

DESTIGMATIZING MENTAL HEALTH TREATMENT CENTERS THROUGH ARCHITECTURAL INTERVENTIONS; INSIGHTS FROM NATIONAL INSTITUTE OF MENTAL HEALTH, MULLERIYAWA, SRI LANKA.

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Abstract: In the modern Sri Lanka context, despite frequent awareness programs and increased access to information, an inherent stigma associated with mental health disorders and treatment methods prevail. The Architectural characteristics and elements of existing mental health facilities have been found to amplify these negative perceptions hindering patients' access to effective mental health care. Within this backdrop, this study looks into the Architectural parameters that contribute to the stigmatization of mental health facilities, adopting a mixed-methods approach taking the National Institute of Mental Health (NIMH) in Mulleriyawa as a case study. Participants' perceptions (n=36) on seven selected spaces [; admin building facade, old ward facade, specialized departments, new ward exterior, old ward interior, entrance lobby and main corridor] within the facility were gathered through an author designed online questionnaire survey, while their corresponding levels of well-being and depression, stress, and anxiety levels were evaluated using SACRA-15 Building Well-Being Scale and the DASS-21 scale respectively.

A majority of the participants reported severe levels of depression, anxiety, and stress across all the spaces studied, with the highest percentage of participants relating to 'old ward interior' [86%,72%,75] followed by new ward exterior [97%,55%,61%]. Consistent with this finding, the majority of participants demonstrated low levels of wellbeing scores across the spaces tested, out of which 'old ward interior' and the 'new ward exteriors' were significant with highest percentages of participants with low levels of wellbeing [81% and 70%]. The main corridor of the facility was the only space showing a moderate level of well-being due to significant attributes of natural light, ventilation, nature connectedness and spaciousness. The participants identified the Architectural quality of NIMH as "prison-like', 'unwelcoming', 'scary' and 'gloomy', contributing to an oppressive atmosphere which reinforced stigma. Restricted visual and physical access, lack of visual connections, limited access to green spaces, inadequate natural lighting and color, unbalanced solid-to-void ratios and underutilization of vistas were found to contribute towards the existing and monotonous ambience with sense of containment, leading to the stigmatization of this mental health establishment. Based on these findings, the study recommends incorporating courtyards and green spaces, improving the use of color, removing visible demarcations while maintaining functional and psychological boundaries, and optimizing material choices and spatial volumes as supportive Architectural interventions to help de-stigmatize mental health treatment centers.

Keywords: *Prison-Like Architecture, new age mental health, Stigma, Social Acceptance, Asylum Architecture*

1. Introduction

Sri Lanka being a South Asian country, faces an array of socio, cultural and traditional barriers that contribute to stigma and misconceptions associated with modern mental health issues. These challenges are intensified by the lack of awareness and continuing discrimination and societal prejudice regarding mental health management and treatment plans. Health institutions are often referred to as 'asylums'. The negative perceptions are further reinforced by the outdated architectural design, ambience, and structural forms of the buildings that house them. Historically, these facilities functioned more like prisons, isolating patients from society and treating them as outcasts. The contemporary world now adopts a more sensible approach, creating healing environments and centers of reform that emphasize dignity, inclusivity, and recovery.

Eastern countries offer a variety of therapeutic interventions for mental health, including traditional treatments, Ayurvedic practices, and Western medical approaches. However, many of these institutions still retain outdated architectural designs that do not help in eliminating the fear of mistreatment or social discrimination. Instead of fostering healing, these spaces often reinforce negative perceptions and hinder the destigmatization of mental health care.

An example of how deeply rooted this issue is in Sri Lankan society can be found in the local jargon applied for the National Institute of Mental Health (NIMH), located in Angoda, Western Province, Sri Lanka. This facility is referred to as "Pissan Kotuwa" in Sinhala language during casual conversation. This translates to "cage for the crazy people" (Pissan; Crazy/Mentally ill people and Kotuwa; Cage/Confinement/Box/Fort). This reflects the stigma surrounding mental health and the perception of such institutions as places of detention rather than care and therapeutic healing. Within this context,

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this research investigates the impact of Architecture on the generation of stigma in mental health treatment and rehabilitation centers, with a particular focus on the National Institute of Mental Health in Angoda, Sri Lanka, aiming at identifying Architectural strategies that can foster a more supportive, empowering and welcoming environment, which promotes healing and reducing the stigma associated with mental health institutions.

The National Institute of Mental Health (NIMH) is the country's leading mental health institution, and the image it projects plays an important role in shaping the perception of mental health treatment. The acceptance of mental health facilities is crucial to promote effective treatment, as both patients and their guardians must be willing to engage in care. For many neurotic and mental disorders, treatment requires the voluntary acceptance of the patient and their community; involuntary admission is often not a viable option. Thus, the perception of these institutions is vital, as it influences not only the initiation of the healing process but also its continuation.

1.1 RESEARCH PROBLEM

Technological advancements, modern lifestyles, and various other factors have contributed to rising levels of work related and economic stress with many people having desk jobs and being involved in minimal physical activity, leading to increased levels of stress and depression, particularly among the younger generations. On the other hand, physical inactivity limits the release of brain chemicals such as endorphins, which are crucial for mental health and well-being leading to a surge in the rates of depression and suicide in recent years. As indicated by the World Health Organization (2022), 1 in every 8 people globally suffers from mental disorder (12-13% of the global population). Preliminary estimates indicate that, in 2020, anxiety and major depressive disorders increased by 26% and 28%, respectively. Projections by the WHO foresee major depression to be the primary cause for non-fatal burden of disease worldwide by 2030 (Malhi and Mann, 2018).

Sri Lanka, despite offering free healthcare services, including mental health care, is grappling with a significant rise in mental health issues. The current mental health crisis in Sri Lanka can be attributed to several interconnected factors, including the lasting impact of a 30-year civil war, the aftereffects of the COVID-19 pandemic, and the ongoing financial instability. Notably, there has been an alarming increase in mental burnout, depression, and suicide rates, which are becoming major public health concerns. A recent systematic study by Alwis, Baminiwatta, and Chandradasa (2024) evaluating 33 studies including over 52, 778 Sri Lankas spanned from 2003-2023 found that nearly 1 in 5 people (19.4% of the population) suffer from depression. The study further revealed the approximately 39% youth are affected by depression signifying a distinct mental health crisis in this age category. In terms of suicide, while Sri Lanka has historically had one of the highest rates in South Asia, there has been a gradual decline in recent years. Data from Sri Lanka Police in 2020 recorded a suicide rate of 14.3 per 100,000 people (WHO, 2022). However, despite this decline, Sri Lanka's suicide rate remains alarmingly high compared to global averages, particularly among young men.

Negative attitudes towards mental illness, coupled with social stigma and a lack of recognition of the suffering and disability it causes, have led to mental health care services being deprioritized in Sri Lanka (Mendis, 2004). While institutional buildings are designed to treat mental health conditions, widespread stigma towards mental illnesses, misconceptions make it difficult for those in need to seek help further adding to the hidden burden of this mental health crisis. The Architecture of mental health facilities in the country has not evolved significantly, and traditional approaches may no longer be effective in addressing contemporary mental health challenges. Sri Lankan mental health treatment centers often fail to fully consider the emotional needs of their users, limiting the potential of Architecture to create environments that truly support healing and well-being.

1.2 JUSTIFICATION OF THE STUDY

This research examines the connection between Architecture and social stigma in mental health treatment centers in Sri Lanka with reference to a selected facility, with the goal of identifying architectural interventions that can improve public perception, reduce stigma, and create supportive environments for mental health care. Addressing this gap is crucial in creating spaces that promote healing, acceptance, and long-term mental health support.

1.3 RESEARCH OBJECTIVES

Amidst this backdrop, this study seeks to explore the contribution of Architectural design in mental health facilities towards the generation of stigma and its effects on the psychological well-being of patients with reference to a selected facility in Colombo, Sri Lanka. The aim is to provide insights into creating patient-friendly, welcoming mental health and rehabilitation centers by incorporating Architectural interventions that help reduce stigma, challenge deep-rooted misconceptions, and promote a supportive environment that aids the healing process.

1.4 SCOPE AND LIMITATIONS OF THE STUDY

Among the array of mental health facilities in Sri Lanka, the study is limited to investigating the Architectural characteristics of the NIMH, being the largest tertiary care hospital in the country for patients with mental illness. Given the sensitive nature of the premises and the subjects, modifications had to be made to the data collection methods. For instance, a photographic survey was conducted to gather public opinion regarding the facility, while wellbeing scales were adapted to address accessibility issues and privacy concerns specific to the premises. The study was conducted in a manner that did not disrupt

hospital operations or interfere with patients, ensuring both ethical standards and the reliability of responses from the study participants. The study was limited to inquiring Architectural parameters associated with generation of stigma among the patients in their interactions and experiences with the facility and the corresponding effects on the subject's psychological wellbeing amongst the array of other parameters.

2. Literature Review

Modern lifestyles have contributed to more sedentary societies, leading to decreased physical activity and an increase in mental health issues. Mental stress, weariness and sleep deprivation can lead to obesity, depression, promoting an inactive lifestyle and negatively affecting wellbeing (Sarris et al., 2014). For instance, the demands of disrupted sleep/wake cycles, substance abuse, and psychosocial stressors such as competition, social comparison, pressure to meet deadlines, social isolation, and weakened family connections have all exacerbated the negative impact on mental well-being.

2.1 RELATIONSHIP BETWEEN ARCHITECTURE AND MENTAL HEALTH

Architecture shapes spaces that engage with individuals on multiple levels, often serving as a façade that influences the perception of any establishment. It defines environments through distinctive Architectural characteristics, creating specific images that people connect with, may it be a small room or a vast city. Strategic focal points and legibility are key in crafting memorable experiences and helping individuals navigate and relate to these spaces (Lynch, 2008). Architecture has a profound impact on the mental perception of spaces, highlighting the need for a careful balance between tangible design elements and the intangible aspects of human behavior and experience.

2.2 INCEPTION OF MENTAL HEALTH ASYLUMS IN THE NEW WORLD

Asylums have historically provided care and protection for individuals with mental illness, yet they have often subjected these individuals to social and physical isolation, effectively creating a form of apartheid. The construction of hundreds of asylums in countries sometimes showcased the "power to expel" which was held by the state and its psychiatry. Such asylums have existed in Europe since the middle ages (Morrall & Hazelton, 2000). Historically, mental health patients have been confined and mistreated in asylums, and often subjected to worst-case scenarios and even treated like prisoners (Trista, 2019). Architecture of these institutes often resembled prisons, catering to psychotic patients rather than neurotic ones. Design was based on exclusion requirements, causing a long-lasting stigma and image due to poor treatment and asylum closures.

2.3 MENTAL HEALTH, STIGMA AND ARCHITECTURE

Although mental health awareness programs encourage individuals to seek treatment for conditions like depression, anxiety, and ADHD, the stigma surrounding mental illness, along with the lingering influence of outdated asylum architectural features, continue to play a significant role in hindering this process. In the modern era, mental health care is vast and requires a more therapeutic environment. Architecture can foster inclusivity and reduce stigma by thoughtfully contextualizing and characterizing the design of the built environment (Chrysikou et al., 2019). Healthcare environments are highly regulated and multifaceted, making one-size-fits-all architectural approaches unsuitable for these settings. However, Architecture for hospital and healthcare facility planning plays a crucial role in identifying the institutional and organizational dynamics within these spaces, allowing for more effective application and adaptation of generic architectural techniques to meet specific needs (Chrysikou, 2021). Research indicates that design and development of items, environments, and functional systems significantly influence people's behaviors, emotional and cognitive states. Even objects, such as furniture and installations, can also influence cognitive-emotional states and reactions of patients. Mindfulness research suggests that engaging in activities can positively boost feelings of peace, gratitude, and fulfilment of people (Rehn-Groenendijk et al., 2022).

2.4 ELEMENTAL RESPONSES

Lighting has a significant impact on mental health, influencing sensory stimulation and regulating the circadian rhythm. In therapeutic environments, particularly in mental health facilities, lighting can play a crucial role in improving psychological well-being. Research has shown that appropriate lighting can positively affect conditions such as depression and Alzheimer's disease by enhancing the overall atmosphere and supporting mental recovery (Connellan et al., 2013). Studies suggest that natural lighting has a positive impact on healing environments, with factors like access to daylight and the proximity of windows contributing to overall well-being. However, these benefits can be offset by issues such as glare and thermal discomfort, which may cause discomfort and reduce the effectiveness of natural light in certain settings (Joseph, 2006). A study conducted by Schweitzer et al., (2004) found that natural and artificial lighting affect individuals in different ways, influencing factors such as illuminance, behavior, uniformity, diffusion, color, and UV radiation. These lighting conditions can significantly impact human chronobiology, contributing to disorders like seasonal affective disorder, insomnia, and work-related disturbances. Architectural features in healing environments should encourage patient relaxation, including natural views, adequate restrooms, seating options, noise reduction, lighting, thermal comfort, and visual aesthetics (Stichler, 2008). Furthermore, Mazuch and Stephen (2005) have highlighted how 'Nightingale Associates', an Architectural firm, integrated psychotherapy techniques with traditional Architectural processes to create healing hospital environments. This approach, known as "humanistic Architecture," combines global research from psychology,

sociology, biology, and physiology to inform the design of the built environment, fostering spaces that support both physical and mental wellbeing. The therapeutic milieu involves patient-centered, healing environments that require consideration of various attributes, including rehabilitation, ambient qualities, social characteristics, the perceptions of both patients and staff, the Planetree approach, optimistic architectural design, multidisciplinary factors, and changes in architectural features (Connellan et al., 2013).

Senses and colors are closely linked to emotional responses; for example, blue is often used to calm aggressive individuals and plays a key role in creating healing spaces. Similarly, touch and textures help patients reconnect with their environment, significantly contributing to the recovery process. Perceptual confusion must be carefully considered and avoided when designing environments for patients with fluctuating mental states, ensuring that the relationship between visual qualities and material textures remains clear and supportive (Mazuch & Stephen, 2005). Architectural design interacts with psychological experiences in three keyways: through cognitive judgments, emotional reactions, and behavioral and motivational responses that relate to individuals' knowledge systems (Coburn et al., 2020). While mental health awareness is growing, cultural and personal barriers still hinder therapy for many. Buildings must be designed to de-stigmatize mental health institutions, encouraging individuals with mental health challenges to seek treatment. Architecture should create welcoming, non-stigmatizing environments that promote regular visits and enhance therapeutic experiences, while also helping to normalize these spaces within society.

2.5 SCP THEORY

Various theories have sought to address the relationship between mental health and architecture, including normalization theory. However, a more fitting model for psychiatric treatment centers is the SCP (Safety, Security, Competence, Personalization, and Choice) model, which focuses on key factors that enhance the therapeutic environment (Chrysikou, 2013). This model revealed that many mental healthcare buildings underperformed according to a purpose-specific checklist and received negative feedback from both employees and patients, despite being designed with the best intentions. This issue mirrors historical challenges in global housing development, where creativity and ambition flourished, but a lack of understanding hindered meaningful progress (Chrysikou, 2013).

2.6 OPTIMAL HEALING ENVIRONMENTS (OHE)

An Optimal Healing Environment (OHE) is grounded in an individual's internal world, encompassing their thoughts, hopes, expectations, emotions, goals, and beliefs. Recognizing the person as a multidimensional, complex being and understanding the interplay of mind, body, and spirit is essential for promoting health and healing within that space (Sakallaris et al., 2015). A healing environment should not only fulfill its functional and comfort needs but also foster a subconscious acceptance of the healing process. The OHE is made up of four key environments: internal, interpersonal, behavioral, and external. By addressing all these aspects, a space can support a comfortable and effective healing journey (Sakallaris et al., 2015).

2.7 ARCHITECTURE AND SPATIAL COGNITION

Neuroscience plays a vital role in understanding the sensory, emotional, and cognitive factors that influence perception in architectural environments. This includes mental processes such as imagination, memory, thought, acceptance/rejection, and motor planning skills (Canepa et al., 2019). Spatial environments, through atmospheric qualities, resonate with a person's deeper, subconscious components, shaping a subjective experience rooted in their internal psychological and physiological states (Canepa et al., 2019). To elaborate, all genuinely inhabited spaces contain fundamental elements that evoke the concept of "home" (Bachelard, 2014). Spatial perception is shaped by social, cultural, and personal identity, with ideal spaces reflecting and reinforcing users' sense of self. In the interaction between space and the individual, the person defines the space, while the space, in turn, defines the person inhabiting it (Ayalp, 2011). The sense of architectural identity, which refers to the spatial qualities of a building, is heightened when an individual begins to identify with and emotionally connect to that space (Mahmoud, 2017). Architectural aesthetics is a practical consideration that explores the relationship between perception and emotion. It involves sensing a building's significance, personality, and the internal resonance of its design concepts, while also identifying and responding to its various forms (Youssef, 2018). Undesigned or poorly designed spaces can undermine an inhabitant's sense of identity and attachment, limiting their ability to personalize the environment, feel a sense of control and safety, and ultimately affecting their overall perception of the space by diminishing its perceived identity (Mahmoud, 2017).

2.8 STIGMA GENERATION

Individuals often internalize their past experiences of isolation in spaces with similar atmospheres or qualities, preferring these environments because they evoke nostalgia or past emotional stimuli (Bachelard, 2014). Emotional nostalgia can shape how negative spaces in mental health facilities are perceived, potentially contributing to stigma. Traditional architectural approaches, which prioritize security, may fail to create welcoming environments for users, despite the tendency to associate such spaces with nostalgic feelings (Oostermeijer et al., 2021). The shift toward personal healing has significantly influenced mental health policies and practices. Implementing a recovery-focused strategy in inpatient units presents challenges, particularly for involuntarily admitted patients. Ensuring patient autonomy in treatment decisions, safety, interactions, and human rights is essential to the recovery process. Additionally, the physical environment plays a key role in supporting or enhancing trauma-informed practices (Oostermeijer et al., 2021).

2.9 SPATIAL STIMULANTS

Architectural atmospheric changes have a profound impact on the perception of a space, with variations in light and shade influencing a person's emotional valence and arousal. There is a clear connection between an individual's empathy, their ability to detect emotions, and their response to specific architectural designs. People tend to feel more sympathetic toward environments that resemble their own experiences or preferences (Canepa et al., 2019). Open water bodies, such as beaches, are often perceived as relaxing environments due to the stimulating textures, sunlight, sounds, and visuals they offer. In contrast, closed bodies of water, like lakes or ponds, are generally considered less stimulating. However, prolonged exposure to such environments, such as sailing alone, may lead to feelings of isolation. Additionally, colors play a significant role in influencing spatial perceptions, emotional responses, and cognitive reactions, with yellow evoking feelings of happiness and red often associated with heightened energy or urgency.

2.10 ARCHITECTURAL FORM MAKING AND WELCOMING SPACES

Architecture and geometry are deeply interconnected, with the geometric qualities of a space influencing its spatial attributes, such as light, ventilation, and air quality (Formiga et al., 2022). The perceived importance of a space or building directly impacts its user's sense of power and agency, which can be enhanced or diminished through the manipulation of spatial dimensions, the weight of perception, the complexity of design elements, and the finished state of the environment.

2.11 PROPORTIONS AND SCALE

Spatial proportions play a vital role in shaping human emotions and perception. The human scale in architecture influences acoustics, visual impact, and psychological prominence, particularly in buildings of religious or political significance. High occupancy levels can create claustrophobic environments, making spatial quality especially critical for individuals with mental health conditions, where the design of the space can significantly affect their sense of well-being and comfort.

2.12 SPATIAL PARAMETERS IN MENTAL HEALTH

Spatial quality has a direct impact on a user's mental well-being, particularly for middle-aged individuals who may experience stigma and feel responsible for their circumstances due to inadequate or deteriorating accommodations (Evans, 2003). In psychiatric facilities, furniture arrangements should be designed to encourage social interaction by positioning chairs and tables at comfortable distances, thereby reducing isolation and passive behavior among patients (Evans, 2003). Open-bed wards, which often house larger numbers of patients, can benefit from the use of half-height partitions to mitigate social disengagement caused by overcrowding in shared bedrooms (Evans, 2003). A 2019 study demonstrated that different geometric shapes could trigger distinct emotional responses (Banaei et al., 2019). The research found that individuals with lower neurotic tendencies and a greater openness to new experiences derived less enjoyment from rigid geometric forms and found more pleasure in curved architectural elements. Curvilinear shapes were shown to elicit higher levels of arousal and greater pleasantness among untrained users compared to rectangular forms (Banaei et al., 2019). Additionally, a 2009 study revealed that design experts tend to prefer complex shapes, while non-experts show a stronger preference for circular or hexagonal geometric designs (Silvia & Barona, 2009).

3. Research Design and Methodology

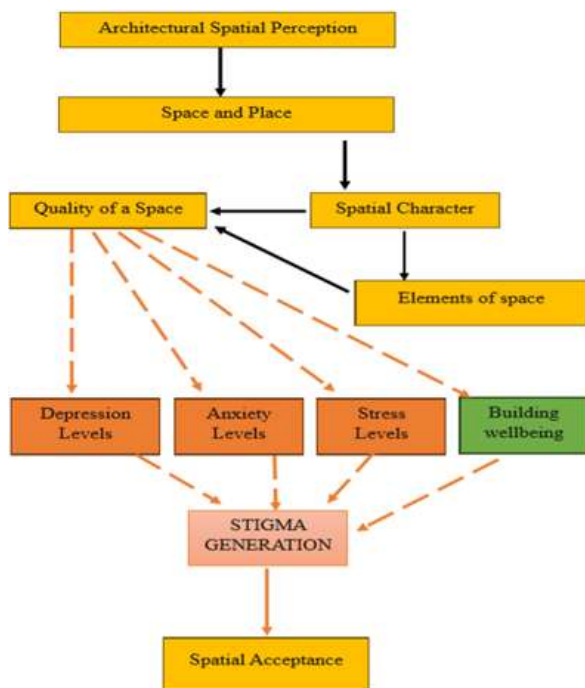


Figure 1: Relationship of research elements

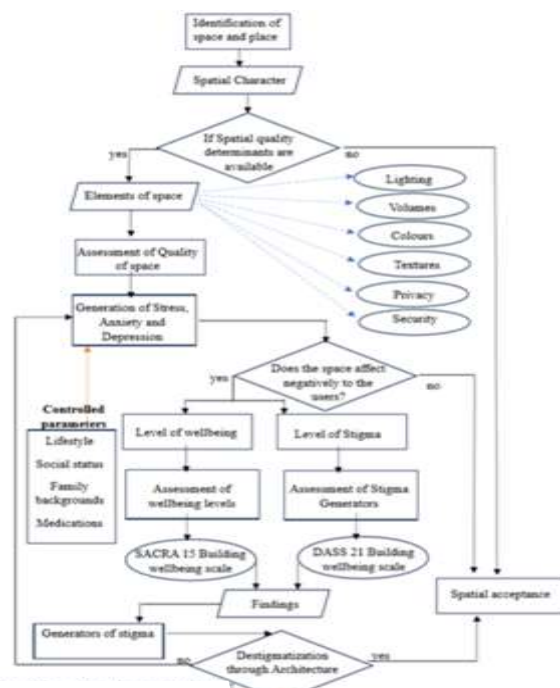


Figure 2: Research Design Framework and flow chart

This research employed a mixed-methods approach, integrating both quantitative and qualitative data analysis to investigate the generation of stigma in spatial environments and explore potential Architectural solutions with reference to the selected case study. The data collection involved several key components, including a spatial and architectural audit of building elements conducted by the investigator, as well as a public perception survey focusing on spatial characteristics that contribute to stigma generation. To assess the psychological impacts of stigma, levels of depression, anxiety, and stress were measured with reference to seven strategically selected spaces within the facility (n=7) using the DASS 21 (Lovibond & Lovibond, 1995). Additionally, participants' wellbeing in relation to the studied spaces was evaluated using the SACRA 15 (Watson, 2018)

3.1 RESEARCH VARIABLES

INDEPENDENT VARIABLES: Architectural space parameters: facade and characteristics of form, interior and spatial characteristics.

DEPENDENT VARIABLES: Building Wellbeing [Hedonic wellbeing, Eudemonic wellbeing]
Depression, Anxiety and stress levels caused by the building character.

3.2 DATA COLLECTION



Figure 3: Layout of NIMH and selected areas



Figure 4: Prison-like ambience

Data was collected on the perception of the Architectural characteristics and elements of the selected treatment center through anonymous respondents. Subjects' perceptions on the selected mental health treatment center (n=36: 18-30-year-olds) were recorded. Online participants were screened to identify individuals who had closely interacted with someone suffering from a neurotic disorder and had personal memories or experiences related to visiting the selected facility. Participation was voluntary, and no personal data was collected. The survey incorporated the layout and a series of photographs including examples of 7 selected spaces, focusing on Architectural elements of spaces in health care setting. These spaces were selected for their accessibility to the public, their frequent use in navigating the complex, and their role in shaping the user's perception and overall image of the facility. The survey was also focused on identifying stigma-generating Architectural elements and evaluating responses/suggestions of respondents on creating spaces that incorporate healing therapeutic environment. Participants were free to express their feelings in their own words and suggest architectural improvements for the areas depicted in the images. Based on their responses, word clouds were generated to identify and analyze the most common problems highlighted by participants, as well as the most frequently proposed solutions. SACRA-15 building wellbeing scale (Watson, 2018) was adopted to evaluate the subjects' psychological wellbeing while DASS_21 (Lovibond & Lovibond, 1995) scale was used to evaluate their depression, anxiety and stress levels with reference to the spaces within the building complex.

4. Data Presentation and Analysis

4.1 PUBLIC PERCEPTION ANALYSIS OF THE SPATIAL QUALITIES - NIMH.

Responding to the questionnaire survey 68.5% of participants reported that they feel nervous entering the main building. The survey results revealed that 16% of respondents perceived the spatial quality of the facility as resembling a 'prison,' citing the boundaries that restrict both physical and visual access for visitors. The second most common quality

5. Suggestions and Recommendations

The recommendations arising from this study for improving public perception of the facility are based on six key architectural elements. Manipulating and controlling these elements could significantly enhance the spatial character of this institution, as well as any other institution associated with mental health.

5.1 LIGHTING

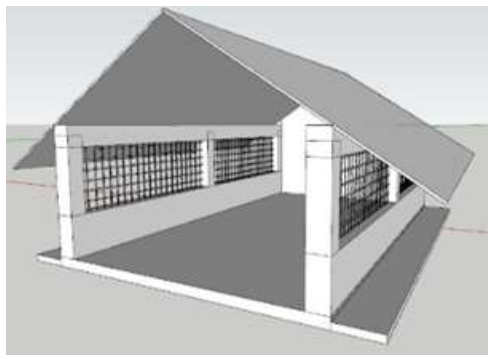


Figure 7: Existing new Ward

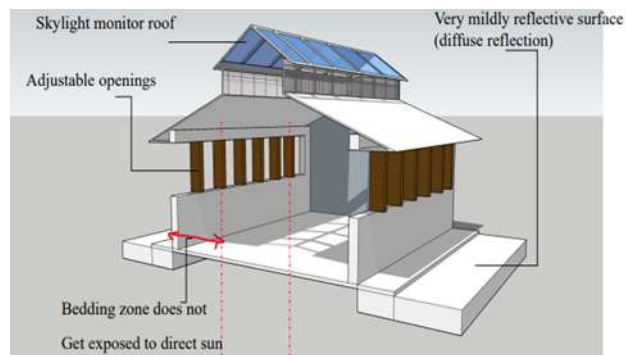


Figure 8: Incorporating natural light into new wards

Natural lighting and an optimal solid-to-void ratio are essential in creating healthier healing environments while reducing anxiety, depression, and stress levels. In tropical countries, direct sunlight intake can be challenging, but skylights and strategically placed windows can help create a welcoming space. When direct sunlight is limited, the use of materials with varying colors and reflectivity can manipulate the diffused intake of sunlight. Transitional spaces, such as verandas or corridors, can be enhanced with glossy finishes or varying levels of light reflection. The incorporation of monitor roofs with skylights can also be highly effective. Integrating natural light, mildly reflective surfaces, skylight monitor roofs, adjustable openings, and designated bedding zones can reduce the institutional atmosphere while providing a more homely, inviting feel. Adjustable openings within wards offer a sense of personalization, a principle drawn from the SCP theory (Chrysiou, 2013) for designing mental health facilities. Additionally, lighting choices should align with the function of each space, with warm white lights being ideal for wards, as they help maintain healthy melatonin levels for users (Wahnschaffe et al., 2013). Furthermore, the strategic placement of greenery and natural elements within spaces can contribute to a healing environment, reducing the monotonous, institutionalized ambiance and enhancing the overall user experience.

5.2 VOLUMES

Spatial volumes play a crucial role in creating healthy environments that do not exacerbate anxiety, depression, or stress. Lobbies and waiting areas should offer adequate horizontal and vertical dimensions and proportions tailored to the number of occupants. In spaces designed for larger groups, vertical height should be sufficient to create a sense of openness and personal space, without inducing feelings of claustrophobia.

5.3 COLOUR

When designing spaces for neurotic patients, particularly those with conditions like OCD, the use of color must be approached with great care. Color theory should be applied with an emphasis on the psychological impact of hues, balancing subdued colors with brighter tones to regulate emotional states. While neutral colors may contribute to an institutionalized atmosphere, the overwhelming use of white, common in many NIMH facilities, can create a monotonous and sterile environment. Although an excess of colors can be distracting, incorporating natural tones can offer a more balanced and grounded aesthetic. Moreover, the therapeutic potential of color extends beyond mere aesthetics. Chromotherapy, or color therapy, is increasingly used to treat mental health conditions such as depression, anxiety, stress, sleep disorders, and high blood pressure (Ohwovoriole, 2023). This approach involves exposing patients to specific colors and light to produce therapeutic effects, including direct skin contact with light. Architectural elements, such as rose windows and colored glass, can be integrated into color therapy to enhance its benefits. Warm colors are often used to stimulate energy, while cooler tones are employed to calm and soothe. In this context, thoughtful color palettes should be carefully chosen for each space to support both healing and emotional regulation.

5.4 MATERIALS

Hygiene and material maintenance are essential for fostering a positive perception of space in medical facilities. The use of natural and durable materials such as timber, terracotta, and stone can help break the monotony often found in institutional settings, like the existing ambiance of NIMH and to create a more homely atmosphere. Avoiding dull, repetitive colors in local architecture adds vibrancy to the space, enhancing its aesthetic appeal and creating a more engaging and welcoming environment for users.

5.5 ACTIVE PARTICIPATION

The study recommends that this building complex incorporate more open and green spaces, especially through the inclusion of courtyards and multiple garden areas along the pathways enhanced with strategic seating arrangements. Accessible immersive courtyards should be designed with thoughtful landscaping to serve specific functions and encourage engagement. Large outdoor spaces should feature emotional drivers—elements that motivate users to spend time in these areas—since existing open spaces at NIMH are often underutilized. Casual spaces can be integrated into expansive courtyards and gardens, with seating arrangements and opportunities for outdoor activities designed to foster user interaction. By directing attention to positive, inviting spaces, creating informal pathways through courtyards and gardens can further increase their use, grounding users through both spatial experience and perception.

5.6 VISUAL CONNECTIVITY

Visual connectivity in residential wards is fundamental in this facility for fostering a sense of freedom and security for the occupants. Zoned areas in the hospital should be easily observable. For instance, the patients should have access to open, well-defined spaces that maintain visual connectivity while preserving privacy.

6. Discussion and Conclusion

Stigma connected with mental illness and associated discrimination and prejudice have become significant barriers in seeking psychiatric treatment and therapy worldwide by the patients diagnosed with mental disorders. Further adding to this platter, local mental health institutions, regardless of being well equipped with a range of up-to-date treatment options and services, have been stigmatized due to their architectural ambience, eventually being undermined for their ability to effectively accommodate patients and their support network. As a result, access to essential therapy and treatment is hindered, even for those diagnosed with mental health conditions. This study intended to identify strategies for manipulating architectural elements and spatial characteristics to create more welcoming, stigma-free environments in mental health facilities, using the National Institute of Mental Health (NIMH) in Colombo, Sri Lanka, as a case study.

The study demonstrated the significance of the design of a mental health hospital on the perceptions of the general public. This extends beyond the hospital's environment itself, shaping their views on the quality of mental health treatments and services offered and also affecting the perceptions of individuals seeking care.

The overall perception of the facility by the public sample tested was found to be overwhelmingly negative. More than 50% of the participants reported a “prison like” scary, gloomy, unwelcoming negative ambience which heightens the stigmatization of the institute. A high percentage of the respondents reported low scores for wellbeing for all of the seven spaces tested. Self-reported symptoms of depression, anxiety, and stress were high in all the spaces examined. The highest levels were reported at the interior of the old ward, followed by the exterior of the new ward. Accordingly, visiting this hospital facility, which is meant for the therapy and healing of patients and their support teams, is found to be as disabling as the illness itself, further worsening their condition and reinforcing the associated stigma due to its architectural characteristics. It is crucial to address these factors in the process of destigmatizing mental health institutions and creating environments conducive to healing and support. The most significant suggestions to de-stigmatize this mental health establishment in Architectural terms are to incorporate more open spaces, connect with outdoor greenery, and create more spacious interiors, while manipulating elements like color, lighting, and nature to foster a more conducive patient/public experience. The necessity to carefully manipulate the spatial characteristics of NIMH such as volume, colour, materiality, textures, and natural lighting to positively influence human psychological parameters like sensory legibility, sense of self, containment, and acceptance is highlighted by the study.

These interventions can influence public perceptions of the buildings and reshape attitudes toward mental health treatments and caregiving systems. By creating an empowering atmosphere within these institutions, a positive shift in social acceptance of patients with mental health challenges can be created while improving awareness on treatment and therapy methods and increasing the public acceptance of the institution itself. Furthermore, a stigma-free architectural environment will encourage patients to embrace the space, the system, and the therapeutic process with greater trust and confidence.

7. Acknowledgement

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