

ENHANCING THE MENTAL HEALTH OF HOTEL GUESTS THROUGH INTERIOR DESIGN

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ABSTRACT

In recent years, the prevalence of mental illnesses, particularly depression, has risen globally, prompting a growing focus on maintaining a healthy work-life balance to support mental health. This trend has significantly influenced the hospitality industry, with many hotels prioritizing the overall well-being of their guests through various treatments and activities aimed at physical, mental, and spiritual enrichment. Despite this focus, the impact of hotel space and design on mental health remains largely overlooked. This article explores the influence of interior architecture & design on mild depression within the context of hotel rooms through a comprehensive literature review in psychology, interior design, and neuroarchitecture. The content is categorized in different areas of interior design: spatial attributes, surface finishes, and lighting design. The analysis and comparison of multiple study findings indicate that the incorporation and utilization of natural elements across all three categories have a significant impact on the overall well-being of individuals.

KEYWORDS

Neuroarchitecture; hotel room design; interior design; mental health; biophilic design

1. INTRODUCTION

In recent years, mental illnesses have surged globally, with depression being a leading issue (WHO 2023). Despite the rising number of cases, only a few seek professional help, often due to limited therapy options or financial, social, or geographical barriers (Majlessi 2018). This has driven many to seek a healthier work-life balance to support mental well-being, which has fueled a booming wellness market (Callaghan et al. 2021). The hospitality industry has responded by focusing on guests' well-being through treatments and activities for physical, mental, and spiritual health (Hart 2022). However, the role of hotel room design in promoting mental health is often overlooked. Architecture and interior design can use psychological insights to create spaces that support mental health, especially for conditions like mild depression. This article examines the influence of lighting design, surface finishes, and space planning in hotel rooms on the mental disorder mild depression.

2. DEPRESSIVE DISORDERS

Depression can manifest in various forms and types, having fluctuating intensities, and coexist with other disorders. According to the WHO, depression can be categorized and occur in mild, moderate, and severe episodes (Dilling, Mombour, and Schmidt 2015, 169-170). Depressive disorder or depression is a mental

condition which is characterized by starting experiencing typical symptoms like “gloomy mood, loss of interest/joylessness or lack of motivation/listlessness” (ibid.). Common symptoms include feelings of excessive remorse, pessimism, disturbed sleep and low appetite, arriving at stages of suicidal thoughts.

Due to the broad variety of depression-causing factors and the highly individualized nature of this clinical disorder, the treatment process can be complex and often necessitates the consideration of multiple starting points. The accessibility and availability of those treatments vary, often leaving individuals to find suitable treatments on their own. Nowadays, various treatments options such as psychological therapies, and medication or alternative treatments, such as meditation or breath work are available to support affected individuals. Oftentimes, individuals are not aware or ignore their condition and are not willing to actively seek help or go to the doctor. Appropriate treatments and approaches vary depending on the type of depression and each individual patient. This article will focus entirely on

mild depression, a stage where mental and physical health are yet not severely at risk. Mild depression is characterized by experiencing less frequent, less severe, and less intense symptoms compared to the clinical picture of moderate and severe depression (figure 1) (Dilling, Mombour, and Schmidt, 170-171).

While medical science is often concerned with treating only the physical symptoms of the disorder, the importance of the physical environment in which we live in is often neglected (Dilani 2009). In particular, architectural design can influence feelings and emotions through factors like geometry, light, space, materials, or colors. Already in 1849, John Ruskin highlighted this in his first book “The seven lamps of architecture”, emphasizing architecture’s role in mental health (Taylor-Foster 2015).

Architecture is the art, which so disposes and adorns the edifices raised by man for whatsoever uses, that the sight of them contributes to his mental health, power and pleasure.

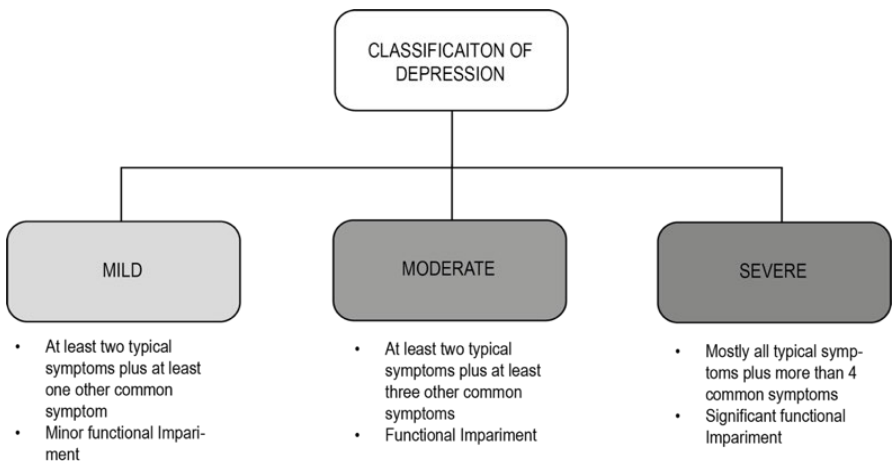


Figure 1. Classification of Depression based on WHO. Source: (Own representation of author)

For the last couple of decades, the emerging discipline of neuroarchitecture is addressing the effect that architecture can have on human emotions, behavior, and thought process (Abbas et al. 2024). Studies have shown that architecture and design are more than a physical entity. They are an extension of our being and thinking, and express our thoughts, emotions, and sometimes our unconscious desires. The knowledge of how human cognitive processes interpret visual information - sensitive to colors, forms, and spatial characteristics - underscores the importance of architecture and design on the well-being and emotional state of a person (ibid.).

3. HOTEL ROOM DESIGN & THE IMPACT ON WELL-BEING

The hospitality industry increasingly values design, recognizing that a hotel's environment plays a crucial role in providing an escape from daily stress. The demand for holistic experiences that focus on physical, mental, and spiritual well-being has grown enormously, further emphasizing the importance of design in meeting these needs. By integrating thoughtful design with facilities and offers, hotels can create a healthy environment for their guests.

Hotels are categorized by size, type, target group, or quality and service characteristics. Spatially, all share a division between communal and private spaces (Skylar 2022). Communal spaces vary in size and purpose depending on the hotel type, typically including restaurants, lobbies, receptions, and restrooms. The demand for more amenities has led hotels to expand their offerings to include spa and wellness areas, treatment rooms, gyms, yoga, and meditation rooms, bars, hotel stores, tea rooms, cafes, and lounge areas (Hood 2023). In contrast, the hotel room, that holds a significant importance in the overall structure of a hotel,

has apparently lost relevance in the purpose of addressing well-being improvement for the guest. However, they remain crucial as they serve as guests' home away from home, where comfort, privacy, and security are of great importance (Kilburn 2021).

There are several interior design strategies to consider when planning a hotel room in a way that it provides all practical requirements while at the same time has a relaxing, healing, and curing effect on the guests, in particular for those suffering from mental disorders like mild depression. One of the key elements when designing a space is to consider who the user of the space is. Every design decision in a hotel room can have an impact on the individual who is occupying it. In the case of a hotel room with the focus on decreasing symptoms of mild depression, the goal is to create a fostering atmosphere.

Factors that make a room a practical and suitable space include physical and environmental attributes, which in combination can make it a functional and emotionally appropriate space for the user (Gifford, Steg, and Reser 2011). Design strategies should consider both physical entities like color, texture, form, and space as well as light, sound, temperature, and humidity as environmental factors that combined, impact the perception and therefore experience of a space (ibid.). Furthermore, it is to consider that besides aesthetic issues, other variables such as culture or religion can have an individual influence on spatial perception (Grigoriou 2019, 55). This article focuses on three interior design factors which play an important role in developing a psychologically supportive design for a hotel room. While further elements and issues are not to be neglected, the topics of spatial attributes, surface finishes, and lighting design are the most prominent matters that can be controlled and influenced by an interior architect/designer in the process of planning a hotel room.

3.1. Spatial Attributes

Environmental psychology and neuroscience studies show that physical configuration of space influences emotions and the subjective well-being. Interior architecture/design addresses spatial characteristics already in early design phases. Defining the space regarding size, volume, scale, proportions, as well as necessary divisions, activities, and functionalities, results in a plan that includes crucial information about the structural conditions of the space, as well as about its purpose and circulation. Therefore, knowledge of how the physical environment impacts feelings can help design interiors that enhance positive psychological responses. Firstly, when designing a space, knowing the type of environment is important. Environmental psychology suggests an invisible series of shelters around every person, defining privacy levels. Edward T. Hall describes these as intimate, personal, private, and public spaces (Hall 1990, 115-125) (figure 2). Whereas communal areas represent public spaces, hotel rooms belong to the intimate ones. To foster a good mental health impact and improve mild depression, the first ones should encourage social exchange, while hotel rooms should offer tranquility and comfort. These needs translate into very specific decisions

to be taken in terms of space planning in a hotel room and address the balance between positive and negative space, the control of privacy, and the relationship with the exterior.

Effective space planning ensures aesthetically pleasing and functional design (Pierrus 2023) and the layout and flow in a hotel room are crucial for well-being (Grigoriou 2019, 154-155). The way the positive space (occupied with furniture/objects) is defined by the negative one (open, free) sets the path for a clearly structured, easy-to-navigate layout that eases guests' minds (Pierrus 2023). Negative space is also important for organizational and visual comfort. Providing sufficient integrated storage or closed furniture helps keep the room organized, facilitating calmness and positively impacting well-being (Foyr 2022). In regard to the positive space, it is important to consider that higher ceilings tend to foster creativity and positive mood (Foye 2016, 439), whereas lower ceilings can provide a positive atmosphere if the room has a harmonious ratio of negative and positive space (Foyr 2022). Furthermore, including furniture and decoration, influences the atmospheric conditions of the room and consequently, the guests' feelings (König 2011). Privacy is another crucial aspect of a hotel room's design. Invasion of personal space by staff or visitors can cause stress for guests (Blackledge, 2014). Therefore,

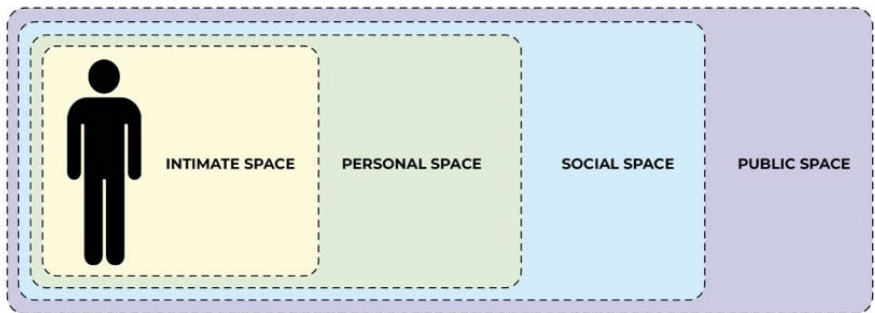


Figure 2: The Four Categories of Space by Hall. Source: (Own representation of author)

implementing visual control strategies is essential. One effective approach is creating a defined entrance space to establish a buffer zone. Additionally, the installation of a second door or the integration of design elements that block direct views into the room's most private areas, such as the bed and bathroom, can significantly enhance privacy. These strategies allow guests to manage their comfort, thereby reducing stress and fostering a sense of security and mental well-being.

Daylight, fresh air, and exterior views positively influence mild depression (Dinlani 2009, 60). Studies show that visibility to the outside has a grounding effect and reduces stress. Therefore, window placement and orientation are crucial for a positive and healing atmosphere. From the interior design perspective, the position and characteristics of the windows may not be malleable, but the relationship and proportion of the space and especially the position of elements in the room in relation to the windows are still to be determined. The way partitions, furniture, and drapery and sun shading are defined, can have a great impact in the relationship between interior and exterior. For example, providing seating arrangements close to the windows and facilitating views in general, create a positive effect in the impact of the space in the guests' mental state.

The Lanserhof is a wellness and health resort on the German North Sea island of Sylt, which excels at integrating the principles mentioned above. Designed by Düsseldorf-based architect Christoph Ingenhoven, and situated in the middle of a natural reserve, each room in the hotel exhibits a meticulous spatial organization. On one hand, the rooms are open and spacious, creating a strong connection to the natural surroundings through large windows, terraces, or balconies. At the same time, the design carefully maintains privacy through thoughtful control of views.

3.2. Surface finishes

Architectural surface finishes refer to the variety of colors, materials, coatings, and textures affecting floors, ceilings, walls, columns, beams, and other exposed surfaces of a building (Speedpro 2020). These finishes serve both functional and aesthetic purposes. For instance, surface finishes can protect structural elements from decay, like powder coating steel prevents corrosion and allows for aesthetic customization by choosing desired colors and sheen (Bhadu et al. 2013). The chosen surface finish for an interior space can influence an individual's well-being positively or negatively (Grigoriou 2019, 109).



Figure 3: Room Layout Lanser Hof in Sylt, Germany: Source: (Lanser Hof 2024)

The phrase “I am feeling blue today” illustrates how color describes emotions (Sharma 2022). The connection between color perception and emotions has a long history. Color is defined as “the sensation created by light rays reflected by objects in our eyes” (Korkmaz 2016, 47). Colors are a fundamental component of our environment, and their effect on human perception is indisputable. (Ćurčić et al. 2019, 868). The impact of colors on mental and physical states falls under color psychology (Hope 2022). Warm colors like red, yellow, orange, as well as some shades of green, stimulate the nervous system, affecting heart rhythm, blood pressure, and breathing, thus inspiring activity. However, these colors are not ideal for spaces meant for relaxation, such as hotel rooms. In contrast, cool colors like green, blue, indigo, and violet reduce pulse rates, lower blood pressure, and slow breathing, and are often used in hospital “blue rooms” for their calming effects (Ćurčić et al., 2019, p. 871).

Color perception is influenced by cultural, religious, physiological, and psychological factors, as well as by hue, tone, and saturation. For example, dark blue can evoke feelings of depression, while light blue is calming. Geographical regions also affect color preferences, with warmer colors favored in cooler regions and cooler colors in hotter regions (ibid.). Studies suggest that natural and biophilic-inspired color schemes, like

those featuring shades reminiscent of wood, sand, earth, plants, and sky, have positive effects on mental health. These colors help reduce stress and anxiety while encouraging positive emotions and creativity. The color palette typically includes beige, brown, green, and blue tones, which extend the beneficial impact to both materials and textures (Casamassima, 2020).

As well as colors, material and texture choices in interiors relate to the use, purpose, and desired atmosphere. The incorrect combination of textures or materials for specific settings and user groups is problematic, not the materials themselves (Grigoriou 2019, 109). Using natural materials in hotel rooms promotes calmness and comfort. Materials such as wood, stone, leather, and greenery positively affect human psychology by reducing brain activity, stress, and symptoms of depression and anxiety, and by lowering blood pressure (An et al. 2016). A Canadian study from 2006 found wood to be the most warm, natural, relaxing, inviting, and homey among natural materials, performing better than artificial materials like glass and plastic. Natural materials’ textures decrease the stress hormone cortisol, reducing stress and anxiety. Among all, wood provides the highest positive effects, followed by stone and leather, making them recommended materials for psychological support in spaces (Rice et al. 2006).

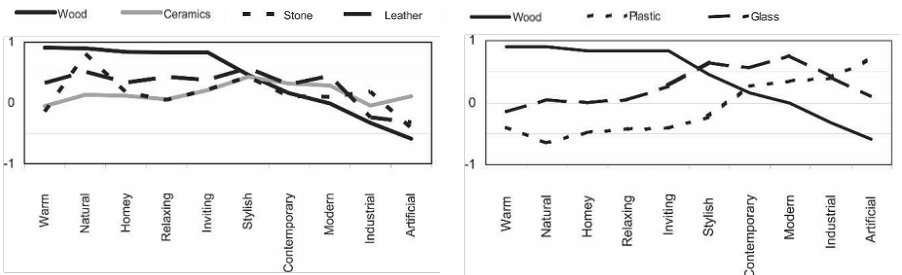


Figure 4: Perceived attributes of wood versus other natural & artificial materials Source: (Rice et al. 2006)

Maggie's Cancer Centre in Leeds, designed by Heatherwick Studios, offers a compelling example of how interior design can prioritize psychological support for its occupants. The center provides free practical and emotional support to cancer patients. Within the 462-square-meter facility, the interior spaces are thoughtfully arranged to create a warm, home-like atmosphere that fosters comfort and well-being. The interior design emphasizes the use of natural materials and tactile elements to evoke a sense of calmness and connection with nature. Exposed spruce timber dominates the design, giving the spaces a sense of warmth and continuity. Timber is not only used for structural elements but also for interior features such as the staircase, railings, shelving, and tables, enhancing the inviting and natural aesthetic of the rooms. Cork and cream-colored lime plaster on ceilings and walls help maintain internal humidity while providing a visually soothing background. Furthermore, abundant greenery integrated throughout the space, combined with a natural color palette of earthy tones, reinforces a connection to nature, reducing stress and promoting tranquility.

3.3. Lighting design

Natural daylight is essential for humans, as we evolved linked to the rhythms of the natural light-dark cycle of day and night, known as the circadian rhythm (Endukuru, Mishra, and Reddy 2010, 5737). This internal clock regulates sleep-wake patterns, serotonin and melatonin release, and blood pressure (ibid.). Serotonin affects mood, appetite, and sleep; a deficiency due to lack of sunlight can cause anxiety and depression (Wan 2023). Numerous clinical studies have examined daylight's impact on the human body and mind. A 2021 study found that exposure to daylight inside buildings helped participants fall asleep faster and feel more vital during the day (Colino 2023). It also triggered positive emotions and increased overall well-being (ibid.). A 2016 study showed that hospitalized patients in south-east facing rooms had shorter stays compared to those in north-west facing rooms with little winter sunlight (Gbyl et al. 2016, 201). Natural daylight is crucial for mental health and should be considered in hotel room design. The size, height, position, and orientation of windows significantly affect light perception. Insufficient light can cause depression, while too much direct light can cause eye strain (Colino 2023). Thus,



Figure 5: Maggie's Cancer Centre in Leeds, UK. Source: (Heatherwick Studio 2024)

shutters, shades, or curtains are important for comfort. Additional design strategies include roof lights and using glass separators to enhance daylight distribution.

Besides daylight, artificial light plays a relevant role coming from diverse sources like candles, electric bulbs, or oil lamps (Dere 2023). Light is categorized by color temperature, measured in kelvins. Warm light (2700-3200 K) creates a relaxing, inviting atmosphere, reducing eye strain and promoting restful sleep, beneficial for well-being (Wan 2023). Cool light (4000-6500 K) emits white or bluish-white tones, enhancing productivity, wakefulness, and alertness. It improves cognitive performance and provides a sense of security but can disrupt circadian rhythms and melatonin production, potentially increasing depression risk (Wan 2023; Hu et al. 2020). Therefore, in hotel rooms supporting mild depression, the use of warm light up to 4000 K is recommended. This particularly applies to sleeping and living areas. Neutral or cooler light can be used near desks for better visibility. Furthermore, indirect lighting can highlight design features and create comfort.

As with surface finishes and colors, light perception is individual, influenced by personality, anxiety levels, culture, and personal experiences. A 2021 study showed that what is too cold for one person may be just right for another (Shahidi et al. 2021). Therefore, the most recommended strategy is to plan multiple light sources in different tones with dimmable options, like the Human-Centric Lighting System (HCL). This system allows guests to adjust lighting to their emotional state, regulating lighting based on visual, emotional, and biological factors, simulating natural light cycles to support mental health (Issuu 2018).

4. CONCLUSION

The objective of this study was to analyze how the use of interior design strategies can create a curative atmosphere for people suffering from mild depression, in the

setting of a hotel room. Therefore, space planning, surface finishes, and lighting design, and their effect on mental health has been analyzed. The main finding which all design strategies had in common was the relationship with nature. An overall biophilic design approach can reduce feelings of fatigue, improve mental attentiveness, and general happiness. Psychologically supportive design impacts vital values and clinically measurable figures such as blood pressure, heart rate and respiratory rate. The importance of natural daylight in interior spaces and the existence, placement, and relationship to windows for a visual outlook into nature, have a calming and curative impact on an individual and decrease symptoms of mild depression. Colors, materials, and textures derived from natural elements have been found to have a beneficial impact on our psychological health and foster a healing, comforting, and curative environment. The tactility of natural materials also has a grounding effect on people and contributes to a psychologically supportive interior design.

After reviewing current studies and existing literature it is to conclude that all of the above-mentioned strategies can have a significant impact on a guest's mental health and also on the experienced intensity of symptoms of mild depression. Nevertheless, the well-being of a person is a state which is affected by a variety of physical, emotional, and transactional issues. Interior design is able to support the well-being of a hotel guest but only to certain extend. The perception of color, light, and space can be subjective due to cultural, religious, and geographical aspects or due to physical and mental conditions. Designing a one-fits-all hotel room which is curative for guests from all over the world can be challenging. This makes the planning essential and requires adaptable design strategies, giving guests the flexibility to individually change the atmosphere in according to their needs.

The topic of mental health and well-being is not a trend anymore but a factor with which interior architects and designers will have to work with in the future. Yet still, the importance of establishing a psychologically supportive architecture and design is frequently overlooked, especially in institutions like psychological clinics which are the primary hubs for those seeking help. The opportunities for architects to impart their knowledge of this field into their design practices are endless. Prisons, elderly homes, kindergartens, or schools, all in which mental health plays an important role, present themselves as potential future cases of study. In times of increasing mental health diseases, interior design can play a pivotal role in creating and improving supportive spaces to cater to society's needs of tomorrow.

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