



Less Stress and Innovative Therapeutic Spaces for a Healthier Society

Less Stress and Innovative Therapeutic Spaces for a Healthier Society

Three theses have explored the effects of a design approach that combines evidence-based principles and neuroscience in healthcare environments

Published 20 gennaio 2024 – © riproduzione riservata

The intersection between neuroscience and architecture offers a great opportunity, highlighted by numerous studies demonstrating the built environment's ability to promote healing. The results of the research underline how the application of neuroscientific discoveries can enrich architectural design and improve the well-being of patients, thus strengthening recovery processes. While progress in evidence-informed design continues, especially in healthcare, the gap between disciplines remains a challenge.

Starting from these premises, the postgraduate master NAAD – Neuroscience Applied to Architectural Design of the IUAV of Venice addresses this gap by uniting researchers, professionals and students of neuroscience, architecture, psychology and philosophy. During the course, the students explore the impact of design on the human body and, within the final

theses, propose new concepts that integrate scientific insights in architectural designs.

Designing the Hospital Room

One of the theses elaborated within the master, “The Patient Room: A Neuroarchitectural Analysis”, by Clarissa Rodrigues Machado, Iga Majorek and Sally Vandrish, focuses on the hospital room and the perception of environmental stimuli that can affect patients’ cognitive and behavioural responses. The goal is to reshape the conventional understanding of healthcare spaces with an integrative approach that combines evidence-based design principles with neuroscientific insights. In this way, the critical role of architecture in therapeutic pathways is addressed, emphasizing the need for inpatient rooms that are not only functional but also an emotional support for healing. Focusing on the psycho-physiological impact of environmental factors such as lighting, acoustics, and biophilic elements, the thesis examines how these affect patient recovery, the well-being of caregivers, as well as the productivity and comfort of healthcare professionals.

Great attention is also given to variations in layout and their specific influence, for example, on potential infection prevention, patient safety and spatial quality. Through this information, the authors have developed a theoretical framework to analyze the environmental factors of the hospital room, identify risk factors and their impact, suggest measurement tools to verify results and define protective factors.

Emotional Drivers for Every Space in the Pediatrics Department of Pordenone Hospital

While also targeting the hospital environment, Maria Carmela De Angelis, Valentina Perazzolo and Maria Zauner address waiting rooms, corridors, as well as patient rooms in their thesis “Revitalizing Pediatric Hospital Spaces: Integrating Neuroscientific Principles into the Redesign of Patient Rooms, Waiting Areas, and Corridors within the Pordenone Hospital Project”. A redesign of the paediatric wing of the Pordenone hospital is proposed to conceive the project of healthcare environments as a non-invasive therapeutic treatment.

The aim is to identify which specific features and architectural elements can have a positive impact on the users of pediatric hospitals, paying particular attention to the first atmospheric impression obtained from the designed environment. Based on neuroscientific knowledge, such as mirror neurons and the theory of emotional contagion, including stress, the emotional driver

of each space is identified (for health professionals, staff or patients) focusing on improving well-being for the indirect benefit of all users. As a result, each area is thoroughly analyzed to integrate user needs. Thus, the project defines proposals in which great attention is given to adequate sensory stimulation, through the use of materials, colours, scents, spatial sections, and natural elements.

Architecture to support the mental health of young people

Focusing also on the younger generation, the thesis “THE PATH – How to Foster Children’s and Adolescents’ Emotional Well-being through Architecture”, by Giulietta Boggio Bertinet, Clara Rius, Camila Ruiz Figari and Birgit Moser proposes a new concept in traditional healthcare architecture. The thesis addresses the issue of the “mental health crisis”, as noted in 2021 by UNICEF, which highlighted an alarming increase in mental illness and disorders among young people.

The architectural concept, called “THE HOUSE OF CHILDREN AND ADOLESCENTS”, is designed as a place of support for children and adolescents (and accompanying persons) in therapy or in critical situations such as bullying, abandonment or abuse. The proposal consists of a flexible framework, a ‘toolbox’, which offers several spatial units that can be adapted to the needs of the community, and inserted into new or existing buildings. Its development is conceived through a participatory approach involving various disciplines and end users. The program focuses on eliciting positive emotions through space, to enhance self-awareness and emotional self-regulation through the body. In this sense, the heart of the project is “The Path”, an adaptable sequence of specific spaces designed to foster positive experiences and self-reflection. The proposed example includes spaces dedicated to pleasure, joy, compassion and relaxation, modelled on scientific evidence, considering the distinct nature of emotions in various cultural contexts.

Architecture and Neuroscience to Reduce Stress and Design Innovative Therapeutic Spaces

In conclusion, these theses exemplify the ever-growing range of possibilities that emerge at the intersection of architecture and neuroscience, offering innovative approaches to healthcare design that support a profound change in our perception of these spaces. The different

perspectives address patients' rooms and pediatric environments, pivoting on the awareness of the importance of the body in generating emotional well-being. Fundamental objectives include stress reduction and the promotion of the idea that it is possible to transform 'healthcare environments' into innovative therapeutic spaces. Ultimately, what unites these projects, and probably the entire field of research, is the shared hope that by incorporating neuroscientific findings into architectural practice, we can contribute to a mentally healthier society that places central importance on the daily impact of spatial perception on the body.

- [READ THE ARTICLE IN ITALIAN](#)

[!\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5_img.jpg\) Condividi](#)