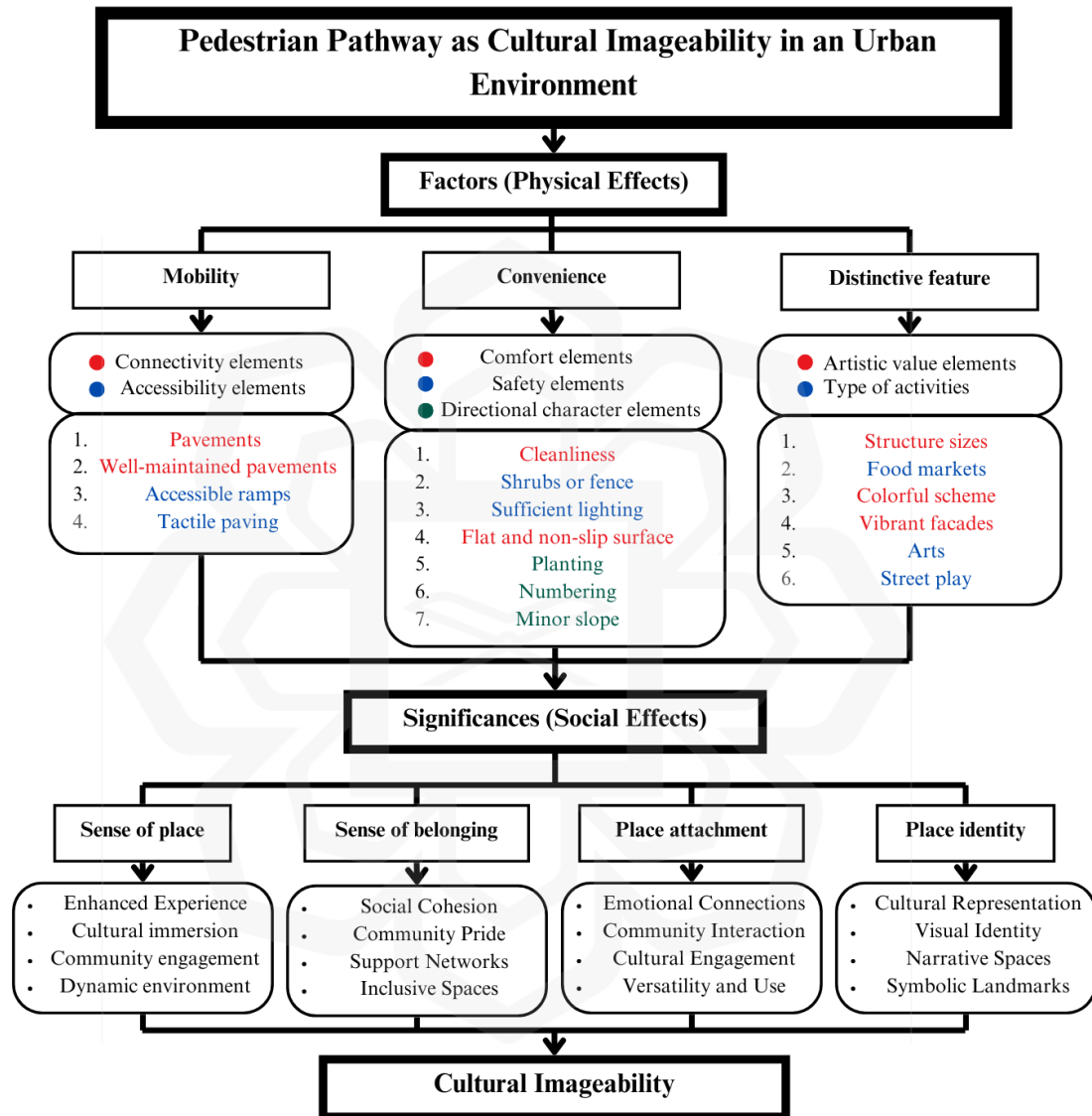


Figure 5.1 The framework of pedestrian pathway as cultural imageability

Aligned with the Sustainable Development Goals, the framework operationalises SDG 3: Good Health and Well-being (Target 3.4) by enabling routine walking and reducing

stress through legible, distinctive routes; SDG 8: Decent Work and Economic Growth (Target 8.9) by curating local commerce, events and heritage cues to foster culture-based, place-anchored economies; SDG 10: Reduced Inequalities (Target 10.2) by removing mobility barriers for children, older persons and persons with disabilities via universal design; SDG 11: Sustainable Cities and Communities (Targets 11.2, 11.7) by delivering continuous, safe, affordable and accessible pedestrian networks and shaded, comfortable, surveillable public spaces; and SDG 13: Climate Action (Target 13.1) by embedding passive heat-mitigation and nature-based elements that build corridor-scale resilience. In short, the framework makes the SDGs tangible at corridor scale, promoting everyday physical and mental wellbeing (SDG 3), sustaining culture-based livelihoods and tourism (SDG 8), narrowing mobility inequities (SDG 10), delivering safer, more inclusive access and high-quality public realm (SDG 11), and building heat-resilient, lower-emission streets (SDG 13).

Aligned with Malaysia's National Landscape Policy (National Landscape Policy, 2020), this framework translates the "Beautiful Garden Nation" vision into corridor-scale action by organising pedestrian routes as systematic green-pedestrian networks (mobility, convenience, distinctive features) that host cultural imageability and lift quality of life and local competitiveness. It operationalises Thrust 2 (Strategy 2.1) by: linking green/open-space belts and walkways (2.1.3); providing shade trees and microclimate relief (2.1.5); embedding *genius loci* in design/management (2.1.10); and complementing the Most Beautiful Garden Nation Index with route-based cultural-imageability metrics (2.1.6). It advances Thrust 3 via treating corridors as green infrastructure with master planning and quality standards (3.1.1–3.1.2) and supports Thrust 4 by identifying/curating high visual-cultural landscapes and aligning tourism streets with landscape principles (4.2, 4.5). In sum, the framework offers an auditable pathway from policy to practice, strengthening the NLP's climate-responsive goals while embedding cultural identity and social cohesion in everyday streets.

5.4 FUTURE RESEARCH

Since pedestrian pathways have not been extensively studied as cultural imageability in urban environment, this research will be beneficial for future studies. It provides evidence of several factors, significances, and exposition of pedestrian pathways as cultural imageability towards the urban environment in a framework. In addition, this research highlights the advantages of the physical and social impact of pedestrian pathways as cultural imageability. The community is expected to benefit from the research's recommendations and suggestions.

In addition to reiterating the factors and significances of pedestrian pathways as cultural imageability in an urban environment, this research demonstrates how pedestrian pathways can have various other impacts and functions based on the needs and preferences of all age groups. Future research is anticipated to address the issue for various groups, such as the effects of pedestrian pathways on cultural imageability towards the elderly and kids or focusing on pedestrians with disabilities. However, after completing this research, recommendations that could aid in refining the research are required.

Moreover, to achieve more dependable outcomes, the research needs to ensure that the sample population for the questionnaire is distributed fairly. For example, the sample's unbalanced distribution among ethnicities made it impossible to corroborate several conclusions. Considering the study was conducted in Malaysia, most participants were Malays, which renders the findings for other ethnic groups untrustworthy. It is also necessary to conduct surveys of other ethnic groups. The main reason for this problem is that survey questionnaires are distributed online instead of given to respondents in person. Due to this, the researcher cannot disperse the survey evenly among the sample group. The researcher can enhance sample dispersion by conducting the survey in person rather than online.

5.5 CONCLUSION

The research explored pedestrian pathways as cultural imageability in an urban environment. The research aimed to evaluate pedestrian pathways towards the formation of cultural imageability in an urban environment. Three research questions were formulated and answered, namely, to investigate the factors of pedestrian pathways as cultural imageability in an urban environment, to evaluate the significance of pedestrian pathways as cultural imageability in an urban environment, and to propose an exposition of pedestrian pathways as cultural imageability in an urban environment. This research is exploratory and utilises a mixed-method approach. The research utilised a survey questionnaire and an observation. The research elaborated a critical literature review of the theory of path, pedestrian pathway as a path, the concept of culture and imageability, pedestrian pathway as cultural imageability, and theoretical framework of pedestrian pathway as cultural imageability in an urban, which all corroborate with an Islamic point-of-view. The research also included a comprehensive discussion of the survey questionnaire results and observations, which were analysed using descriptive and P-index analysis.

The findings show that paths with a high degree of integration of cultural design elements according to the factors in the framework are more effective in forming cultural imageability. On the other hand, pedestrian pathways lacking these cultural elements are primarily utilised as routes and do not engage in deeper cultural or social interactions with people. Mobility, convenience, and distinctive features combined with cultural values are the factors that have been found to significantly impact cultural imageability and dramatically improve social senses due to their physical influence within a pedestrian pathway. Social senses were the consequences of these physical effects and reciprocated as sense of belonging, sense of place, place attachment and place identity in an urban space. The formulation of the framework of factors, significances, and exposition of pedestrian pathway as cultural imageability as consequences of this research contributes to developing a new concept or guideline for future research. In conclusion, this research discussed the

factors, significances, and expositions of pedestrian pathways as cultural imageability, answering the research questions as to what the factors are, why is pedestrian pathway as cultural imageability important, and how does it improve the urban environment. The advantages of physical and social effects of pedestrian pathway are required to satisfy the needs and experiences of users, which can be improved upon and utilised in future research. It is anticipated that the result of this research serves as a beneficial resource for gaining a deeper understanding of pedestrian pathways and their cultural imageability in an urban environment.

Economically and environmentally, the findings indicate that culturally imageable pedestrian corridors act as low-cost, high-return urban infrastructure as they increase footfall, dwell time and repeat visitation, which support micro-enterprises, night markets and tourism frontage while distributing benefits to local vendors rather than large operators. At the same time, a walk-first network with shade, seating, and continuous links encourages mode shift from short car trips, reducing congestion and operating costs for households and businesses. Environmental co-benefits are direct: tree canopy, permeable surfaces, and pocket planting moderate urban heat, improve thermal comfort, and manage stormwater at source, while continuous green-pedestrian links function as micro-habitat corridors that incrementally enhance urban biodiversity. Life-cycle savings arise from simpler maintenance regimes (paving, trees, lighting) compared with vehicle-centric upgrades, and from avoided health and pollution costs through more walking. In short, corridors designed for cultural imageability unlock local economic vitality and climate resilience simultaneously, strengthening the business case for pedestrian-centred investment.

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APPENDIX I: QUESTIONNAIRE SURVEY

Survey on 'PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT'

Dear respondents,

My name is Abdullah Hasif bin Patria, I am a postgraduate student from Kuliyah of Architecture and Environmental Design, International Islamic University Malaysia (IIUM), Gombak. I am currently conducting a survey on 'PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT'.

Aim of research:

To evaluate pedestrian pathway towards the formation of cultural imageability in an urban environment.

Objectives of research:

RO 1 To investigate the factors of a pedestrian pathway as a cultural imageability in an urban environment.

RO 2 To evaluate the significance of pedestrian pathway as a cultural imageability for the urban environment.

RO 3 To propose an exposition of pedestrian pathway as an instrument of cultural imageability in an urban environment.

Cultural imageability: Describes how a city's identity and culture influence how the image of the city is perceived, experienced and memorized.



Pedestrian pathway: A designated route designed specifically for the use of people walking.

This questionnaire consists of three (3) sections both in English and Malay. It will take about seven (7) minutes to complete this questionnaire. Results are for educational purposes and confidential. Participation is voluntary and honest feedback are appreciated. For inquiry regarding the research: hasifpatia02@gmail.com

Thank you for your participation

Responden yang dihormati,

Nama saya Abdullah Hasif bin Patria, saya pelajar lepasan ijazah Kuliyah Seni Bina dan Reka Bentuk Alam Sekitar, Universiti Islam Antarabangsa Malaysia (UIAM), Gombak. Saya sedang menjalankan kajian mengenai 'LALUAN PEJALAN KAKI SEBAGAI KEBOLEHGAMBARAN BUDAYA DALAM PERSEKITARAN BANDAR'.

Matlamat penyelidikan:

Untuk menilai laluan pejalan kaki ke arah pembentukan kebolehgambaran budaya dalam persekitaran bandar.

Objektif penyelidikan:

RO 1 Untuk menyiasat faktor laluan pejalan kaki sebagai kebolehgambaran budaya dalam persekitaran bandar.

RO 2 Untuk menilai kepentingan laluan pejalan kaki sebagai kebolehgambaran budaya untuk persekitaran bandar.

RO 3 Untuk mencadangkan eksposisi laluan pejalan kaki sebagai instrumen kebolehgambaran budaya dalam persekitaran bandar.

Kebolehgambaran budaya: Menghuraikan bagaimana identiti dan budaya bandar mempengaruhi cara imej bandar itu dilihat, dialami dan diingat.

Laluan pejalan kaki: Laluan yang ditetapkan direka khusus untuk kegunaan orang berjalan kaki.

Soal selidik ini mengandungi tiga (3) bahagian dalam Bahasa Inggeris dan Bahasa Melayu. Ia akan mengambil masa kira-kira tujuh (7) minit untuk melengkapkan soal selidik ini. Keputusan adalah untuk tujuan pendidikan dan sulit. Penyertaan adalah secara sukarela dan maklum balas yang jujur adalah dihargai. Untuk pertanyaan mengenai penyelidikan: hasifpatia02@gmail.com

Terima kasih atas penyertaan anda

Next

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Survey on 'PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT'

Section A: Demography / Demografi

*Please answer all questions

1. Gender / Jantina

- ☐ Male / Lelaki
- ☐ Female / Perempuan

2. Age / Umur

- ☐ 15-19
- ☐ 20-29
- ☐ 30-45
- ☐ >45

3. Ethnicity / Kaum

- ☐ Malay
- ☐ Chinese
- ☐ Indian
- ☐ Other (please specify)

4. Marital status / Status perkahwinan

- ☐ Single / Bujang
- ☐ Married / Berkahwin

5. Education level / Tahap pengajian

- ☐ No formal education / Tiada pengajian rasmi
- ☐ Tertiary (diploma/degree) / Universiti (diploma/degree)
- ☐ Primary / Sekolah Rendah
- ☐ Postgraduate (master/Phd) / Lulusan ijazah (master/Phd)
- ☐ Secondary / Sekolah Menengah

6. Occupation / Pekerjaan

- ☐ Retired / Bersara
- ☐ Self-employed / Persendirian
- ☐ Government sector / Sektor kerajaan
- ☐ Student / Pelajar
- ☐ Private sector / Sektor swasta
- ☐ Other (please specify)

7. Are you a disabled person? / Adakah anda seorang OKU?

- ☐ Yes
- ☐ No

8. With whom do you usually use pedestrian pathway? / Dengan siapa anda biasanya menggunakan laluan pejalan kaki?

- ☐ Alone / Bersendirian
- ☐ With friends / Bersama rakan
- ☐ With families / Bersama keluarga

Prev Next

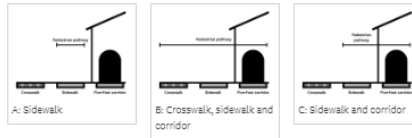
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Survey on "PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT"

Section B: Pedestrian's pathway usage and experiences

*Please answer all questions

9. What is a Pedestrian Pathway? / Apakah laluan pejalan kaki?



10. How frequent do you use a pedestrian pathway? / Berapa kerap anda menggunakan laluan pejalan kaki?

- ☐ Every day / Setiap hari
- ☐ A few times a week / Beberapa kali seminggu
- ☐ A few times a month / Beberapa kali sebulan
- ☐ Less than once a month / Tak sampai sebulan sekali

11. When do you usually use a pedestrian pathway? / Bilakah anda biasanya menggunakan laluan pejalan kaki?

- ☐ Weekend / Hujung minggu
- ☐ Weekday / Hari minggu
- ☐ Both / Kedua-duanya

12. At what time do you usually use a pedestrian pathway? (can select more than 1) / Pada pukul berapa anda biasanya menggunakan laluan pejalan kaki? (boleh pilih lebih daripada 1)

- ☐ Morning / pagi (6am-12pm)
- ☐ Afternoon / tengahari (12pm-6pm)
- ☐ Evening / petang (6pm-12am)
- ☐ Night / malam (12am-6am)

13. What is the purpose of you using a pedestrian pathway? (can choose more than 1) / Apakah tujuan anda menggunakan laluan pejalan kaki? (boleh pilih lebih daripada 1)

- ☐ Commuting to Work / Berulang-alik ke Tempat Kerja
- ☐ Going to School or University / Pergi ke Sekolah atau Universiti
- ☐ Strolling / Bersiar-siar
- ☐ Shopping / Membeli-belah
- ☐ Exercising / Berenam
- ☐ Other (please specify)

14. What is the purpose of a pedestrian pathway? (please rank 1 highest - 3 lowest) / Apakah tujuan laluan pejalan kaki? (sila susun mengikut 1 paling tinggi - 3 paling rendah)

- ☐ Activities: The presence of activities / Aktiviti: Kehadiran aktiviti
- ☐ Accessibility: Access to different areas / Kebolehcapaian: Laluan kaki mempunyai akses ke kawasan yang berbeza
- ☐ Convenience: Encourage walking / Kemudahan: Menggalakkan berjalan

15. What features of convenience do you like on a pedestrian pathway? (can select more than 1) / Apakah ciri kemudahan yang anda sukai di laluan pejalan kaki? (boleh pilih lebih daripada 1)

- ☐ Safety / Keselamatan
- ☐ Well-connected / Berhubung dengan baik
- ☐ Spacious / Kaluasan
- ☐ Amenities / Kemudahan
- ☐ Views / Pemandangan
- ☐ Green Spaces / Ruang hijau
- ☐ Odours / Bau
- ☐ Pattern / Bentuk
- ☐ Noise / Bunyi
- ☐ Cleanliness / Kebersihan

16. How do you rate your satisfaction from a pedestrian pathway to public urban transportation? / Bagaimanakah anda menilai kepuasan anda daripada laluan pejalan kaki ke pengangkutan awam bandar?

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Bus stop / Perhentian bas	☐	☐	☐	☐	☐
Train station / Stesen keretapi	☐	☐	☐	☐	☐
Taxi station / Stesen taksi	☐	☐	☐	☐	☐
Car park / tempat letak kereta	☐	☐	☐	☐	☐
Bike rack / Rak basikal	☐	☐	☐	☐	☐
Ferries station / Stesen feri	☐	☐	☐	☐	☐

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Survey on "PEDESTRIAN PATHWAY AS CULTURAL IMAGEABILITY IN AN URBAN ENVIRONMENT"

Section C: Pedestrian pathway as cultural imageability

*Please answer all questions

17. What is a pedestrian pathway with cultural imageability? / Apakah laluan pejalan kaki dengan kebolehgambaran budaya?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A path that creates deep connection to the place and its people. / Laluan pejalan kaki yang mewujudkan hubungan yang mendalam dengan tempat itu dan penduduknya.	☐	☐	☐	☐	☐
The sharing of cultural experiences fosters a feeling that I'm being part of a larger community. / Perkongsian pengalaman budaya memupuk perasaan bahawa saya menjadi sebahagian daripada komuniti yang lebih besar.	☐	☐	☐	☐	☐
These pedestrian pathways helps me in understanding and reflecting on my own identity in the context of a diverse world. / Laluan pejalan kaki ini membantu saya dalam memahami dan merenung identiti saya sendiri dalam konteks dunia yang pelbagai.	☐	☐	☐	☐	☐
Spending my time in a pedestrian pathway with cultural imageability can create a lasting emotional bond with the place. / Menghabiskan masa saya di laluan pejalan kaki dengan kebolehgambaran budaya boleh mewujudkan ikatan emosi yang berkekalan dengan tempat itu	☐	☐	☐	☐	☐
The unique characteristics and atmosphere of the pathway contribute to a strong sense of place , grounding me in the local context and ambience. / Ciri-ciri unik dan suasana laluan menyumbang kepada rasa tempat yang kukuh , membuntikan saya dalam konteks dan suasana setempat.	☐	☐	☐	☐	☐

18. What kind of activities do you like on a pedestrian pathway? (can choose more than 1) / Apakah jenis aktiviti yang anda suka di laluan pejalan kaki? (boleh pilih lebih daripada 1)

- ☐ Food markets / Pasar malam
- ☐ Street performances / Persembahan jalanan
- ☐ Parades / Perarakan
- ☐ Fitness / aktiviti kecergasan
- ☐ Events and festivals / Peristiwa dan perayaan
- ☐ Arts / Seni
- ☐ Other (please specify)

19. Based on the photographs provided, please rank according to the pathway that you will likely use? (1 highest - 3 lowest) / Berdasarkan gambar yang disediakan, sila nilaikan mengikut laluan yang mungkin anda gunakan? (1 paling tinggi - 3 paling rendah)



Melaka, Malaysia (Distinctive feature - showcasing the its colour, pattern, texture, richness and activities / Ciri tersendiri - mempamerkan warna, corak, tekstur, kekayaan dan aktiviti)



Penang, Malaysia (Convenience - displaying its comfort, nature, safety, variety, permeability / Kemudahan - memaparkan keselesaan, sifat, keselamatan, kepelbagaian, kebolehtelapan)



Kuala Lumpur, Malaysia (Mobility - exhibiting its accessibility, connectivity, motion, focal area, directional qualities / Mobiliti - mempamerkan kebolehcapaian, ketersambungan, pergerakan, kawasan fokus, kualiti arah)

20. How does cultural imageability affect pedestrian pathway? (can choose more than 1) / Berdasarkan gambar-gambar yang disediakan, adakah unsur-unsur atau struktur memberikan sebarang impak budaya? (boleh pilih lebih daripada 1)



Colour around pedestrian path / Warna sekeliling laluan pejalan kaki



Sizes of structure around pedestrian path / Saiz struktur di sekitar laluan pejalan kaki



Pedestrian path texture / Tekstur laluan pejalan kaki



Corak laluan pejalan kaki / Pedestrian path pattern /



pedestrian path / Pergerakan dalam laluan pejalan kaki

Motion in a

21. How to create cultural imageability on a pedestrian pathway? (can choose more than 1) / Bagaimana untuk mencipta kebolehgambaran budaya pada laluan pejalan kaki? (Boleh pilih daripada 1)

- ☐ Intensify richness
- ☐ Empower more activities
- ☐ Implement unique design
- ☐ Enhance cleanliness
- ☐ Increase visibility
- ☐ Encourage universal design
- ☐ Other (please specify)

22. In your opinion, what are the significance of a pedestrian pathway as cultural imageability in an urban environment? (rank 1 highest - 5 lowest) / Pada pendapat anda, apakah kepentingan laluan pejalan kaki sebagai kebolehgambaran budaya dalam persekitaran bandar? (susunkan 1 paling tinggi - 5 paling rendah)

Improved sense of place / Penambahbaikan rasa tempat	^ v
Enhance the urban identity / Meningkatkan identiti bandar	^ v
Develop sense of belonging / Membangunkan semangat kekitaan	^ v
Enhance ambience and creativity / Tingkatkan suasana dan kreativiti	^ v
Allow for change / Benarkan perubahan	^ v

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APPENDIX II: OBSERVATION CHECKLIST

Mobility							Score
Continuity	Making it easy for pedestrians to reach their destination as close as possible	Availability of pavement		Yes	No		
		Total connection	11	Uninterrupted connection	10		
		Pedestrian pathway is well maintained		Good	Moderate	Poor	
Accessibility	Easily accessible to connect between essential points in the region	Connection to:	Buildings	Good	Moderate	Poor	
			Public transport	Good	Moderate	Poor	
			Parking	Good	Moderate	Poor	
			Green space	Good	Moderate	Poor	
			Nodes	Good	Moderate	Poor	
	Signages are well visible.	Visibility	High	Moderate	Low		
		Well-maintained	Good	Moderate	Poor		
	Inclusivity	Ramp accessibility	Fully accessible	Partially accessible	Non-accessible		
		Tactile paving availability	Full	Partial	Unavailable		
Circulation	Effectiveness of the pedestrian pathway	Highly effective		Moderately effective	Ineffective		
	Flow of pedestrian pathway	Smooth		Moderate	Disrupted		
Total score							

Convenience						Score	
Comfort	Comfortable surface	Flat	Yes	No			
		Anti-slippery material	Yes	No			
	Additional amenities	Availability of weather protection	Yes	No			
	Supporting elements	Benches	Many	Few	absent		
		Gazebo	Many	Few	absent		
		Kiosk	Many	Few	absent		
		Bin	Many	Few	absent		
	Restrictions	Motorised traffic	Permitted at times (am/pm)				
			Forbidden				
		Cycling	Permitted				
Forbidden							
Directional character	Sub-goals for user	Slope	Few		absent	Many	
		Angle of turn	-		45	90	
		Numbering	Many		Few	absent	
		Sense of clarity	High		Moderate	Low	
		Number of turns	Few		absent	Many	
		Colours	Vibrant		Muted	Neutral	
		Planting	High		Moderate	Low	
		Asymmetric design	Balanced		Dynamic	Unbalanced	
Safety	Availability of crossing facilities	Traffic lights and signs	Yes		No		
		Road markings	Clear		Faded	Unavailable	
	Sufficient lighting at night	Ample	Moderate		Minimal		
	Boundaries/ separators of pedestrian paths with motorized vehicle	Yes	No				
	Conflict-free	Yes	No				
TOTAL							

Distinctive feature					Score
Attractiveness	In relation to the design of pedestrian infrastructure, environmental harmony	The design of the pedestrian walkway takes inspiration from its surroundings.	Yes	No	
		The existence of furniture as a complement	Yes	No	
		Cleanliness	Clean	Moderate	Poor
		Scent	Pleasant	Neutral	Unpleasant
		Noise	Quiet	Moderate	Noisy
Uniqueness	Aesthetic	Planting design	Unique	Basic	Poor
		Facade	Attractive	Basic	Unattractive
		Elements design	Attractive	Basic	Unattractive
	Lively activities	Vibrant	Basic	No activities	
	Artistic value	High	Moderate	Low	
	Colour	Distinct	Common	Subtle	
	Shape	Distinct	Common	Subtle	
Activities	Number of activities	Many	Moderate	Few	
	Types of activities	Diverse	Limited	Single	
Total					

APPENDIX III: PUBLICATION

UMRAN2023
International Landscape Seminar



CULTURAL IMAGEABILITY ON URBAN IDENTITY: A SYSTEMATIC LITERATURE REVIEW

^[1] Abdullah Hasif bin Ahmad Patria, ^[2] Mohd. Ramzi bin Mohd. Hussain, ^[3] Izawati binti
Tukiman

^[1] Postgraduate, Department of Landscape Architecture, Kulliyyah of Architecture and Environmental Design
International Islamic University Malaysia

^[2] Professor, Department of Landscape Architecture, Kulliyyah of Architecture and Environmental Design
International Islamic University Malaysia

^[3] Associate Professor, Department of Landscape Architecture, Kulliyyah of Architecture and Environmental
Design International Islamic University Malaysia

hasifpatria02@gmail.com

Abstract

Purpose - The relationship between cultural imageability and urban identity is examined in this systematic literature review based on several themes, highlighting the influence of cultural factors on how urban places are perceived and represented. This systematic literature review aims to provide insights for researchers in the fields of urban studies and landscape architecture, as well as architecture, in understanding the various ways that cultural imageability influences the development of urban identity.

Methodology - In order to thoroughly synthesize research, the author used a systematic literature review (SLR) technique. A total of 27 articles were found in the first step, and a final sample of 10 research studies was synthesized.

Findings - The findings showcased the impact of culturally integrated elements and spaces on how urban areas are seen and portrayed, emphasizing the city's ability to elicit feelings and connections that are ingrained with its residents' cultural identities.

Limitations - The author encounters obstacles regarding the current protocols for conducting SLR that provide little direction in the context of the built environment. The optimal decisions regarding which steps to take in the SLR process often remain unclear, which may have an impact on the comprehensiveness of this systematic literature review.

Originality - This SLR addresses a subject that is becoming an important topic in urban studies and environmental psychology by concentrating on the relationship between cultural imageability and urban identity using SLR as the methodology.

Keywords: Cultural Imageability, Urban Identity, Imageability, Cultural Identity

INTRODUCTION

As defined by Relph "identity of place is as much a function of intersubjective intentions and experiences as of the appearances of buildings and scenery, and it refers not only to the distinctiveness of individual places but also to the sameness between different places"[1]. The term "imageability,"

PRESERVING CULTURAL VALUES THROUGH POCKET PARKS IN AN URBAN ENVIRONMENT: A NARRATIVE REVIEW

Abdullah Hasif Patria¹, Mohd. Ramzi Mohd. Hussain¹ and Izawati Tukiman¹

International Islamic University Malaysia

Corresponding author: * ramzi@itiim.edu.my

ABSTRACT

Modern urban areas face difficulties maintaining their cultural values due to their rapid growth. The purpose of this review is to synthesize existing research on how the roles of pocket parks can contribute to preserving the cultural values within an urban environment. A thorough search of databases specializing in pocket parks and cultural values was conducted. This study employs a narrative review of scholarly publications to evaluate how pocket parks, which are small, accessible green spaces, contribute to preserving cultural values in urban environments. The findings reveal how pocket parks play a role in preserving cultural values such as identity and authenticity by providing a public space that can offer artistic value and cultural expression. Additionally, with the preservation of cultural values, these parks also reinforce the sense of belonging that further enhances equity through placemaking, which can honour diversity while maintaining the unique identity of the community. Compared to past research, this study presents thorough evidence of literature from a diverse viewpoint, highlighting the roles of pocket parks that are significant towards cultural preservation in an urban environment. The findings advocate for designing policies that leverage small-scale interventions to balance cultural preservation with equitable development in rapidly transforming cities.

Keywords: Pocket Parks, Cultural Values, Cultural Preservation, Urban Environment.

Cultural Imageability on Urban Identity: A Systematic Literature Review

Abdullah Hasif Ahmad Patria, Mohd. Ramzi Mohd. Hussain, Izawati Tukiman

Department of Landscape Architecture, Kuliyah of Architecture and Environmental Design
(KAED), International Islamic University Malaysia (IIUM), 53100, Jln Gombak, Kuala Lumpur,
MALAYSIA

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Findings - The findings showcased the impact of culturally integrated elements and spaces on how urban areas are seen and portrayed, emphasizing the city's ability to elicit feelings and connections that are ingrained with its residents' cultural identities.

Limitations - The author encounters obstacles regarding the current protocols for conducting SLR that provide little direction in the context of the built environment. The optimal decisions regarding which steps to take in the SLR process often remain unclear, which may have an impact on the comprehensiveness of this systematic literature review.

Originality - This SLR addresses a subject that is becoming an important topic in urban studies and environmental psychology by concentrating on the relationship between cultural imageability and urban identity using SLR as the methodology.

Keywords: Cultural Imageability, Urban Identity, Imageability, Cultural Identity

INTRODUCTION

As defined by Relph "identity of place is as much a function of intersubjective intentions and experiences as of the appearances of buildings and scenery, and it refers not only to the distinctiveness of individual places but also to the sameness between different places"[1]. The term "imageability, first used by urban designer Kevin Lynch (1960) in his groundbreaking work "The Image of the City" describes a physical object's high likelihood of generating a vivid mental image in the mind of an observer. The visual quality of urban environments is contingent upon a city's imageability and the physical context's intelligibility [2]. Imageability is thought to have the most important role [3]. The combination of imageability with culture can lead to a city's physical surroundings arousing feelings that are deeply ingrained in the culture of its people. Understanding this research issue could help develop effective methods and tactics for maintaining cultural heritage, establishing a strong feeling of community, and preserving real, dynamic, cultured urban environments. Hence, this research was conducted through a systematic literature review (SLR) that aims to better understand the relationship between the distinctive identity of urban landscapes and the cultural

Pedestrian Pathways as Catalysts of Place Attachment in Urban Environments

Abdullah Hasif Patria, Mohd. Ramzi, Mohd. Hussain

Department of Landscape Architecture, International Islamic University Malaysia,
Kuala Lumpur

Abstract: Pedestrian pathways are anchors that quietly shapes the rhythm of daily life. Their influence reaches beyond moving bodies, they shape how people feel about their surroundings. These pathways do more than connect places; they connect people to place. When crafted with care, they nurture place attachment, grounding residents both physically and emotionally. Recognising pedestrian pathways as a key ingredient in creating inclusive, meaningful urban experiences rooted in place attachment is therefore indispensable. A qualitative narrative synthesis framed this review. English-language articles, books, and case reports linking pedestrian pathway design to place attachment outcomes were gathered from reputable online databases through keywords such as "pedestrian pathway," "place attachment," and "walkability." Following sequential screening, the eligible works were thematically coded and woven into a single interpretive framework. Spanning 2000 – 2025, the review unites foundational studies with contemporary insights. Seven interlinked design attributes come to the fore: diligent upkeep, purposeful greenery, human-scale proportions, celebration of local character, consistent materials, visible safety and security measures, opportunities for social activation, clear accessibility and legibility, and spatial continuity. Evidence from residential neighborhoods, heritage districts, and commercial corridors shows that pathways displaying these qualities satisfy functional needs while significantly deepening users' place identity, sense of belonging, and communal pride. Reframing pedestrian pathways as social infrastructure elevates them from utilitarian passages to daily public realms that foster attachment. Embedding the seven attributes in urban policy and design standards extends ground-level activity, reinforces inclusive social networks, and produces climate-responsive streetscapes. In swiftly urbanising settings, such measures provide low-cost, high-impact tools for retrofitting legacy thoroughfares, complementing transit investments, and nurturing long-term civic stewardship. Future research should quantify how these attributes map onto emotional responses across diverse cultural contexts.

Keywords: Pedestrian Pathways, Place Attachment, Urban Experience, Walkability

Introduction

Urbanisation advances in surges of migration and economic promise, expanding city edges and amplifying metropolitan clout. In response, planners weave new housing blocks, retail clusters, and leisure hubs into the urban fabric, enticing arrivals with the



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The Significance of Pedestrian Pathways as Place Identity in an Urban Environment

Abdullah Hasif Patria¹, Mohd. Ramzi Mohd. Hussain^{1,*}, Izawati Tukiman¹

¹ Department of Landscape Architecture, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia (IIUM), P.O. Box 10, 50728 Kuala Lumpur, Malaysia

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ABSTRACT

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In an urban environment, pedestrian pathways are an essential physical structure that contributes significantly to establishing place identity. This review investigates the role of pedestrian pathways in shaping place identity, highlighting their physical and social importance. It explores how these pathways generate social attributes, such as place identity, within the urban context, addressing the often-overlooked significance of these structures. The undervalued physical and social significance of these pathways is an inquiry that the research aims to address. A comprehensive review of databases specializing in pedestrian pathways and place identity was conducted to examine this, focusing on books, peer-reviewed journal articles, and other relevant materials from the past five years. The findings demonstrate that pedestrian pathways are crucial in defining a place's identity through physical features, creating meaningful connections between people and their environment. By enhancing the physical characteristics of urban spaces, pedestrian pathways help foster a sense of belonging and identity among residents. Hence, pedestrian pathways significantly improve an urban environment's physical characteristics while nurturing place identity. This research offers new perspectives into the relationship between physical features and social ramifications and approaches to urban design that strengthen physical and social significance. Furthermore, it suggests approaches to urban design that recognize and strengthen the physical and social significance of pedestrian pathways, offering a framework for creating more meaningful and cohesive urban environments.

1. Introduction

Pedestrian pathways are more than ordinary spaces for walking in an urban environment; they serve as vital physical structural elements that greatly aid in creating a place identity. Creating a place identity has become increasingly important within the popular conception of urban design in industrialized nations [1]. As an essential means of encouraging social interaction and community growth, pedestrian pathways' functionality in urban environments can extend to impact an area's identity and its qualities. This is due to the movement's visual elements that can spark curiosity,

* Corresponding author.

E-mail address: ramzi@iiu.edu.my

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