Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 4 No. 5 (May) (2026)

Spatial Layout and Human Circulation in Public University Buildings: A Conceptual Framework for Post-Occupancy Research in Pakistan

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ABSTRACT
As soon as you walk into any public university building in Pakistan, you feel it. Something is off. The entrance leads to a hall that branches off in an unclear direction. You turn left and right; it doesn't tell you anything either. This paper emerged from this sense. Not as an abstraction, but from years of experience in and around Pakistan's educational institutions as a professional. These buildings are designed in ways that are not fulfilling their users' needs. Learners walk around, walk around, with unnecessary confusion in their daily life, walk through spaces that were never intended for their movement. In this paper, a framework for studying that failure systematically is proposed and discussed. These five dimensions of spatial circulation experience are majorly focused : spatial legibility, infrastructure, corridor quality, avoidance behavior, and overall satisfaction. Each dimension is considered by drawing on the concepts of space syntax, and human centered design, and also introduce a survey instrument with which the framework can be empirically applied in public universities of Pakistan. The goal is simple. Students from this country should feel at home at the university. They are designed to be broad and easy to read, seated in a comfortable way, cosy corners for reading, and corridors are designed to be orienting rather than confusing. This paper is one step towards an understanding of the reasons why so many of them do not.

Keywords: Spatial legibility, corridor quality, public universities, Pakistan, post-occupancy evaluation, human-centered design.

1. Introduction

Every day thousands of students use the corridors of public university buildings in Pakistan, and the process of these students moving through these corridors is not given much respect while designing. Students are regularly encountering confusing corridors, off-color directional signage, hidden stairs and inadequate signage on many campuses. The transitions between these corridors can be stressful for an individual if they are new to the building and during busy school time when there is movement pressure already in place. Even users of the buildings, who are not necessarily infrequent uses, usually stick to the

ISSN Online: 3007-3154
ISSN Print: 3007-3146

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remembered directions and not the spontaneous understanding of the building design. That means that navigating the academic journey of the university can become a pleasure that is more often than not avoided than enjoyed. These movement issues are not one-offs in a poorly planned structure, it is a common occurrence in a well planned structure. They are indicative of the problems of spatial design that are found throughout the public university campuses across Pakistan. Many of these foundations grew quickly over the past two decades due to the swelling number of students accepted to the school and the demand for higher education. The Higher Education Commission (HEC, 2021) reported that the number of students in public universities in Pakistan went from around 135,000 in 2000 to over one million by 2020. Campus expansion via new building schemes, extensions and additions emerged throughout this time, much of which having been built piecemeal over time and under fiscal and institutional pressures. This improvement made learning more accessible, but it often occurred in settings where addressing the design of movement, user practice, and long-term spatial integration were not fully considered. Many times the new additions to buildings were not designed in a coherent fashion, and movement designs were therefore not always seamless or easy to follow. Corridors suddenly turn around, movement nodes are overloaded and users have difficulties to develop clear mental maps of the environment. Not only is direction-finding efficiency lost in these situations, but also the overall excellence of campus practice. Pupils walk a lot from class to class, studio to studio, office to office, library to library, and shared areas. Movement structures that are not well formed impact comfort, stress, time management and social interaction in educational settings. Notwithstanding these facts, research related to university buildings in Pakistan has been conducted mainly in the technical/eco-friendly aspects of structural performance, energy efficiency and sustainability. As compared to the way students actually use and go about these surroundings on a day to day basis. Several studies around the world, however, have shown that spatial configuration can have a profound influence on human movement patterns, orientation and satisfaction with an environment (Hillier, 1996; Carlson et al., 2010). Studies have also demonstrated that circulation quality affects the social and academic interactions in institutional spaces and user perception of these spaces. In this paper, the gap is challenged by proposing a conceptual framework for the study of spatial movement practice in public university buildings in Pakistan. The study is based on the following five dimensions that are intersected by the study of space syntax theory, verdict research, and values of human centered design: spatial legibility, infrastructure, corridor quality, avoidance actions, and overall user satisfaction. The paper also outlines a survey approach that has been designed for post-occupancy evaluation in a university setting, so that the dimensions can be investigated empirically at various University campuses. This research does not just examine movement as a technical element of architectural planning but argues that experience of movement plays a significant role in the educational context, and is directly linked to the way users interact with institutional space. A systematic understanding of these experiences can help towards more user-centered approaches in designing campuses in Pakistan and sustain future developments in educational architecture. The rest of this paper is organized as follows. Section 2 presents the theoretical background of the proposed structure, such as space syntax theory, methodology for outcome research and literature on post-occupancy assessments. The suggested conceptual structure and its five dimensions are explained in detail in Section 3. Section 4 describes the survey method and the suggested application of it and Section 5, the implications of the study for future research and architectural exercise. The paper is concluded in the section 6.

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ISSN Online: 3007-3154
ISSN Print: 3007-3146

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2. LITERATURE REVIEW

2.1 Space Syntax and Spatial Configuration

Understanding the flow of people in buildings is more than a matter of looking at individual rooms or architectural features. It also involves looking at the interconnections of areas and how these interconnections influence movement patterns. The theory of "space syntax" developed by Bill Hillier and colleagues at University College London is an important framework for analysing these relationships (Hillier, 1996). The theory states that the layout of a building, that is the arrangement of spaces, the relationships between spaces and the layout of spaces visually, has a significant effect on how people move and interact within the built environment. Space syntax studies have repeatedly identified that human users prefer routes that are visually open, spatially connected, and easy to interpret. Highly integrated parts of a building network tend to have more movement, and parts that are separated or not visible are more likely to be avoided or underused. Such movement patterns are frequently subconsciously programmed, and the user reacts to the spatial organization even if only implicitly. Circulation problems, therefore, are not solely due to bad signage and lack of familiarity with users; they are often a part of the spatial logic of the building itself. This theoretical approach directly leads to the concept of spatial legibility.

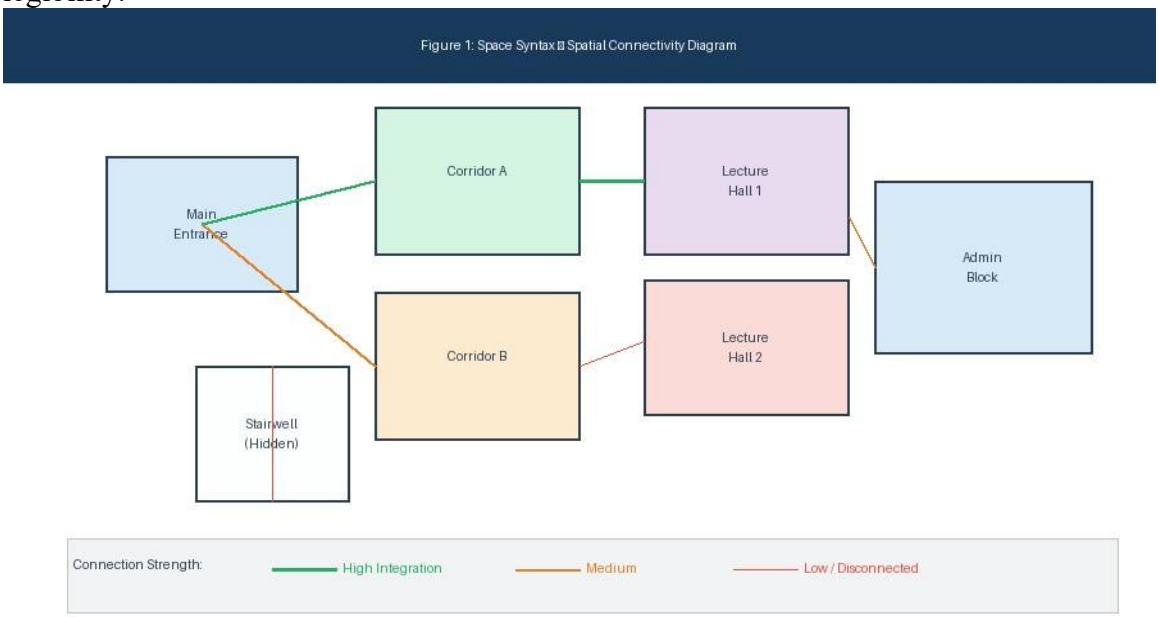

Fig 2.1 Space Syntax and Spatial Configuration

A legible building is a building in which people can grasp the relationship of different spaces and easily picture the environment. Spatial legibility is achieved through elements like circulation hierarchy, visibility of landmarks, open sight lines and logical connections. If these qualities are lacking, then navigation depends on memorisation, repeated trial and error experience or constant external guidance. This is a very pertinent question in many public university buildings in Pakistan, especially those that have grown over time in an incremental fashion. Older buildings may be integrated with new buildings that do not share a common circulation plan, leading to disjointed layouts that can be confusing. In these situations, students could continue to suffer confusion, congestion, and disorientation after extended use of the building. Space syntax thus offers a valuable theoretical foundation for understanding the persistence of specific circulation issues and the influence of spatial structure on user movement behavior.

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www.thedssr.com

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Fig 2.1 Wayfinding and the Limits of Signage

2.2 Human-Centered Design and Post-Occupancy Evaluation

Human-centered design is a principle that places people at the heart of the design, meaning that buildings should be designed to meet their needs, behaviors, and experiences. This is not only about the technical performance or its visuals, but the whole user experience is taken into consideration during the design process. In the educational setting, it involves comprehending the ways students use circulation areas, feel comfortable and oriented, and perceive the spatial organization's influence on their daily lives within campus buildings. An important way to study the success of buildings in meeting the needs of their users after their construction is called post-occupancy evaluation (POE). The POE process is a structured approach to gathering feedback from the building users through the performance of the building, its environmental quality, the functionality of the spaces, and user satisfaction. Post-occupancy studies are used to deconstruct the mismatch between design intentions and actual experiences by using surveys, observations, and behavioral analysis. The outcomes of these assessments can then be used to help with future design upgrades and facility management decisions. In recent years, research internationally has increasingly been conducted using post-occupancy evaluation in the educational context to explore the link between physical environment and user experience. For instance, Barrett et al. (2015) showed that environmental design factors impact the achievement and wellbeing of students in learning environments. Other more modern research has associated good circulation with comfort, stress reduction and social interaction in University campuses. In the higher education sector, studies have found that a lack of visual connectivity, confusing layouts and overcrowding have adverse effects on the everyday experience of institutional space by students. The problems are especially important in a developing country context where institutional growth may be swift and constrained in both monetary and spatial terms. In the public Universities in Pakistan building extensions and circulation systems have grown up over time without longterm spatial planning. Even so, the application of post-occupancy evaluation in the practice of architecture at local level and in educational planning is still underused. The documentation and understanding of circulation-related issues in university buildings is still limited, with systematic evaluations of the students' experiences only rarely carried out. Hence, in this study, post-occupancy evaluation emerges as a pertinent methodological

Dialogue Social Science Review (DSSR)
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tool to study the quality of circulation in public universities of Pakistan. The framework will be a synthesis of human-centered design theory and space syntax and wayfinding theories, providing a structured foundation for understanding the relationship between spatial layout and movement experience in educational spaces.

3. Framework for Studying Spatial Circulation

3.1 Framework Overview

This study suggests a conceptual model to analyse the students experiences of movement in public university building in Pakistan. The concept of the framework is that the quality of circulation is formed by a set of spatial and environmental factors working together. The framework is not just about technical efficiency of circulation but also about how users interpret, experience and perceive the movement in the institutional space in their academic lives. It breaks down circulation experience into five dimensions that are interrelated: spatial legibility, wayfinding infrastructure, corridor quality, avoidance behavior, and overall satisfaction. Each dimension reflects a different piece of the building layout and user movement relationship. This combination establishes a framework for analyzing the effects of spatial organisation on navigation, comfort, orientation and user perception of university environments. These dimensions are chosen based on literature review in relation to space syntax, wayfinding studies and literature of post-occupancy evaluation. Simultaneously, it was designed to specifically address issues that can be seen across Pakistan's public universities, such as campus growth, disjointed circulation systems, overcrowded corridors, and under-developed wayfinding systems. The dimensions have been examined separately in previous studies, but in this study they have been integrated into one model, which has been made specific for educational buildings in Pakistan. The framework shall be used for academic research and practical evaluation of architecture. As a research tool, it offers the grounds for systematically assessing user experience in circulation settings. Design-wise, it aids in recognizing special spatial conditions that could cause user discomfort, difficulties in navigating or dissatisfaction. The framework therefore sees circulation as more than a journey from one place to another, it's also a significant element of students' experience of university space in its entirety.

Table 1. Dimensions of the Spatial Circulation Experience Framework

Dimension	What It Measures	Survey Items
Spatial Legibility	How easily a user can mentally map the building	Q5, Q11
Wayfinding Infrastructure	Usefulness of signs, cues, and landmarks	Q7, Q8
Corridor Quality	Physical comfort and adequacy of walkways	Q6, Q9
Avoidance Behavior	Whether users deliberately skip certain areas	Q10
Overall Satisfaction	Users' overall rating of the building's circulation	Q12

3.2 Spatial Legibility

Spatial legibility is a building's ease of understanding and of the user's ability to mentally map the relationship between spaces. A legible environment enables people to construct a

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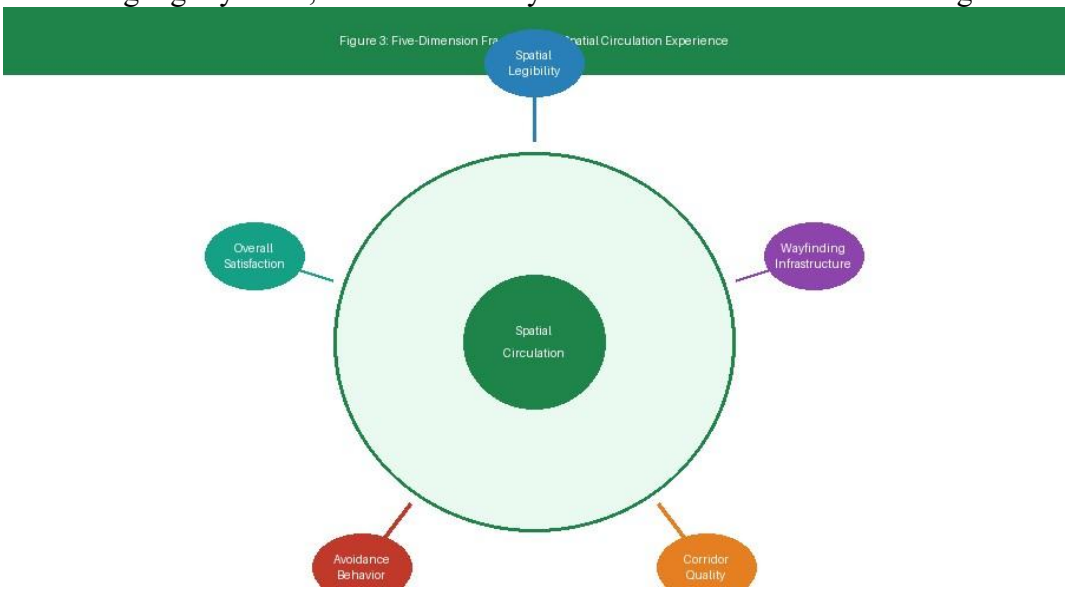
clear mental map, to navigate it with confidence, without having to rely solely on repeated trials and errors. Spatial legibility is particularly relevant in education, as students have a variety of destinations to access during the school day, and some of these are under time constraints and in high-traffic areas. There are several architectural elements which influence legibility. Users understand where they are and where they need to go through clear circulation hierarchy, open sightlines, visible landmarks, logical organization of corridors, and connected circulation paths. If all these elements function in a cohesive manner, users can navigate relatively easily without much thinking. The opposite is true for structures that have repetitive corridors, are not connected to each other, have hidden staircases, or abrupt changes in space.The opposite is true of buildings with repetitive corridors; disconnected circulation systems; hidden staircases or abrupt changes in space. Spatial legibility has been compromised in many buildings of public universities in Pakistan due to incremental construction, and uncoordinated expansion of buildings over the years. The campus is often "docked", with older buildings linked to newer ones without a comprehensive plan that ties them together in an integrated way. This has led to a sense of "broken" or less comprehensible circulation routes for the users who use the building. Students can be taught the navigation patterns slowly with repeated use; but for the first time user and visitors will be uncertain when navigating through these spaces. In the proposed framework, spatial legibility is considered as one of the most basic components of the circulation experience as it is directly related to how users perceive and understand the environment around them. Lack of legibility can affect all other aspects of circulation such as signage systems, corridor usability and satisfaction with the building environment.



3.3 Problem Statement

The spatial, infrastructural and institutional deficits found in public universities in Pakistan are deeply entrenched and have a cumulative impact, all of which affect the daily lives of more than 1 million students. At the basic level, these buildings have no clear organizing logic: Lobbies are extended for no purpose, corridors go in many directions without any indication on how to get from one to the other, stairwells are awkwardly placed in corners, and over the years, endless temporary annexes have been added to the main building with no connection to its spatial context. Worse, signs are worn, not properly installed or at a height that is not easy to read and are often used as a substitute for good spatial design and are an add-on to it at best. Physical corridors are often too narrow for high volume during peak hours, lack natural light and ventilation and are used as a by-product of leftover space, and this too is not a welcoming space to move through. The impact is not just physical,

ISSN Online: 3007-3154
ISSN Print: 3007-3146

students learn not to go through some corridors or some junctions at all, under-used areas and the navigation itself becomes a constant low level cognitive load which consumes the time the students need for studying, which is an essential part of going to the university. There is a failure of institutions underpinning all of this: buildings are designed to meet budgets and schedules without taking the kids into account, and there's almost no POE in the architecture profession or research in Pakistan, no shared body of evidence for architects to argue for meaningful design investment.

4. Survey Instrument

4.1 Survey Design

To investigate the circulation experience through an empirical approach, a structured survey instrument has been proposed for the students of the public university buildings in Pakistan. The aim of the survey is to gather quantitative and qualitative data about how users experience the movement, navigation, comfort and orientation in the educational environment. The instrument realizes the five dimensions of the conceptual framework and offers a concrete approach to post-occupancy evaluation in the university context. The survey has fourteen items that are grouped into two categories: Demographic and Experiential response. The first 4 questions gather general data: Institution, Year of study, Gender, Building use. The following questions give context to student answers and enable comparisons among student groups and across campus. The other questions are related to the experience of circulation. There are eight items with a 5-point Likert scale from "strongly disagree" to "strongly agree. The following questions are intended to assess the user's opinion on the spatial legibility, quality of corridors, effectiveness of the signs, difficulty in navigating the building and satisfaction with the overall spatial layout. Statements were not worded in a highly academic way or in clichés, as this would have excluded some of the respondents. The two open-ended items are in addition to the scaled questions. These questions give the chance to the respondents to describe their circulation issues and space issues in their own words, not in the categories they have been given. Qualitative feedback is useful to include as it brings out information that may not be fully understood by numerical ratings alone. Students can point out which corridors, staircases, intersections, or circulation areas may cause confusion, discomfort or avoidance behavior. This can help inform ideas around how spatial issues are lived in everyday campus life. The survey will be brief and useable for academic research at a university. It is to be administered via physical delivery or an online delivery platform and it is expected to take about 7-10 minutes to complete. The instrument is designed to be used not only in the academic analysis but also to give architects, campus planners and administrators user-centered information about circulation performance inside institutional buildings.

Table 2. Survey Instrument for Spatial Circulation Experience

#	Statement	Scale
Q1	Which public university do you attend?	Multiple choice
Q2	What is your year of study?	Multiple choice
Q3	What is your gender?	Multiple choice
Q4	How many days per week do you use this building?	Multiple choice
Q5	Getting from the main entrance to my classroom is something I can do without confusion.	Likert 1-5

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ISSN Online: 3007-3154
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Q6	The walkways and corridors in this building give enough room to move without feeling crowded.	Likert 1-5
Q7	The signs and direction markers in this building actually help me find where I am going.	Likert 1-5
Q8	There are times I genuinely do not know where I am inside this building.	Likert 1-5
Q9	Windows and natural light along corridors help me stay oriented while I walk.	Likert 1-5
Q10	I deliberately avoid certain parts of this building because they confuse or unsettle me.	Likert 1-5
Q11	The way this building is laid out makes it practical to move between classes and other spaces.	Likert 1-5
Q12	Overall, I feel this building's layout genuinely supports how I need to move through my day.	Likert 1-5
Q13	Which area of this building do you find hardest to navigate, and what makes it difficult?	Open-ended
Q14	If you could change one thing about this building's layout or signage, what would it be?	Open-ended

4.2 Survey Items

The survey begins with demographic questions intended to establish the respondent's background and frequency of building use. Participants are asked to identify the public university they attend, their year of study, gender, and the number of days per week they use the selected building.

The experiential section then examines different aspects of circulation experience. Questions related to spatial legibility assess whether students can move through the building without confusion and whether the overall layout supports daily movement between academic activities. Corridor quality is evaluated through statements regarding spaciousness, comfort, crowding, and the presence of natural light within circulation areas. The survey also includes items addressing wayfinding infrastructure, particularly the effectiveness of signage and directional cues in helping users navigate the building. Additional questions explore feelings of disorientation, uncertainty, and the extent to which students experience difficulty understanding their location within the environment. Avoidance behavior is measured by asking respondents whether they deliberately avoid certain areas because they feel confusing, uncomfortable, or unwelcoming. Finally, overall satisfaction is examined through a broader evaluative question regarding how effectively the building supports users' daily movement experience.

The final two open-ended questions ask respondents to identify the areas they find most difficult to navigate and to suggest changes that could improve circulation quality within the building. These responses are intended to provide contextual depth and highlight recurring spatial concerns that may not emerge clearly through quantitative analysis alone.

5. Pilot Study Results

A pilot survey was administered across three Pakistani public universities NED University

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ISSN Online: 3007-3154
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Karachi , University of Karachi , and Mehran University of Engineering and Technology, Jamshoro . The following figures present the key quantitative findings across the five dimensions of the Spatial Circulation Experience Framework.

5.1 Respondent Profile

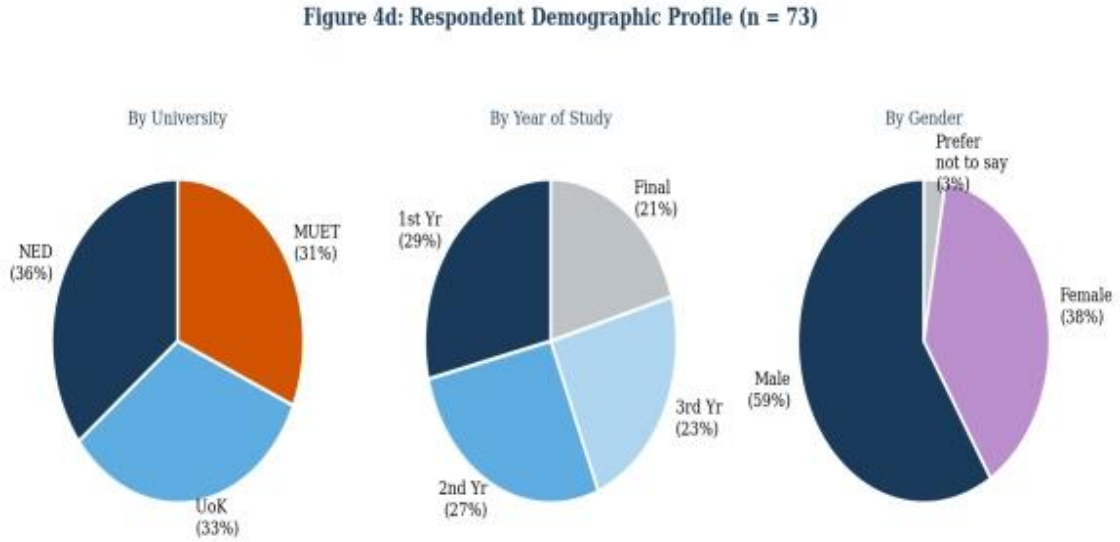

Figure 4d. Respondent demographic profile by university, year of study, and gender (n = 73).

5.2 Mean Scores by Dimension

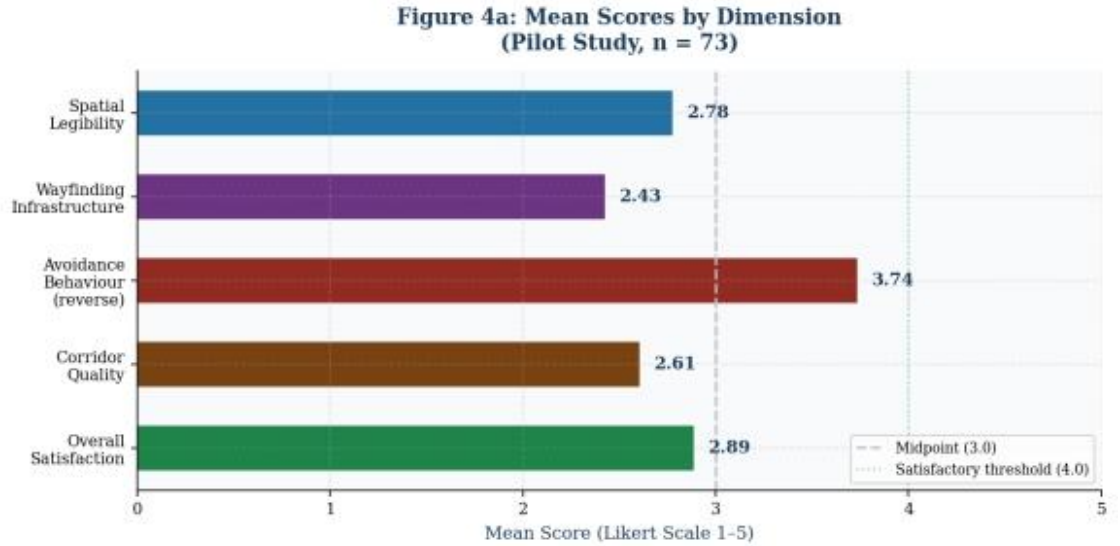

Figure 4a. Mean scores per dimension across the full sample (n = 73). Dashed line = midpoint (3.0).

5.3 Likert Response Distribution

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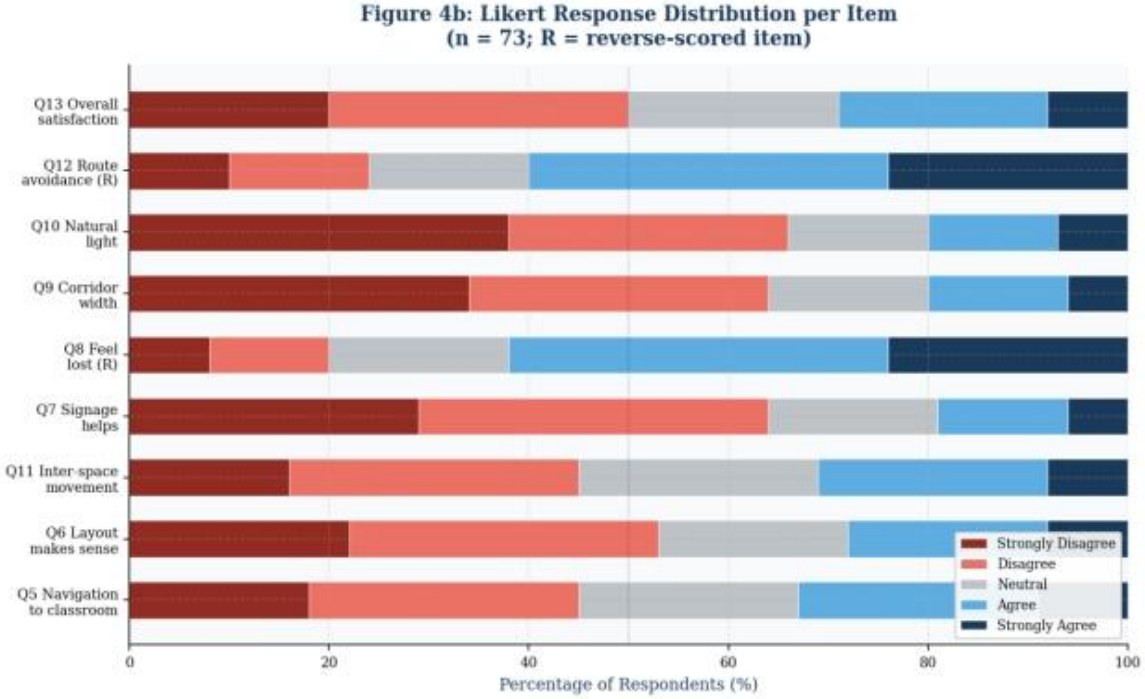

Figure 4b. Likert response distribution per item (n = 73). Items marked (R) are reverse-scored.

5.4 Comparison Across Institutions

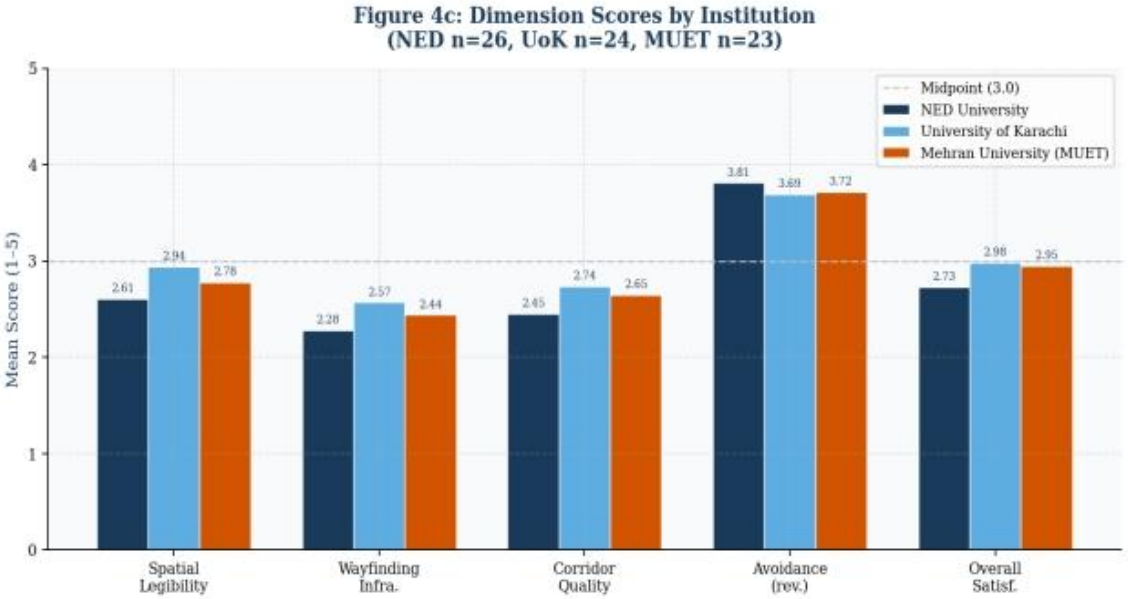

Figure 4c. Dimension scores by institution. All means fall below the satisfactory threshold (4.0).

5.5 Avoidance Behaviour and Overall Satisfaction

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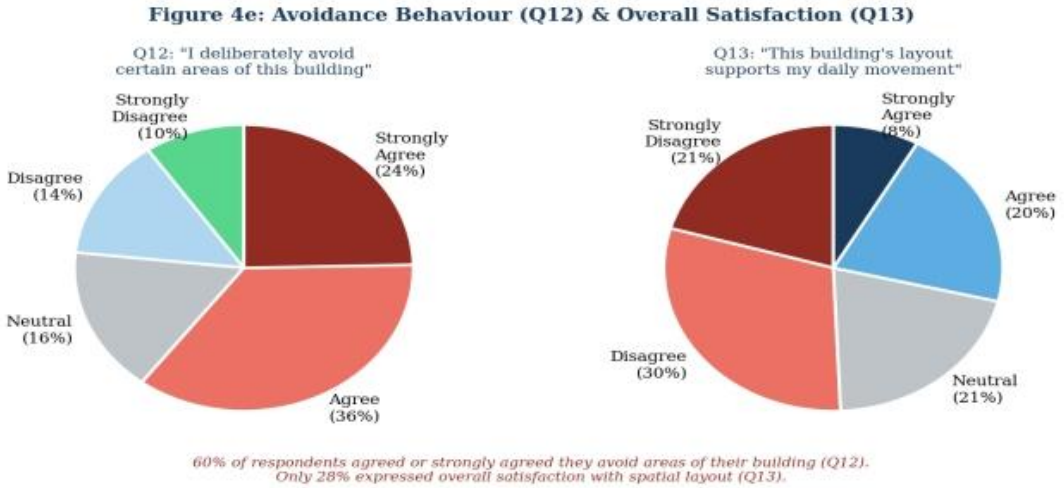

Figure 4e. Response distributions for Q12 (avoidance behaviour) and Q13 (overall satisfaction).

4.3 Proposed Application

The survey instrument has been designed to be administered at various campuses of public universities in Pakistan to allow for capturing the differences in circulation experience between different institutional settings. The proposed sample size is from 150 to 200 student respondents from at least three different universities with diversified campus sizes, locations and building conditions. Recruitment can occur both offline and online, such as administering surveys during campus tours, or posting them online via university communications channels. All participation should be voluntary and all responses should be anonymous so as to ensure that any feedback about the conditions of the building and the user experience are honest. The responses from Likert-scale items are quantitative, which can be analysed descriptively, in terms of means, percentages and standard deviations, to determine general trends in the data. Comparative analysis can also be used to compare and contrast institutions, user groups or building types. Moreover, correlation and regression analysis can be used to determine which dimensions of circulation are most strongly associated with users' satisfaction with the product. The open-ended questions should be answered qualitatively and analysed thematically to highlight any spatial issues, navigation problems and recommendations for improvements made by the users. These quantitative and qualitative findings can contribute to a holistic understanding of student's experience of circulation spaces in Pakistani public university buildings and how they could be designed to improve in the future.

5. Implications

The goal of this paper is to help architecture research by offering a new framework and a tool to analyze people's movements in buildings. This tool was not previously available in a context like this. It provides the opportunity for additional research to be conducted over time and across campuses; this research can be compared and combined. It also provides a connection to international research on space syntax, wayfinding and post-occupancy evaluation. There is a lot to be gained from these studies of international affairs. Have not been well used in Pakistani practice. Creating a unified vision for a learning environment.

5.2 Developing general concept of a learning environment.

The various components of the framework recommend design modifications. If a place is difficult to understand, redesign it, not add more signs to it. Wayfinding infrastructure needs to be designed with the users' needs in mind. Daylighting, widening and improving air flow in corridors. Certain areas should be modified as they are perceived as being unwelcoming. The big issue is, however, cultural. University campuses must be made a

ISSN Online: 3007-3154
ISSN Print: 3007-3146

welcoming space, rather than a building, in Pakistan. They should have comfortable seating, natural light and entrance areas. They should be user-friendly. This survey instrument will assist architects and administrators determine whether their buildings meet these standards.

6.Conclusion

This paper began with an observation, that the buildings of public universities in Pakistan are not easy to navigate. Paths are unclear. Lobbies are unmarked long hallways. Some of these issues are due to the buildings being old. Not user friendly. These problems don't get resolved in one night. These can be understood and addressed with time. What has been lacking has been a means of doing this work. This paper attempts to provide some of that infrastructure. It provides a five-part framework with existing theory and a questionnaire that can be used. It claims that the quality of circulation can be improved and that it is important and gives supporting evidence from research. Good University buildings are friendly and accessible. Corridors are light and have comfortable seating, and entrance areas. These are aims that need to be prioritised from the user experience.

REFERENCES

10,000 people feared buried under the rubble in Gaza | UN News. (2024, May 2). https://news.un.org/en/story/2024/05/1149256

16XiufangLi.pdf. (n.d.). Retrieved 15 May 2024, from https://www-s3-live.kent.edu/s3fs-root/s3fs- public/file/16XiufangLi.pdf

450,000 Gazans now uprooted from Rafah as Israeli bombardment continues | UN News. (2024, May 14). https://news.un.org/en/story/2024/05/1149696

Ahmed, Q., Avidan, A. Y., Ciechanover, A., Shechtman, D., Zajfman, D., Reichman, U., Kornberg, R., Hershko, A., & Lavie, P. (2014). Israel–Gaza conflict. The Lancet, 384(9945), e34–e37. https://doi.org/10.1016/S0140-6736(14)61314-3

Ahmad, I., & Gul, R. (2021). Impact of online service-learning on civic and social justice behavior of undergraduate laboratory-based graduates. Human Arenas. https://doi.org/10.1007/s42087-021-00244-9

Ahmad, I., Gul, R., & Zeb, M. (2022). A qualitative inquiry of university students' experiences of exam stress and its effect on their academic performance. Human Arenas. https://doi.org/10.1007/s42087-022-00285-8

Ahmad, I., Gul, R., & Kashif, M. (2022). A qualitative study of workplace factors causing stress among university teachers and coping strategies. Human Arenas. https://doi.org/10.1007/s42087-022-00302-w

Khan, H., Gul, R., & Zeb, M. (2023). The effect of students' cognitive and emotional engagement on students' academic success and academic productivity. Journal of Social Sciences Review, 3(1), 322–334.

Ali, A. J., Othman. (2024, January 9). Coverage of Gaza War in the New York Times and Other Major Newspapers Heavily Favored Israel, Analysis Shows. The Intercept. https://theintercept.com/2024/01/09/newspapers-israel-palestine-bias-new-york-times/

Chughtai, M. H., Alia. (n.d.). A brief history of Israel-Palestine conflict in 10 maps. Al Jazeera. Retrieved

14 May 2024, from https://www.aljazeera.com/news/2023/11/27/palestine-and-israel-brief- history-maps-and-charts

Civilian casualties climb, as UN chief calls on all parties to 'immediately cease' fighting in Gaza and Israel | UN News. (2021, May 14).

ISSN Online: 3007-3154
ISSN Print: 3007-3146

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https://news.un.org/en/story/2021/05/1091962

Clapham, A., Gaeta, P., Sassòli, M., & Heijden, I. van der. (2015). The 1949 Geneva Conventions: A Commentary. Oxford University Press.

Coe, K., & Scacco, J. M. (2017). Content Analysis, Quantitative. In The International Encyclopedia of Communication Research Methods (pp. 1–11). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118901731.iecrm0045

Cohen-Almagor, R. (n.d.). Hamas-Israel War. Retrieved 1 May 2024, from https://blogs.timesofisrael.com/hamas-israel-war/

Conflict, the media, and public opinion: Evidence from the Israel-Palestine conflict. (2016, June 15). CEPR. https://cepr.org/voxeu/columns/conflict-media-and-public-opinion-evidence-israel- palestine-conflict

Content.pdf. (n.d.). Retrieved 1 May 2024, from https://digital.library.txst.edu/server/api/core/bitstreams/1d9fbeb0-3e51-47f7-b9e4-597027fd049e/content de PREUX, J. (n.d.). RELATIVE TO THE TREATMENT OF PRISONERS OF WAR.

Framing Theory | Mass Communication Theory. (n.d.). Retrieved 19 May 2024, from https://masscommtheory.com/theory-overviews/framing-theory/

Gaza: ICRC calls for protection of civilians while hoping for an agreement amidst evacuations, military operations and negotiations (Middle East/Israel). (2024, May 7). [News release]. International Committee of the Red Cross. https://www.icrc.org/en/document/gaza-icrc-calls-protection- civilians-while-hoping-for-an-agreement

Gelvin, J. L. (2014). The Israel-Palestine Conflict: One Hundred Years of War. Cambridge University Press.

Gul, R., Ahmad, I., & Tufail, M. (2023). Understanding the pedagogical role of service-learning for preparing citizen leaders in higher education. Africa Education Review, 19(2), 25–39. https://doi.org/10.1080/18146627.2023.2225751

Gul, R., Batool, S., Khan, S. I., & Jabeen, F. (2023). The effects of social skills on academic competencies among undergraduate students. Russian Law Journal, 11(3s).

Gul, R., & Khilji, G. (2021). Exploring the need for a responsive school curriculum to cope with the COVID-19 pandemic in Pakistan. Prospects. https://doi.org/10.1007/s11125-020-09540-8

Gul, R., Tahir, T., & Ishfaq, U. (2023). Perspectives of teachers on challenges and possibilities of the online system of education amid the COVID-19 outbreak in Balochistan, Pakistan. SAGE Open, 13(1). https://doi.org/10.1177/21582440231155063

Gul, R., Ahmad, I., Tahir, T., & Ishfaq, U. (2022). Development and factor analysis of an instrument to measure service-learning management. Heliyon, 8(4), e09205. https://doi.org/10.1016/j.heliyon.2022.e09205

Henckaerts, J.-M., & Alvermann, C. (2005). Customary International Humanitarian Law. Cambridge University Press.

How Does International Humanitarian Law Apply in Israel and Gaza? | Human Rights Watch. (2023, October 27). https://www.hrw.org/news/2023/10/27/how-does-international-humanitarian-law- apply-israel-and-gaza

How Israel brought Gaza to the brink of humanitarian catastrophe.pdf. (n.d.). Retrieved 20 May 2024, from https://www.nahostfrieden.ch/pdf/How%20Israel%20brought%20Gaza%20to%20the%20brink% 20of%20humanitarian%20catastrophe.pdf

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 4 No. 5 (May) (2026)

.

Zhou, G., Gul, R., & Tufail, M. (2022). Does servant leadership stimulate work engagement? The moderating role of trust in the leader. Frontiers in Psychology, 13, 925732. https://doi.org/10.3389/fpsyg.2022.925732

Li, X. L. (2012). Images of China: A Comparative Framing Analysis of Australian Current Affairs Programming. Intercultural Communication Studies, 21(1). https://www-s3-live.kent.edu/s3fs- root/s3fs-public/file/16XiufangLi.pdf

Michelis, S. D. (2018, December 23). Peace Journalism in Theory and Practice. E-International Relations. https://www.e-ir.info/2018/12/23/peace-journalism-in-theory-and-practice/

Morris, T. (2019). Media, Party, and Voter Manipulation of the Israeli-Palestinian Conflict. https://digital.library.txstate.edu/bitstream/handle/10877/8244/Morris-Final.pdf?sequence=1

Nashed, M. (n.d.). Western coverage of Israel's war on Gaza – bias or unprofessionalism? Al Jazeera. Retrieved 1 May 2024, from https://www.aljazeera.com/news/2023/10/29/western-coverage-of- israels-war-on-gaza-bias-or-unprofessionalism

Persons protected under IHL. (2016). https://www.icrc.org/en/document/persons-protected-ihl

Rafah exodus reaches 360,000 as UN underscores $2.8 billion aid appeal for Gaza, West Bank | UN News. (2024, May 13). https://news.un.org/en/story/2024/05/1149651

Richardson, J. E., & Barkho, L. (2009). Reporting Israel/Palestine: Ethnographic insights into the verbal and visual rhetoric of BBC journalism. Journalism Studies, 10(5), 594–622. https://doi.org/10.1080/14616700802653057

Rimmer, D. S. H. (n.d.). Refugees, internally displaced persons and the 'responsibility to protect'.

THE_GAZA_WAR_strategic_analysis-libre.pdf. (n.d.). Retrieved 20 May 2024, from https://d1wqtxts1xzle7.cloudfront.net/36773510/THE_GAZA_WAR_strategic_analysis- libre.pdf?1424900142=&response-content-disposition=inline%3B+filename%3DThe_Gaza_War_Strategic_Analysis_2008_200.pdf&Expire s=1716206904&Signature=LJGR-V9TDXwuc5fF1xJQpZMDGLb3zm3PMgLlUdThyhdGm-FszUA99lfNuvWnQKJXjbCwpA99cbTm7EpiTG~mANZDgEZWfUnASceEo1-jUyguAKIrUt- sPLXRTqedcLa0kP77IY-YCun5fYRTzDC9Lk5fbdD4fvoER45ZTukpzz2q0XN81WcCSNgChiSdFdNsOdj ROkbFnHzpZL pKn-xmNNPp4th1iE~dMUQxqxtZRFDtUNHWmUXkp4WK440WQJ6911zXCygpV-tcAE~ezq6zZfn7IJ~8tGWPNwfuVtwKcYLJr4v~cODEYtpCClw1ibYlJlHT1~YizlooN2a1JMJJj A &Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

What's the Israel-Palestinian conflict about and how did it start? (2023, October 11). Reuters. https://www.reuters.com/world/middle-east/israel-palestinian-dispute-hinges-statehood-land- jerusalem-refugees-2023-10-10/

Zhang, Y., & Wildemuth, B. M. (2009a). Qualitative analysis of content. Applications of Social Research Methods to Questions in Information and Library Science, 308(319), 1–12.

Zhang, Y., & Wildemuth, B. M. (2009b). Qualitative analysis of content. Applications of Social Research Methods to Questions in Information and Library Science, 308(319), 1–12.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 4 No. 5 (May) (2026)