

**2nd International Conference on Logistics & Transportation 2023**  
Convention Hall, Universitas Andalas, Padang, Indonesia, 20 - 22 Nov 2023

Organised by: Research Nexus UiTM (ReNeU), Universiti Teknologi MARA

**Enhancing Tourist Experience in Public Transit Spaces  
through Biophilic Design**

**Amirah Zakaria<sup>1</sup>, Natrina MP Toyong<sup>1\*</sup>, Fitorio Leksono<sup>2</sup>**

*\*Corresponding Author*

<sup>1</sup> Design Studies, Faculty of Art & Design, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia

<sup>2</sup> School of Design & the Built Environment, Curtin University, Perth, Western Australia, 6102, Australia

2022424098@student.uitm.edu.my, natrinatoy@uitm.edu.my, fitorio.leksono@postgrad.curtin.edu.au  
Tel: +60355444061

---

**Abstract**

Public transit spaces play a vital role in urban mobility, serving both commuters and tourists. This study explores enhancing these hubs through Biophilic Design in placemaking by integrating cultural, historical, and social elements. A narrative literature review and user interviews inform a user-centric framework that bridges the nature and built environments. Such a design can boost satisfaction, foster community unity, and enrich social interactions. By transforming transit spaces into engaging destinations, these strategies aim to revitalise urban areas, enhance the tourism experience, and stimulate local economies, positioning transit hubs as key contributors to vibrant, sustainable urban tourism.

**Keywords:** Public Transit Space; Biophilic Design; Placemaking; Tourism; Urban Design

eISSN: 2398-4287 © 2025. The Authors. Published for AMER by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers DOI: <https://doi.org/10.21834/e-bpj.v10iSI41.7733>

---

**1.0 Introduction**

For tourists, transit hubs often serve as gateways to a city's attractions. They present an opportunity to shape a visitor's first impression, offering a glimpse into the city's culture and values. With rapid urbanisation, there is an increased demand for efficient and user-friendly transit spaces. Beyond functionality, these transit spaces have the potential to become vibrant cultural hubs, enhancing the city's character and boosting local economic growth. According to the 12th Malaysia Plan, the five-year goal is to revitalise the economy, boost security, health, and inclusivity, and to foster sustainable practices, with transport infrastructure acting as a key facilitator in this journey towards prosperity, inclusivity, and sustainability, in harmony with WKB 2030 and the 2030 Agenda.

With the growing emphasis on sustainable travel, there is a need to design transit spaces that resonate with both regular commuters and tourists. One emerging approach is the incorporation of biophilic design. Rooted in the innate human affinity for nature, biophilic design prioritises integrating natural elements into built environments. Biophilic design enriches the modern built environment with a new framework and offers numerous advantages to building inhabitants and urban areas by strengthening their connection to nature (Calistus et al., 2023; Hady, 2021). At the same time, as described by Lukić (2021), it fosters a strong sense of locality, enhances community unity, and promotes the revitalisation of public areas, boosting their appeal to tourists.

eISSN: 2398-4287 © 2025. The Authors. Published for AMER by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers DOI: <https://doi.org/10.21834/e-bpj.v10iSI41.7733>

### 1.1 Research Problem and Objectives

The existing public transit system in Kuala Lumpur is designed to prioritise operational efficiency over user experience. Thus, resulting in environments characterised by harsh, clinical artificial lighting, poor acoustics, minimal natural ventilation, and a total absence of vegetation. These environmental conditions create a stressful, uncomfortable experience, especially for tourists who spend extended periods navigating unfamiliar transit systems while experiencing increased anxiety about wayfinding and connections. The study aims to investigate how biophilic design principles can be integrated into public transit spaces to enhance tourist experiences. The study explores three particular objectives (RO1): To identify the potential of biophilic design elements in enhancing tourist experiences within public transit spaces; (RO2) To investigate the impact of biophilic design on tourist satisfaction, comfort, and psychological well-being in transit environments; (RO3) To propose a conceptual framework for integrating biophilic design principles into public transit space development.

### 1.2 Research Questions

The research addresses three questions: (RQ1) Why does biophilic design influence changes in tourist experiences within public transit spaces? How does integrating biophilic design enhance the tourist experience in public transit spaces? (RQ3) How can biophilic design integration enhance the tourist experience to achieve thriving urban tourism?

## 2.0 Literature Review

### 2.1 Public Transit Spaces

Public transit spaces are a vital component in enabling the mobility, connectivity, and efficiency of urban cities. Much like the heart pumping blood to various parts of our body, these spaces carry numerous transportation lines, keeping the city alive and active. These spaces hold great potential to serve as vibrant and engaging transitional spaces for both commuters and tourists alike. Recent research reveals a complex relationship between tourist behaviour and public transit use. Bausch et al. (2024) identified key factors that encourage tourists to use public transit, including service quality, environmental consciousness, convenience, and destination design characteristics. Critically, recent research on smart tourism indicates that integrating advanced transit systems with physical environmental quality, comfort, and aesthetic appeal significantly improves tourist satisfaction (Ahmed, 2024). As essential components of urban landscapes, public transit spaces can serve as ideal settings for implementing placemaking ideas, which are crucial for establishing a strong sense of place. A sense of place refers to the unique character, identity, and atmosphere that distinguish a particular location from others. It encompasses the physical, cultural, historical, and social elements that shape a community's identity. People's impression of a location describes an individual's sense of place. This perception represents a place's exclusivity and informs how individuals experience, express, think about, and know that place. It alludes to the complex link between people and their surroundings and could be read as an attachment to a location (Catalani & Sotoca, 2018; Pred, 1983).

### 2.2 Biophilic Design

Biophilia refers to the inherent human inclination to affiliate with nature, which, even in the modern world, remains critical to people's physical and mental health and well-being (Wilson, 1984; Kellert and Wilson, 1993; Kellert, 1997, 2012). Implementing biophilic elements into public transit spaces may enhance visitors' connection to the natural world. This enhancement may boost user satisfaction, promote social interaction, and foster a sense of place, thereby positively influencing tourism and benefiting the local economy. In addition, the travel sector is increasingly adopting eco-friendly practices today due to growing demands and pressure from local and global environmental policies, as well as the rising preferences of more environmentally aware tourists (Ashraf et al., 2020; Chi & Han, 2020; Dimitriou, 2017).

Table 1. 14 Patterns of Biophilic Design

An example of a column heading	Column A (f)
Nature in the space	Visual connection with nature Non-visual connection with nature Non-visual connection with nature Non-rhythmic sensory stimuli Thermal & airflow variability
Natural Analogues	Biomorphic forms & patterns Material connection with nature Complexity & order
Nature of the Space	Prospect Refuge Mystery Risk Peril

(Browning et al., 2014)

In more recent times, Browning et al (2014) have introduced the '14 Patterns of Biophilic Design', providing a structured framework for integrating nature-inspired components into the built environment, aiming to significantly boost the health and well-being of individuals

and the broader community. These patterns incorporate visual and sensory elements, including natural light, biomorphic forms, and organic materials, to create settings that mirror the serenity and intrigue of the outdoors. The framework provides a structure for architects, designers, and developers to incorporate elements of nature into their projects. These patterns offer experts valuable guidance and insights, enabling them to design environments that are more engaging, healthy, and sustainable.

More recently, remarkable growth has been observed in biophilic design research since 2020, reflecting increased awareness of health, well-being, and sustainability following the global pandemic (Tekin & Özer, 2025). Particular noteworthy for this study, Hakiminejad et al. (2024) conducted a pioneering empirical research focusing on public transportation spaces in whereby 304 participants viewed alternative transit cabin configurations, in which demonstrated that biophilic design elements such as plants, natural materials, enhanced lighting, produced the most substantial improvement in well-being metric which includes stress reduction, positive emotions and creative enhancement, surpassing other design interventions.

### 2.3 Place-making

Creating a strong sense of place through placemaking can breathe life into public spaces, infusing them with the essence of local culture, history, and values. Placemaking can be defined as a collection of practices undertaken by practitioners, activists, and residents who desire to create, transform, and care for the places and the communities within them (Schneekloth & Shibley, 1995). It is a concept that revolves around crafting and revitalising public spaces to serve the community better and align with its unique needs.

Placemaking has been used more extensively within social sciences and urban planning since the 1970s (Friedmann, 2010). The movement since then has continued to grow, emphasising the shared connections of citizens to a sense of place. In recent years, placemaking has garnered significant attention for its ability to elevate the overall experience of individuals who frequent these spaces. When strategically applied, placemaking strategies can transform public spaces into inviting, dynamic places that offer unique experiences and foster a strong sense of place. Project for Public Spaces (PPS), an American organisation inspired by the ideas of William H. Whyte, defines successful or high-quality spaces as those that effectively address accessibility, engagement, comfort, aesthetics, and social interaction (Francis et al., 2012). The PPS placemaking framework (Figure 1) identifies these key attributes as interconnected elements that contribute to thriving public spaces. Frumkin et al. (2012) and Koohsari et al. (2013) elaborate that accessible public spaces cater to individuals with diverse abilities and age groups. As illustrated in Figure 1, quality spaces are characterised by their ability to tackle accessibility, utilisation, comfort, appearance, and social interaction; they are easily accessed and integrated into the local community, offer diverse activities, provide a sense of safety, cleanliness and visual appeal, including ample seating, and notably, serve as settings for social engagement among people (Project for Public Spaces, 2009)

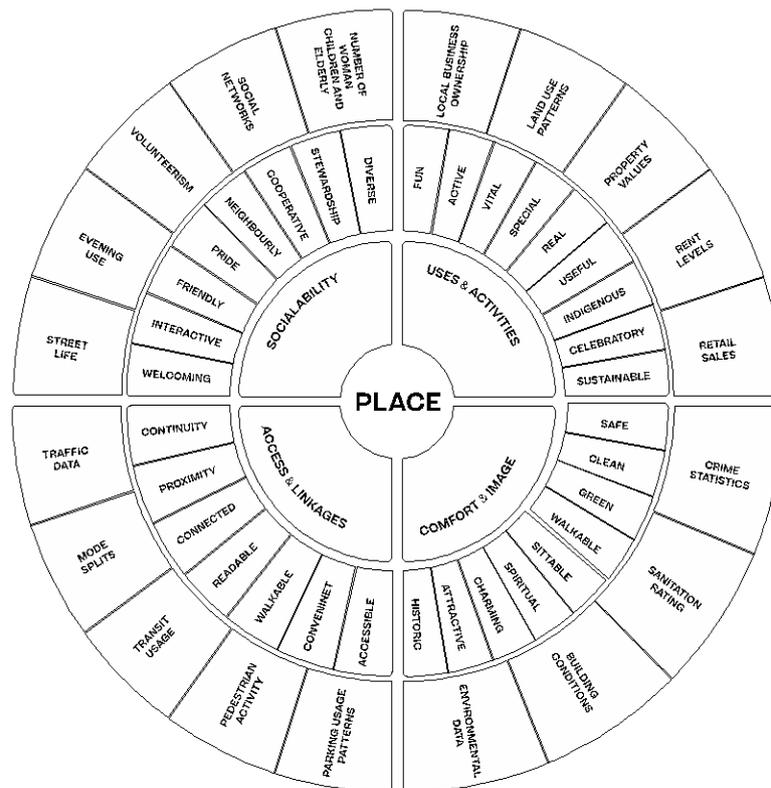


Fig. 1: The generic placemaking model developed by PPS (Samir et al., 2020)

### 3.0 Methodology

This research employs qualitative approaches, with the research grounded in semi-structured interviews, observational methods, and video and audio recordings, along with the analysis of documents and visual materials, to collect data on the experiences and perceptions of public transit spaces. Qualitative research provides deep insight into human experiences and behaviours while effectively addressing the complexities of phenomena, explaining the reasons behind observations, and refining multi-component interventions (Parahoo, 2006; Busetto, Wick, & Gumbinger, 2020). It also offers various ways to gather and analyse data, such as semi-structured interviews and in-depth focus groups or group interviews, observation methods, video and audio recording methods, participatory or action research approaches, and analysis of documents and visual materials. According to Korstjens and Moser (2018), these options provide an in-depth understanding of real-world issues.

The first phase of the research uses the Narrative Literature Review (Baumeister & Leary, 1997) as part of the preliminary data collection. To support the emphasis on this phase of the research, Snyder (2019) has provided a comprehensive overview and guidelines that describe the role of the literature review as a research methodology. In the discussion, the *Narrative Literature Review* method is considered a practical approach for summarising broader, more abstract questions that justify the application of diverse methodologies, especially when the inquiry spans multiple fields.

#### 3.1 Sampling and Site Selection

The study uses purposive sampling to select participants and sites that provide substantial information on tourist experiences in transit spaces. The study focuses on both international and domestic leisure tourists aged 25-45 who recently utilised the LRT system. The sampling size is set at six to eight respondents, which may be sufficient for developing relevant themes, although it may vary across studies (Guest et al., 2006). In contrast, site selection was guided by three criteria. The first criterion is high tourist accessibility and usage patterns. Followed by diverse urban contexts. And lastly, public accessibility without restrictions. The selected stations, KLCC, KL Sentral, and Masjid Jamek, represent different environmental settings, allowing comparative analysis while ensuring adequate observation of target demographics.

#### 3.2 Naturalistic Observation Using AEIOU Framework

The AEIOU framework (Activities, Environments, Interactions, Objects, and Users) provides systematic documentation of user and environment interactions within public space (Kumar, 2013). This framework enables comprehensive coverage of elements influencing tourist experiences and the documented natural alignment with biophilic elements. Observations were conducted systematically across peak hours and off-peak hours, with 2-3 hours allocated per site. Structured field notes captured activities (circulation and movement patterns, dwell behaviour, wayfinding action, tourist specific behaviours), environments (lighting conditions, spatial layout, material finishes, acoustic environment, existing biophilic features, crowding levels), interactions, (user-to-user, user-to-staff, user-to-environment interactions, spatial usage patterns) and user (demographic observations, stress or comfort indicators, accessibility needs). Field notes were supplemented with non-identifying environmental photographs, temporal, and user movement mapping.

#### 3.2 Semi-Structured Interviews

Interviews were conducted in quiet areas near transit stations using an interview guide organised into five thematic sections such as background and travel context, transit space experience (comfort, satisfaction, navigation), environmental perceptions (sensory experiences, current features, comfort factors), nature connection and biophilic elements (personal relationship with nature, awareness of natural elements, preferences for biophilic features), and design preferences and recommendations. Each interview lasted 45 minutes to 1 hour and 30 minutes, was audio-recorded with participant consent, and was conducted in English. All interviews were transcribed verbatim within 48 hours, with identifying information removed.

#### 3.3 Limitations

This study has four main limitations: a sample of eight participants from five countries, which provides cultural diversity but limited generalizability, and a focus on middle-aged independent travellers aged 25-45, excluding other segments, followed by time limitation, whereby observations conducted over several weeks may not capture seasonal variations or special event impacts. Site-specific constraints also pose a specific limitation; the three selected stations may not represent all transit typologies. Lastly, the nature of self-report bias is that interview responses may reflect preferences rather than actual behaviours.

### 4.0 Findings

The findings for this study derive from AEIOU observations across three LRT stations (KLCC, KL Sentral, Masjid Jamek), in-depth interviews with eight international tourists from Indonesia, Kazakhstan, Tajikistan, Senegal, and Mauritius, and a literature review. The analysis addresses aspects such as identifying biophilic design potential, investigating the impacts on the tourist experience, and establishing the foundations for an integration framework.

#### 4.1 Biophilic Design Gaps

AEIOU analysis revealed significant environmental deficiencies across all selected stations, ranging from harsh fluorescent lighting with no integration of natural daylight, persistent mechanical noise without acoustic insulation, thermal discomfort from excessive air-conditioning or poor ventilation, material palettes dominated by concrete, metal, and glass, and an almost complete absence of

vegetation. While behavioural observations revealed transitory patterns with minimal dwell time, as users moved through the space quickly rather than lingering. This rush-through behaviour reflects environmental conditions that actively discourage pause or relaxation, suggesting significant biophilic design potential as nature-integrated environments encourage extended dwell time and psychological restoration (Kaplan, 1995; Ulrich et al., 1991).

#### 4.2 Tourist Perception of Biophilic Potential

ATLAS.ti's word frequency analysis revealed conceptual priorities, where words such as 'natural' with 43 mentions, 'experience' with 42 mentions, 'light with 31 mentions, 'greenery' with 27 mentions, and 'comfortable' with 24 mentions, were identified. It is important to note that the participants were not primed with biophilic terminology. Natural lighting was most frequently cited, with benefits for safety perception, mood, and spatial orientation. Participants from Kazakhstan and Tajikistan showed particular sensitivity to lighting quality, noting that natural light makes spaces feel alive and helps with direction, aligning with attention restoration theory (Kaplan & Kaplan, 1989). Vegetation received consistent emphasis across all cultures. Indonesian and Mauritian participants expressed a desire for plants, describing existing spaces as sterile while acknowledging maintenance challenges. Participants demonstrated a preference for natural elements over artificial elements, with several participants rejecting fake plants as cheapening the environment.

#### 4.3 Biophilic Design – Placemaking Integration Framework

The framework resulted from systematic triangulation of three data sources. First, observational findings identified specific environmental deficiencies in existing transit spaces, followed by an interview analysis that revealed tourists' priorities and preferences for biophilic interventions. Last, the literature review established Browning et al. (2014) and Patterns of Biophilic Design and Project for Public Spaces (2019) as theoretical foundations for placemaking attributes. Mappings in Table 2 connect observed deficiencies and tourist preferences to specific biophilic patterns that address them while supporting placemaking qualities tourists desire.

Table 2. Mapping of biophilic design patterns to placemaking attributes in public transit spaces

An example of a column heading	14 Patterns of Biophilic	Placemaking Attributes
Nature in space	Visual connection with nature	Green, Attractive
	Non-visual connection with nature	Welcoming, Real
	Non-rhythmic sensory stimuli	Active, Vital
	Thermal and air flow variability	Comfortable, Sustainable
	Presence of water	Clean, Special
	Dynamic and diffuse light	Safe, Accessible
	Connection with natural systems	Sustainable, Indigenous
Natural analogues	Biomorphic forms and patterns	Charming, Historic
	Complexity and order	Diverse, Connected
	Material connection with nature	Real, Indigenous
Nature of the space	Prospect	Readable, Walkable
	Refuge	Safe, Sittable
	Mystery	Fun, Special
	Risk /peril	Active, Vital

(Browning et al., 2014; Project for Public Spaces, 2019)

## 5.0 Discussion

The observed transitory behavioural patterns align with environmental psychology research, proving that environmental quality influences space utilisation (Kaplan, 1995). More importantly, the users' rushed behaviour and minimal dwell time reflect Ulrich et al.'s (2019) findings that environments lacking natural elements fail to provide psychological restoration. This claim indicates that existing transit spaces prioritise infrastructure over experiential destinations. The contrast between user behaviour and the demonstrated desire for greenery (27 mentions) and comfortable environments (24 mentions) reveals an environmental quality and utilisation gap that may be addressed through biophilic design.

### 5.1 Transit Spaces as Destination Brand Touchpoints

The participants' explicit statements linking station quality to overall city impressions suggest that transit environments function as a troupe, in which tourists infer broader destination characteristics from this initial touchpoint. This finding has strategic implications, positioning biophilic transit improvements not merely as infrastructure enhancement but as destination marketing investment. In an

ever-growing, competitive tourism landscape, environmental quality can serve as a brand differentiator and unique positioning to convey Malaysia's tropical identity, as proposed by the participants.

### 5.2 Framework as Theory-Practice Integration Tool

The proposed framework (Table 2) identifies a documented gap between biophilic design theory and its application in transit spaces. By mapping Browning et al. (2014) biophilic patterns to placemaking attributes and grounding mappings in observed deficiencies and tourist preferences, the framework creates actionable implementation guidance. This theory-to-practice approach helps designers translate general biophilic principles into context-specific interventions. Nevertheless, limitations with the framework must be acknowledged, where mapping represents the researcher's interpretation of data relationships rather than conclusive correlations. Alternative mappings may show equally valid depending on site-specific conditions, user demographics, or implementation constraints.

## 6.0 Conclusion & Recommendations

This study presents significant biophilic design potential in transit spaces, with measurable impacts on the tourist experience. Substantial environmental quality gaps and strong user demand were identified and revealed through the triangulation of AEIOU observations, tourist interviews, and theoretical literature. Framework implementation should prioritise improvements to natural lighting and nature integration in high-tourist-traffic stations to address both functional and experiential needs, using a pilot project approach in designated zones of one station before a system-wide rollout, enabling evaluation of maintenance requirements, user responses, and operational impacts. It is important to note that successful intervention requires maintenance integration, involving relevant experts such as horticultural teams and automated irrigation systems to minimise manual labour. Five research directions were outlined to advance this field. The first being post-implementation behavioural studies on dwell time behaviour, space utilisation patterns, and tourist satisfaction following biophilic interventions to validate the framework's effectiveness. Secondly, an economic impact assessment to evaluate relationships between transit space environmental quality, tourism expenditure, destination revisit intentions, and strengthening investment justification. Comparative cross-cultural research should also be expanded to examine diverse biophilic design precedents, enabling refinement and cultural adaptation strategies. Next, the expanded demographic scope examines whether biophilic preferences vary across market segments. Lastly, research on maintenance optimisation is required to develop evidence-based maintenance guidelines that reduce long-term costs.

## Acknowledgements

The authors gratefully acknowledge the assistance of the Faculty of Art & Design and the Research Management Centre (UITM) in providing the research management process and funding from the PYPB incentive.

## Paper Contribution to the Related Field of Study

This study will make a sound contribution by examining the gap in the literature on the intersection of biophilic design and tourism, fostering awareness of biophilic design and its possible integration into placemaking. It addresses a research gap by providing empirical evidence on the application of biophilic design specifically within public transit contexts for tourist populations. This intersection remains underexplored in existing literature. Furthermore, this study advances qualitative inquiry in design research by systematically triangulating the AEIOU observational framework with semi-structured tourist interviews and theoretical literature analysis. This multi-method approach demonstrates how established design research frameworks can be effectively integrated with tourism experience methodologies to generate actionable insights for complex urban environments. As a result, the findings of this research will contribute to the relevant knowledge in these fields. The framework linking biophilic design elements to placemaking principles will further research interest in these areas. It will also serve as practical guidelines for relevant stakeholders, including transit authorities, urban planners, and designers.

## References

- Ashraf, M. S., Akhtar, N., Ashraf, R. U., Hou, F., Junaid, M., & Kirmani, S. A. A. (2020). Travelling Responsibly to Ecofriendly Destinations: An Individual-Level Cross-Cultural Comparison between the United Kingdom and China. *Sustainability*, 12(8), 3248. <https://doi.org/10.3390/su12083248>
- Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. *Review of general psychology*, 1(3), 311-320.
- Bausch, D., Kraemer, T. and Mauroner, O. (2024) 'Technology-Induced Stress and Employee Resistance in the Context of Digital Transformation and Identification of Countermeasures', *International journal of innovation and technology management* [Preprint]. Available at: <https://doi.org/10.1142/s0219877024500299>.
- Browning, W. D., Ryan, C. O., & Clancy, J. O. (2014). 14 Patterns of Biophilic Design. Terrapin Bright Green.
- Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, 2(1), 1–10. BMC. <https://doi.org/10.1186/s42466-020-00059-z>

- Catalani, A., Nour, Z., Versaci, A., Hawkes, D., Hocine Bougdah, Adolf Sotoca, Mahmoud Ghoneem, & Trapani, F. (2018). *Cities' Identity Through Architecture and Arts*. Routledge.
- Chi, X. and Han, H. (2020) 'Exploring slow city attributes in Mainland China: tourist perceptions and behavioural intentions toward Chinese Cittaslow', *Journal of Travel & Tourism Marketing*, 37(3), pp. 361–379. Available at: <https://doi.org/10.1080/10548408.2020.1758286>.
- Dimitriou, C. K. (2017). From theory to practice of ecotourism: major obstacles that stand in the way and best practices that lead to success. *European Journal of Tourism, Hospitality and Recreation*, 8(1), 26–37. <https://doi.org/10.1515/ejthr-2017-0004>
- Francis, J., Giles-Corti, B., Wood, L., & Knuiiman, M. (2012). Creating a sense of community: The role of public space. *Journal of Environmental Psychology*, 32(4), 401–409. <https://doi.org/10.1016/j.jenvp.2012.07.002>
- Friedmann, J. (2010). Place and Place-Making in Cities: A Global Perspective. *Planning Theory & Practice*, 11(2), 149–165. <https://doi.org/10.1080/14649351003759573>
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Hady, S. I. M. A. (2021). Activating biophilic design patterns as a sustainable landscape approach. *Journal of Engineering and Applied Science*, 68(1). <https://doi.org/10.1186/s44147-021-00031-x>
- Hakiminejad, Y., Pantesco, E. and Tavakoli, A. (2024) 'Public Transit of the Future: Enhancing Well-Being through Designing Human-centred Public Transportation Spaces', *arXiv (Cornell University)* [Preprint]. Available at: <https://doi.org/10.48550/arxiv.2408.01908>.
- Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge University Press.
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15(3), 169–182. [https://doi.org/10.1016/0272-4944\(95\)90001-2](https://doi.org/10.1016/0272-4944(95)90001-2)
- Kellert, S. R. (1997). *Kinship to mastery: Biophilia in human evolution and development*. Island Press.
- Koohsari, M.J. et al. (2013) 'Effects of access to public open spaces on walking: Is proximity enough?', *Landscape and Urban Planning*, 117, pp. 92–99. Available at: <https://doi.org/10.1016/j.landurbplan.2013.04.020>.
- Korstjens, I., & Moser, A. (2018). Series: Practical Guidance to Qualitative Research. Part 4: Trustworthiness and Publishing. *European Journal of General Practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- Parahoo. (2006). *Nursing research: principles, process and issues*. (2nd ed.). Palgrave Macmillan.
- Ibenna, P.O. et al. (2023) 'THE ARCHITECTURE OF BIOPHILIC TOURISM, AND THE POSITIVE IMPACT IN URBAN DEVELOPMENT AND HUMAN HEALTH', *UNIZIK Journal of Educational Research and Policy Studies*, 16(1), pp. 90–116. Available at: <https://unijerps.org/index.php/unijerps/article/view/472> (Accessed: 26 January 2026).
- PRED, A. (1983). Structuration and Place: On the Becoming of Sense of Place and Structure of Feeling. *Journal for the Theory of Social Behaviour*, 13(1), 45–68. <https://doi.org/10.1111/j.1468-5914.1983.tb00461.x>
- Project for Public Spaces. (2009). *What Makes a Successful Place?* Project for Public Spaces. <https://www.pps.org/article/grplacefeat>
- Schneekloth, L. H., & Shibley, R. G. (1995). *Placemaking*. John Wiley & Sons.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.
- Tekin, B.H. et al. (2025) 'Biophilic Design in the Built Environment: Trends, Gaps and Future Directions', *Buildings*, 15(14), p. 2516. Available at: <https://doi.org/10.3390/buildings15142516>.
- Ulrich, R.S. et al. (1991) 'Stress recovery during exposure to natural and urban environments', *Journal of Environmental Psychology*, 11(3), pp. 201–230. Available at: [https://doi.org/10.1016/s0272-4944\(05\)80184-7](https://doi.org/10.1016/s0272-4944(05)80184-7).
- Vodanović Lukić, I. (2021) 'Placemaking, local community and tourism', *Hrvatski geografski glasnik/Croatian Geographical Bulletin*, 83(1), pp. 77–104. Available at: <https://doi.org/10.21861/hgg.2021.83.01.04>.
- Wilson, E. O. (1984). *Biophilia*. Harvard University Press.