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REVIEW

Architectural Design and Human Behavior: Narrative Review on the Psychological Influence on Built Space

Diseño Arquitectónico y Comportamiento Humano: Revisión Narrativa Sobre el Espacio Construido

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ABSTRACT

Objective: to study architectural design to improve the mental, emotional and behavioral health of people, creating spaces that promote well-being, social interaction, productivity and stress reduction through factors such as lighting, distribution, colors, accessibility and connection with nature.
Method: narrative review of recent scientific literature (April 2022 - August 2023), consulting databases such as Scopus, Science Direct and Google Scholar. Ten relevant articles were selected after eliminating duplicates and non-relevant papers.
Results: it is highlighted that well-designed spaces can promote physical activity, social engagement and reduce stress. Architectural elements that affect brain responses and behavioral patterns were identified, highlighting the importance of taking into account the emotional and cognitive needs of the user.
Conclusions: it is essential to design environments that enhance quality of life and emotional well-being. Understanding spatial perception and environmental cognition allows architects to create functional spaces that meet the psychological and physiological demands of people, although more empirical research is needed to strengthen this evidence.

Keywords: Architecture; Architectural Design; Human Behavior; Built Space.

RESUMEN

Objetivo: estudiar el diseño arquitectónico para mejorar la salud mental, emocional y conductual de las personas, creando espacios que promuevan bienestar, interacción social, productividad y reducción del estrés mediante factores como iluminación, distribución, colores, accesibilidad y conexión con la naturaleza.
Metodología: revisión narrativa de literatura científica reciente (abril 2022 - agosto 2023), consultando bases como Scopus, Science Direct y Google Scholar. Se seleccionaron diez artículos relevantes tras eliminar duplicados y trabajos no pertinentes.
Resultados: se destaca que espacios bien diseñados pueden favorecer la actividad física, el compromiso social y disminuir el estrés. Se identificaron elementos arquitectónicos que afectan respuestas cerebrales y patrones de conducta, destacando la importancia de tomar en cuenta las necesidades emocionales y cognitivas del usuario.
Conclusiones: es esencial diseñar entornos que mejoren la calidad de vida y el bienestar emocional. Comprender la percepción espacial y la cognición ambiental permite a los arquitectos crear espacios funcionales y que satisfagan las demandas psicológicas y fisiológicas de las personas, aunque se requiere más investigación empírica para fortalecer estas evidencias.

Palabras clave: Arquitectura; Diseño Arquitectónico; Comportamiento Humano; Espacio Construido.

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INTRODUCTION

Contemporary societies face high levels of stress due to the accelerated dynamics of social transformation. This has a significant impact on individuals' mental health, manifesting itself in anxiety, sadness, and decreased psychological well-being. In this context, the domestic space acquires a fundamental role as a refuge that provides both physical and emotional comfort, consolidating itself as a key element in the management of individual well-being.[1]

It is crucial to highlight the bidirectional relationship between architectural design and human neuropsychology, an interaction that, despite its relevance, remains little recognized within the professional community of architectural design and related disciplines. From an architectural perspective, spatial configurations directly influence observable psychosomatic responses. At the same time, from a psychological approach, the perception and experience of built space are highly dependent on the cognitive and neurological processes that modulate the emotional and behavioral response of the user.[2]

Given that most of our daily time is spent indoors, it is essential to understand how prolonged exposure to specific architectural features affects physiological, cognitive, and emotional functions. This understanding is critical to developing design strategies optimizing human health and well-being within built environments.[3]

Architectural psychology, a discipline that studies the interaction between human behavior and the built environment, identifies how spatial design variables influence individuals' experience, perception, and behavior, enriching knowledge about the symbiosis between humans and architecture.[2,4]

Globally, this interrelationship is reflected in projects incorporating psychological principles to promote recovery and well-being. For example, in Europe, the design of the Bergen Hospital in Norway, which integrates biophilic elements to create therapeutic environments, was recognized with the 2018 European Health Design Award.[5] Likewise, research such as Carmona and Calvo in Mexico shows how the identity and symbolic appropriation of urban space are mediated by psychological factors, demonstrating that the perception and use of the architectural environment are profoundly influenced by the human psyche.[6]

This narrative review analyzes the interconnection between human psychology and architectural design, focusing on the influence of physical space on emotions, behaviors, and mental health. Its goal is to provide a conceptual framework for the development of environments that support holistic well-being**.**

METHOD

A comprehensive narrative review was conducted to describe and conceptualize the current scientific literature that addresses the interrelationship between psychology and architecture, specifically focusing on the dynamics of their interaction. For this purpose, recognized academic databases such as Scopus, Science Direct, and Google Scholar were explored, using strategic search terms such as 'architecture and psychology,' "neuroarchitecture," and 'psychology in architecture,' among others. The search period was from April 2022 to August 2023, with no language restriction on the selected articles.

Manuscripts with less empirical formats or with particular approaches, such as case reports, interviews, letters to the editor, and theses, were deliberately excluded. The initial search yielded twenty relevant papers distributed across the databases above, with fifteen coming from Google Scholar, Science Direct, and Scopus. This was followed by a rigorous filtering process that included eliminating duplicates and excluding five publications that did not meet the objectives or the previously established inclusion criteria. After this selection and filtering process, the final analysis was limited to a corpus of ten relevant and representative articles for the development of the review

RESULTS

The evidence reviewed in this narrative highlights the profound interdependence between psychological principles and architectural design parameters, reaffirming that spatial configuration not only responds to functional and aesthetic criteria but also directly influences users' cognitive, emotional, and physiological responses. Architecture, conceived as a built environment, acts as an active modulator of human experience, influencing mental well-being and quality of life, which underlines the need to integrate multidisciplinary knowledge to optimize the design of spaces.

RESULTS

Table 1. Articles consulted

URL	Author(s)	Objective	Main Results
https://doi.org/10.1063/5.0111122	(Turgay Salihoğlu, 2022)	In order to create more liveable environments, the article seeks to highlight how important it is to take human psychology into account when designing buildings.	This research examines the detrimental effects that conventional flat layouts have on human psychology, thermal comfort and environmental issues.
https://doi.org/10.37628/ijhhsp.v8i1.915	(Gaurang Kakkar, 2022)	Show how houses can be made less anxiety-producing, promote well-being and understand how architectural language affects people's psychological states.	Architecture influences human emotions, well-being and thought processes.

https://doi.org/10.22146/best.v3i2.5877	(Perwira y Dewancker, 2023	The purpose of this essay is to examine the shapes, hues and architectural details of buildings in Kitakyushu in order to understand how these elements affect the psychological well-being and urban vibrations of the locals.	Ornamentation, colour schemes and building design influence the urban environment.
https://doi.org/10.2298/PSI220707007K	(Khaleghimoghaddam, 2023)	To analyse how the spatial characteristics of architectural environments affect brain responses and user behaviour in terms of approach and avoidance.	Approach-avoidance choices are influenced by pleasant and unpleasant environments.
https://doi.org/10.4102/hts.v79i4.8850	(Xiang Lei et. al, 2023)	To examine the mental health of people in the modern era and employ a psychologically informed strategy to incorporate the architectural components of Gannan Hakka into the design of popular residences.	The provision can successfully alleviate the psychological stress of the inhabitants. locals. The rating system will be improved in the future as the sector grows, taking into account more industries and elements that have an impact on the comfort of residential areas.
https://www.hrpub.org/journals/article_info.php?aid=12167	(Alharbi y Basaad, 2022)	Discuss the connection between psychology and architecture, with an emphasis on indoor, outdoor and urban environments.	The study highlights the impact of architecture on people's emotions and behaviour.
https://doi.org/10.29105/contexto17.26-375	(Romero y Quiroga-Garza, 2023).	To propose a new methodological approach for an interdisciplinary research project that combines psychology and architecture and respects the territoriality and diversity of Santa Catarina Lachatao, an indigenous Mexican community in the Sierra Norte of Oaxaca.	Because it facilitates interactions between individuals and equalises social dynamics, the public space of Lachatao will play a fundamental role in the social cohesion processes of the mountain community. Furthermore, it provides children with the opportunity to learn through observation of others, including social differences, gender roles and behavioural patterns, as well as their Zapotec heritage and identity.
https://doi.org/10.4206/aus.2023.n33-12	(Lotito 2023)	Seeing from an architectural and psychological perspective, and underlining the importance of strengthening the strategic partnership between architecture and psychology.	It underlines how crucial it is to take into account the objectives, feelings, expectations and concerns of the main stakeholder in an architectural project: the human individual.
https://doi.org/10.1016/j.buildenv.2022.109182	(St-Jean et. al, 2022)	identifies and classifies the architectural components of buildings that empirical studies have shown to influence human physiological and psychological functioning.to influence human physiological and psychological functioning through empirical research.	It has been shown that architecture can influence human health, happiness and physiological function. It can also be used to influence certain physical and behavioural outcomes. However, many of the speculations currently reported in the literature need to be confirmed by further research.
https://doi.org/10.1016/j.neubiorev.2022.104715	(Djebbara et. al, 2022)	Explain the functional relationship between sensory reactions and the design environment at the brain level.	Our psychobiological framework has only taken the first steps towards understanding the neurological process underlying bias, even though we conclude that EFs can automatically affect the brain and behaviour.

The review also shows that the emerging discipline of architectural psychology represents a fundamental field for design innovation. It provides analytical tools to assess how formal, spatial, and material characteristics impact individuals' perception, behavior, and psychological health. In this sense, applying neuroscientific and psychological principles in developing architectural projects is essential for creating environments that promote recovery, comfort, and emotional resilience.

Case studies, such as the biophilic design of the hospital in Bergen, demonstrate the effectiveness of strategies that incorporate natural elements and psychological considerations to generate therapeutic and functional spaces. This reaffirms the relevance of considering space not only as a physical container but as an active agent in the construction of meaningful and healthy experiences.

These findings emphasize the urgency of fostering greater interdisciplinary integration between architecture, psychology, and neuroscience in academic training and professional practice. The systematic incorporation of this knowledge will facilitate the generation of built environments that respond to users' psychological needs, favouring not only functional efficiency but also the integral promotion of mental health and well-being in diverse housing and urban contexts.

REFERENCES

1. Lei X, Cao H, Guo L. The aesthetics of Gannan Hakka architecture in modern housing: A design psychology perspective. HTS Teol Stud Stud. 2023;1(3).

2. Alharbi S, Basaad H. The Impact of Indoor, Outdoor and Urban Architecture on Human Psychology. Civ Eng Archit. 2022;10(3):132–7.

3. St-Jean P, Clark OG, Jemtrud M. A review of the effects of architectural stimuli on human psychology and physiology. Build Environ [Internet]. 2022;219(January):109182. Available from: https://doi.org/10.1016/j.buildenv.2022.109182

4. Perwira SA, Dewancker B. Study of shapes, colors and ornaments according to architecture psuchology: A case setudy of riadside buildings in Kitakyushu. BESt J Built Environ Stud [Internet]. 2022;3(2):53–8. Available from: https://journal.ugm.ac.id/v3/BEST

5. Melo Martínez PE. La arquitectura como recurso para reconstruir la salud mental [Internet]. Tesis de grado. Universidad Católica de Colombia; 2024. Available from: https://repository.ucatolica.edu.co/server/api/core/bitstreams/2ac4abce-dc47-490d-b826-83e3d6c35278/content

6. Gómez Carmona G, Villar Calvo AJ. Apropiación simbólica y reconfiguración identitaria del espacio urbano en Metepec, Estado de México TT - Symbolic appropriation and identity reconfiguration of urban space in Metepec, in the State of México. Nov Sci [Internet]. 2014;6(11):268–90. Available from: http://www.scielo.org.mx/pdf/ns/v6n11/v6n11a15.pdf

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CONFLICT OF INTEREST

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