Senses in architecture as a vehicle to enhance students' well-being in institutional spaces

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Abstract - Recently, mental health concerns are increasingly evident among tertiary students. However, some institutions seldom notice the crucial role of designing an environment specifically to enhance personal well- being or to help with their mental health issues. According to research, the human body defines or recognises spaces through the stimulation of the senses. The human body intends to seamlessly grasp the environment as an overall atmosphere, ambience, feeling, or mood. Therefore, the senses play a vital role in spaces helping users to engage better in the environment. This research explores the importance of enhancing spaces to increase well-being in the built environments to support sound mental health for students. It focuses on how architecture and design can support well-being in an institutional setting. This study aims to understand the impact that senses, light and nature have on architecture to achieve holistic well-being for users by studying various case studies. Qualitative research methods, including precedent analysis and literature review, are used to understand the role of an individual's experience in a built environment. The study explores the constructive approaches aiming to understand various atmospheres and affect which are created through senses. Finally, this paper provides recommendations for architects to include during designing and to create a community-wide well-being effort for the students in future.

Keywords - Mental Health, Phenomenology architecture, Senses, Students Well-being, institutional design

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INTRODUCTION

Students spend nearly one-third of the day in learning environments. The spaces in learning environments such as classrooms, computer studios, and chalkboard/digital lecture halls are constructed in a regimented fashion. It makes the students' learning experience monotonous and stressful. Some key authors have advised about designing learning environments:

Rinaldi (2013) recommends that educators should design the learning environments as a "… sensory engaged skin [orchestrated space] and not just a shell [room]" (p.28). Such 'sensory engaged' environments could benefit the mental health of students. Senses play a crucial role in students by stirring their creativity, and critical thinking, providing inspiration, imagination, mood, a sense of comfort, and excitement (Holl et al., 1994). After all, '…our senses are ultimately the gateway to all learning…' (Gascoyne & Raban 2012, p.69). This is supported by Zumthor (2015). He states that architecture is not just about the building but about the surrounding, mental surrounding, and biographical setting of the place, which contributes to a user's mental presence. Consequently, the research intends to imply the importance of senses in design by studying various theories for creating such well-being spaces. Finally, this research aims to provide insights on why senses should be incorporated while designing built environments particularly to improve the well-being of the students, which is seen as a fundamental addition in or around institutional environments.

METHODOLOGY

This research is based on the theories of senses and atmospheric affect. Multiple approaches are recommended to attain a cohesive architectural response that engages various factors to stimulate the senses. These methods will be then used in

designing to vary the students' moods and allow them to experience wellness. The research aims to study and analyse the literature review which emphasises Juhani Pallasmaa's theory as a key methodology to understand the effect of senses in spaces and applications are studied through reviewing precedents.

Furthermore, these works will be analysed to gain inputs to pursue design with this research. Finally, this paper recommends future designers derive architectural outputs which can be used to devise while designing built environments for the well-being of students in the relevant sites.

Senses and their importance in generating well-being in spaces

In the book Eyes of the skin' Pallasmaa identifies the critical roles of all the senses in the environment and observes that suppressing other senses in environments challenges our spatial experience. He explains that all the senses are related to each other. By designing to orchestrate the senses, users can experience their spaces, feel represented in them, and gain a sense of intimacy and belonging (2012).

Especially in an institutional context, sensory engagement can help in facilitating movement, comfort and productivity in spatial experiences (Pallasmaa,2014). They are reviewed in detail:

- **Movement**

Senses allow the body to be in a constant relationship with the environment (Ursprung,2014, p. 48). For example, as a user moves through space, they encounter the environment such as textures, ambience sounds and aroma. Such encounter can be created through providing careful attention to evanescent qualities of light, shadow, and colour" (McCann,2005). Likewise, users might experience various senses associated with memory and imagination when moving through space (Pallasmaa,2014). Therefore, it is examined that the body is in a constant relationship with the environment through the senses.

- **Comfort**

Senses impact spatial experiences and facilitate encounters that may provide comfort. This phenomenon is significant because the senses can be used as a vehicle to improve comfort and well-being. For example, the auditory sense: music and narrative experiences in spaces can promote well-being and stabilise catharsis for the users in an environment (Pérez-Gómez,2016, p.50). Thus, a "properly designed [environment] maintains a temperate, good-natured, and healthy state of mind [well-being]" thereby leading to comfort (Norberg- Schulz,2013, p.37).

- **Productivity**

Similarly, the senses can help users be more productive and responsible during work. (Pallasmaa, 2012, p.90). Consequently, it can emphasise participation, creativity and also well-being. Senses in atmospheres are crucial in all artistic work environments [institutions], providing better integration in such work (Pallasmaa, 2014, p. 238). However, these crucial 'abilities' of senses are largely ignored, especially while designing learning environments (Wilmes et al., 2008).

Hence, from the above observations, it is crucial to consider senses while designing such well-being atmospheres for students whereas the designers must focus on designing for "multisensory involvement" for students.

Need for sensory engagement in institutional spaces

There is also a need to focus on finer intangible aspects while designing for such sensory engagement. The user experiences in spaces have multiple layers of tangible and intangible aspects that add personal comfort. Occasionally, the design process tends to overlook the practicalities of design details in constructability. As a result, the designing process "…seldom notices the abstractive systems and emotional comfort of the spaces…" (Pérez-Gómez, 2006, p. 5). He states that these intangible aspects, such as temperature, textures, light and shadows, can increase the quality of bodily experience (2006, p. 69). Senses focus on the experiences in spaces by helping users perceive the space beyond boundaries (Tirony, 2021), and it is a crucial element of spatial experience. For example: "…in a movie, the camera elaborates about the human experience, whereas in architecture, senses orchestrate the encounter of spaces…" (2021). Also, such orchestration of spaces to experience senses can be therapeutic, thereby helping to improve the users' well-being. In this way, senses can be employed to encourage moods and can be used as a vehicle to design well-being spaces. After reviewing these aspects from the literature, a few precedents were studied to observe the effect on senses in spaces.

Precedent Study and review

Two precedents were chosen according to the research context. The analytical factors in choosing the precedents were primarily the design and function of these buildings and landscapes. For example, the first precedent was chosen because it is a contemplative centre built to mitigate students' mental health issues inside an institutional environment. The precedent study is as follows :

Precedent One: Windhover Contemplative Centre, California, USA.

- **Overview**

The Aidlin Darling team designed the Windhover contemplative centre in 2014 as a student's well-being retreat in Stanford Campus, USA. The well-being task force study reported mental health concerns ranging from anxiety,depression, eating disorders, and other struggles for the students. To facilitate the student's well-being, the Aidlin Darling team was commissioned for this project. Aidlin (2014) stated that the building was designed for students to 'just' be. The design was a solution to the student's mental issues to relieve the pressure of workload. It was also aimed to cater to wellness and facilitate contemplation for the students. Aidlin (2014) stated that the "Wellbeing Task Force scientifically examined and identified that students have lower blood pressure levels, increased productivity, balance, and wellness after designing the contemplative centre for students."

- **Moments of Stillness and Contemplation**

The building is designed with an open-ended layout. The mix of spaces allows students to decide how they want to interact with the landscape and building according to their personal preferences (Aidlin, 2014). Aidlin designed the landscapes to create bodily engagement with spaces. He stated that water helps the students rejuvenate and refresh during the day, stimulating their sense of sight. The humble benches, rocks, and gentle textures of the floors allow the visitors to feel encouraged to pause, stop and move at their own pace. These textures also help in amplifying the sense of touch. The design facilitates students to feel less trapped during their egress facilitating movement. The set of all these spaces muffles the cacophony of daily pressures.

- **Interactive Environments**

The design creates a state of social well-being for the student community. Aidlin (2014) considers that talking and interacting is a way of venting out human pressures, thereby allowing people to help one another. Simultaneously, the gallery and other labyrinth gardens orchestrate interactions being above silent spaces. These silent spaces can help students increase comfort and declutter their thoughts thereby improving their productivity at work.

- **Summary**

Aidlin's design mode was an upfront response to mitigate mental health issues by understanding students' identity, choice of freedom, and the position of designers to enable this user freedom. As discussed earlier through the literature review of senses in spaces, the AD team establishes design for contemplation, visual and haptic senses. They try to relieve the students' stress by providing a serene shelter that engages their peace of mind. The key observation from this precedent is to produce stillness and contemplation through architectural techniques and produce social interaction by providing programmes like gallery spaces which improve the comfort, movement and productivity of the students.

Precedent Two: IIM Ahmedabad, Gujarat, India.

The (IIMA) Indian Institute of Management in Ahmedabad, India, was built by Louis Kahn during the early 1960s. One of the noteworthy aspects of his institutional buildings is designing open spaces to create a better student environment. One such aspect is evident in the IIMA, which has 'Louis Khan Plaza'. It facilitates a communal well- being environment in the epicentre surrounded by other buildings. The Plaza was designed to surround the three blocks, which gives the place a sense of enclosure. The enormous massing of those three blocks helps sufficient shading for the Plaza. The built-in alcoves are parallelly adjacent to the corridor. Thus, a group of students can find refuge and can accommodate in comfort themselves in the open space. All the corridor spaces and circulation are entirely devoted to communal spaces serving as hangout spots for students.

The design of the Plaza and the Institution was a response to the need for spaces where the student community can learn, rest, interact, and help each other. Furthermore, the key takeaway from this precedent is that the light in space and landscape provides a sensory and bodily engagement for the students to experience relief during the spatial journey.

FINDINGS AND REFLECTION

Informed by the research findings through literature and precedent studies, there are a few recommendations for the architects to consider while designing institutions. Firstly, the precedents showcased that both institutions have provisioned mandatory well-being services for the students. However, through the author's lens, it is noted that these spaces are insufficient to cater to positive students' mental health and well-being. Secondly, students need to have room to relax in learning environments. When regulative boundaries are relaxed in an institutional space, it can encourage participation, engagement and leisure thereby increasing students' productivity. Providing courtyards, landscaped parks, relaxation areas, and friendly spaces is the first step toward creating comfort and well-being spaces in and around the learning environments. Finally, this design-led research recommends broadening these spatial notions into built environments particularly to cater for students' well-being.

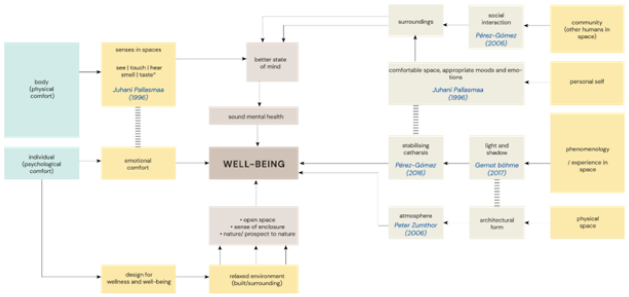

Figure 1: Psychological, Physical and Spatial relationship obtained from literature which indicates promotion of overall well-being in spaces

The design explored in this research emphasises the relationship between spatial comfort and well-being through various aspects (Fig 1). This paper has demonstrated that tertiary students' mental health issues can be mitigated by designing spaces that specifically facilitate their well-being i.e., the idea of creating a well-being centre. Future architects and designers can mitigate these issues by assisting the institutional design process with a heightened awareness of students' personal and social well-being. It is found that spatial comfort can enable students to relax, interact and just be themselves through sensory engagement. Therefore, applying sensory design theories to the situated design can positively impact students' mental health.

CONCLUSION

Recognising the mental needs of users [students] in space is not subjective, it is rather essential to understand while designing well-being spaces for them. Architectural practice has plenty of scopes to facilitate such well- being for students. Therefore, sufficient research is required while aiming for architectural design to improve spatial well-being and personal comfort which is necessary for students.

This study has explored the spatial and psychological opportunities of designing to improve well-being in student environments. This research directly critiqued the status quo of the mental health issues of tertiary students and it is necessary to research and critique the existing designs for the same. Furthermore, this research enabled a broader discussion of the architectural response to students' mental health crises. This study is adhered to the principles of sensory engagement and spatial atmospheres to provide learning spaces where students can relax. Therefore, the orchestration of spaces to experience senses can be therapeutic, thereby helping to improve the users' well-being. In this way, senses can be employed to encourage moods and can be used as a vehicle to enhance the well-being of users.

REFERENCES

1. Gascoyne, S; Raban, B. (2012). Sensory Play: Play in the Early Years, Teaching Solution
2. Norberg-Schulz, C. (2013). The phenomenon of place. The urban design reader (pp. 292-304). Routledge. Pallasmaa, J. (2012). The Eyes of The Skin: Architecture and the senses. John Wiley & Sons.
3. Pallasmaa, J. (2014, December 17). Talking about the hand, movement, and the art of research. Aalto University School of Arts, Design, and Architecture. Helsinki, Finland.
4. Pallasmaa, J. (2014, July 07). Space, place, and atmosphere. Emotion and peripherical perception in architectural experience. Focus - Atmosphere (4.1), pp. 230-245. DOI:10.13130/2240-9599/4202
5. Pérez-Gómez, A. (2006). Architecture and Human Desire. Built Upon Love: Architectural Longing after Ethics and Aesthetics (pp. 3-8). London: MIT Press. Built upon Love | The MIT Press. https://mitpress.mit.edu/books/built-upon-love
6. Pérez-Gómez, A. (2006). Architecture and Human Desire. In-Built Upon Love: Architectural Longing after Ethics and Aesthetics (pp. 3-8). London: MIT Press.
7. Rachel McCann. (2005). http://www.arch.ksu.edu/seamon/McCann.html
8. Rinaldi, C. (2013). Reimagining Childhood, Government of South Australia, p.28
9. Tirony, S. J. (2021, April 4). Escaping Reality Panel [Annual Design Conference]. Reality X Design- Harvard Design School, Cambridge, Massachusetts.
10. Ursprung, P. (2014). Sensing spaces; architecture reimagined. Presence: The Light Touch of Architecture pp. 39--53, 39-53.

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