

ARCHITECTURE AND MENTAL HEALTH IN CAMPUS BUILDING DESIGN

INTRODUCTION

Previous research conducted by architects, psychologists, and neuroscientists shows architecture can impact our emotions and mental health, and cells in the hippocampus, the area of the brain involved in learning and memory, are “*attuned to the geometry and arrangement of the spaces we inhabit.*”¹ A study conducted by Wakefield and Baker examined how design and layout are key environmental factors used to entice and keep people in shopping centers for extended periods of time.² Similarly, libraries, churches, theaters, and hospitals have been found to positively impact the mental states of their users.³

University buildings are designed to fulfill specific needs, notably improving education and promoting community; however, their design often leads to an opposite outcome.

In an investigation into the link between architecture and mental health, I will investigate: **what is it about the design of universities that impact the mental health and emotional state of their users? What can we learn from the design of other building types that tend to have more positive impacts on their users, such as malls, libraries, churches, theaters, and hospitals?** Through investigating the design of university buildings, which intend to positively impact their users, we can determine where design falls short and architectural characteristics that contribute to mood. Additionally, we can look at how design techniques used in five typologies that positively impact its users can be applied to the design of universities.

As a student at the University of Toronto, I have experienced how the design of spaces I inhabit impacts my well-being. My interest in the overlap between architecture and mental health has influenced my studies at university, as I am pursuing a degree in architecture while minoring in Buddhism, Mental Health, and Psychology. My research will provide insight into how future university buildings can be built to improve community and provide a positive learning environment.

METHODOLOGY

I will look at six different building typologies throughout eight weeks. While my research will primarily focus on university buildings, I will also look at libraries, churches, malls, theaters, and hospitals. These larger-scale spaces are designed with the intent of creating a positive environment for their users. By understanding what factors of design improve mental and emotional states in these typologies, we can apply our learning to university design.

To understand how effective buildings are designed, I must learn how the current design standards came to be for each building type. By surveying historical building types through library databases and archives, I will create timelines and detailed architectural drawings showing significant changes in the

¹ Michael Bond, “The Hidden Ways That Architecture Affects How You Feel,” BBC Future (BBC, 2017).

² Kirk L. Wakefield and Julie Baker, “Excitement at the Mall: Determinants and Effects on Shopping Response,” *Journal of Retailing*.

³ Javdani et al., “Public Library Architecture: Architectural Impact of Public Library on Users' Mental Health”; Rainy et al., “Spiritual Spaces: The Design of Sanctuaries in 21st-Century Hospitals”; Rufford, “Theatre & Architecture”; Dalke et al, “Colour and Lighting in Hospital Design”.

history of each building type. To understand recent innovations in the design of these buildings, I will conduct case studies of innovative and seminal designs for each building type to understand what innovations have led to better spaces for mental health. To understand the impact of building design on emotional and mental well-being, I will conduct semi-structured interviews with users of spaces at UofT, which will include sketches and descriptions by users of these spaces. In addition, I will survey UofT students which will provide a broader insight into users' experiences with campus buildings and their wellness. This survey will measure which campus buildings students find effective and ineffective towards supporting their mental wellness, as well as the design factors they believe contribute to their mental states. To understand the role of designers, I will conduct semi-structured interviews with architects and designers of university buildings, hospitals, libraries, churches, malls, and theaters to find design strategies moving forward. My research will instrumentalize typological analysis and lead me to new ideas for designing university buildings. I will understand why university buildings are designed the way they are, and look at what designers can and cannot do to improve and mitigate the challenging functional needs of this building typology.

My research can be conducted remotely using peer review articles and library archives. I will also utilize Zoom to conduct my interviews with both users and designers, and use resources such as photographs and architectural drawings found online to conduct my case studies.

OUTCOME

My goal is to complete a research paper that seeks to understand how spaces of health and education can be reimagined to improve mental and emotional states. This research will act as the basis for my senior research and design seminars and I will directly apply this knowledge to my designs, both as a student and as an architect.

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