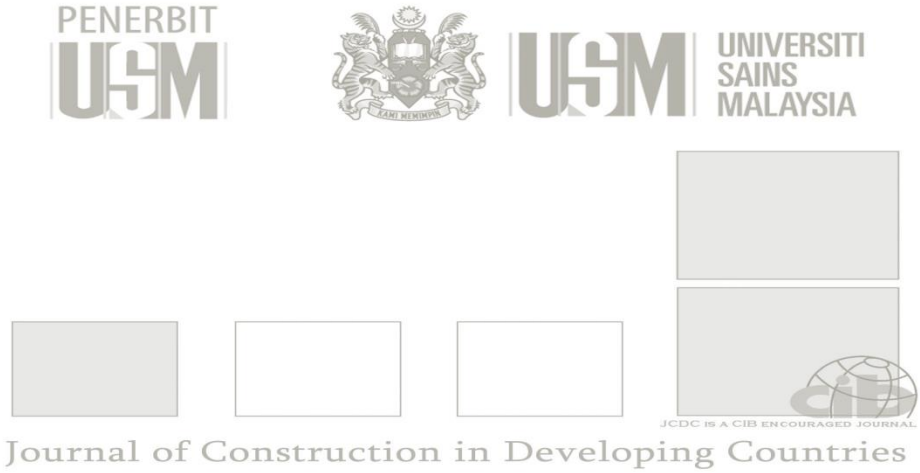

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Factors Influencing Healing Space Design for the Enhanced Well-Being of Occupants: A Systematic Literature Review

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Abstract: Healing space design can promote healing, foster a positive atmosphere, positively influence health-related outcomes, reduce stress, decrease healthcare expenditures and enhance well-being. However, a systematic literature review that identifies factors influencing healing space design for the enhanced well-being of occupants is lacking. The influencing factors in healing spaces play a crucial role in the healing process. Therefore, this study aimed to bridge the existing research gap by conducting a systematic literature review that comprehensively identifies and analyses the factors influencing healing space design for the enhanced well-being of occupants. This review synthesised research evidence from Google Scholar, ResearchGate, ScienceDirect, Web of Science and Scopus (studies published between 2013 and 2023). Several critical influencing factors were identified, including nature, lighting, colour, social support, sense of control, privacy, safety, spatial layout, noise control, art and home-like environment. This study provides valuable guidance and insights for designers, environmental planners, architects and policymakers to improve people's well-being through effective healing space design.

Keywords: Healing space, Factors influencing healing space design, Well-being

INTRODUCTION

Space can elicit various emotional responses and profoundly impact an individual's emotional state (Tuszyńska-Bogucka et al., 2020). However, negative environments can be detrimental to a person's mental, physical and spiritual health and can hinder their ability to lead a fulfilling life (Blom, 2013). Accordingly, environmental interventions can be a valuable tool for improving quality of life (Huelat, 2023). Numerous studies have demonstrated that a well-designed healing space can positively influence health-related outcomes, foster a positive atmosphere, reduce stress, decrease healthcare expenditures and enhance well-being (Alt, 2017; Gupta et al., 2019; Gushée, 2018; Montefiore, 2023; Pragati et al., 2021; Sabar & Djimantoro, 2020). Since

Ulrich's groundbreaking study in 1984, which demonstrated that hospital rooms with natural scenery could expedite the recovery of surgical patients and reduce their hospital stays, additional studies have emphasised the importance of natural environments in promoting relaxation and attention restoration (Kaplan & Kaplan, 1989). Building on these early findings, numerous studies have explored the impact of space on healing perceptions and human health. A significant body of research has thus focused on designing healing spaces. However, a significant knowledge gap remains in the current studies on healing space design.

The predominant focus of the current studies lies in examining natural elements and evaluating the importance of healing spaces within healthcare environments, particularly concerning patients. Nonetheless, few comprehensive studies have aimed to systematically identify and analyse the influencing factors in healing space design that can significantly enhance the well-being of its occupants via a systematic literature review (Gupta et al., 2019; Hastuti & Lorica, 2020; MacAllister et al., 2016; Nijhuis, 2017; Pragati et al., 2021). The influencing factors in healing spaces play a crucial role in the healing process (Iyendo et al., 2016; Kim, 2021; Mahmood & Tayib, 2020; Timmermann et al., 2015). Therefore, this study aims to bridge the existing research gap by conducting a systematic literature review to comprehensively identify and analyse the factors influencing healing space design for the enhanced well-being of occupants. This study provides valuable guidance and insights for designers, environmental planners, architects and policymakers to improve people's well-being through effective healing space design.

To achieve this aim, this study addresses the following research question: What are the influencing factors in healing space design that contribute to enhancing the well-being of occupants? By investigating the research question, this study aims to gain a comprehensive understanding of the factors that play a crucial role in healing space design and their effects on well-being enhancement. The findings will contribute to the existing body of knowledge and provide practical implications for professionals involved in the design and planning of healing spaces.

DESCRIPTIONS OF HEALING AND HEALING SPACE

The term 'healing space' carries a comforting connotation (Huelat, 2003). It refers to a physical environment capable of positively influencing individuals, evoking feelings of comfort, relaxation and calm (Huisman et al., 2012; MacAllister et al., 2016). Moreover, a healing space can be defined as a comprehensive environment that encompasses both physical and non-physical aspects meticulously designed to facilitate the recovery process (Ghazali & Abbas, 2012).

Healing, as a concept, transcends the mere absence or presence of disease and encompasses a comprehensive and transformative process that involves the repair and recovery of the mind, body and spirit (DuBose et al.,

2018). This leads to positive changes (DuBose et al., 2018). Unlike the term 'cure', which implies the elimination of all evidence of a disease, 'healing' denotes the achievement of wholeness, not only physically but also mentally and spiritually (Firth et al., 2015). Healing involves restoring balance in the body and creating opportunities for recovery. Even when a physical cure is unattainable, healing can significantly enhance overall well-being (Singh et al., 2021).

A well-designed healing environment can significantly enhance the healing process because the elements surrounding an individual can actively support their innate healing capabilities (DuBose et al., 2018). Therefore, it is not only beneficial but also imperative to conduct research on the factors influencing healing space design, as it can significantly enhance the effectiveness of such spaces (Iyendo et al., 2016; Kim, 2021).

CURRENT STUDIES ON HEALING SPACE

As shown in Figure 1, studies related to healing spaces or healing environments are primarily associated with biophilic design, healing gardens and therapeutic landscapes, and there is a strong association of these studies with hospital and healthcare settings. Additionally, related studies are linked with diverse topics, such as self-healing, well-being, mental health, COVID-19, cancer and stress (Figure 1). Table 1 corresponds to the VOSviewer output of studies related to healing space design (complementing the insights from Figure 1). Moreover, these studies aimed to evaluate the significance of healing spaces within healthcare environments and to identify the factors that influence the design of such spaces. These studies provide valuable guidance and references for designing healing spaces, and they offer approaches to creating such environments.

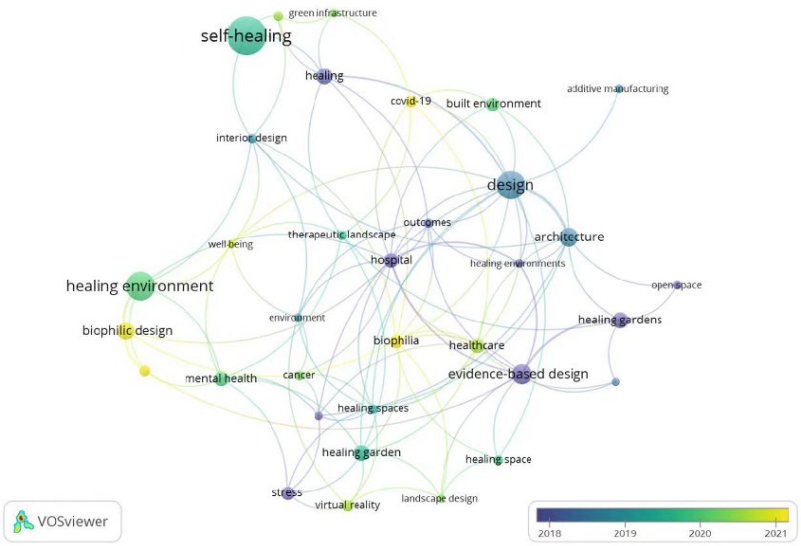

Figure 1. VOSviewer output of studies related to healing space design

Table 1. Related studies on healing space design

Author	Aim	Method
Gupta et al. (2019)	Creating healing spaces in healthcare	Qualitative
Nijhuis (2017)	Investigating factors of healing environment in hospitals	Quantitative
Timmermann et al. (2015)	Investigating factors of healing space in patient rooms	Qualitative
Mahmood & Tayib (2020)	Assessing the impact of factors on creating healing spaces	Quantitative
Pragati et al. (2021)	Examining the role of creating a healing environment	Systematic literature review
Kim (2021)	Understanding the role of open spaces contributing to social healing	Qualitative
MacAllister et al. (2016)	Understanding the healing experience of patients within the hospital	Mixed
Rafeeq & Mustafa (2021)	Exploring the impact of inpatient layout on creating a healing environment	Mixed
Liu et al. (2022)	Analyzing factors impacting healing space's environmental identifiability	Quantitative
Ali & Farzaneh (2017)	Examining cognitive and social factors' role in elderly nursing residence healing	Quantitative
Alt (2017)	Examining the healing function of sacred spaces.	Qualitative
Cleveland (2014)	Designing healing space through nature and environment integration.	Mixed
Hastuti & Lorica (2020)	Determining the advantages of healing gardens	Systematic literature review
Zhang et al. (2022)	Exploring how healing perception, place attachment, and environment design influence visitor loyalty.	Quantitative
He et al. (2022)	Exploring the healing benefits of plant landscapes	Qualitative
Lotfi et al. (2020)	Using vertical gardens to promote restoration in urban environments.	Quantitative
Bansi (2017)	Exploring the role of biophilic design in promoting healing	Mixed
Belčáková et al. (2018)	Creating a healing environment for patients and employees	Quantitative
Daelemans (2020)	Illustrating church architecture's healing and spiritual impact.	Qualitative
Marques et al. (2019)	Researching therapeutic landscape design for older individuals' well-being.	Literature review
Gashoot (2022)	Evaluating the influence of interior design features in hospital settings.	Qualitative
Fisher et al. (2021)	Examining the role of green/blue spaces	Quantitative

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Table 1. (*Continued*)

Author	Aim	Method
Cooley et al. (2020)	Creating a framework for outdoor nature therapy	Systematic literature review
Finlay et al. (2015)	Studying the impact of green and blue spaces on older adults' well-being	Qualitative
Twedt et al. (2016)	Exploring the role of gardens	Quantitative
Nagib & Williams (2018)	Exploring the role of the therapeutic landscape at home	Quantitative
Van der Linden et al. (2016)	Examining the concept of healing environments.	Qualitative
Uwajeh et al. (2019)	Studying the role of therapeutic gardens	Literature review

Notably, these studies primarily employed a single research method (either quantitative or qualitative) and focused mainly on medical settings, with patients as the primary research subjects (Table 1). This methodological bias could potentially limit the comprehensive understanding of healing space design, as each research method brings unique insights. Moreover, the exclusive focus on medical settings and patients may restrict the generalisability of the findings to other environments and occupant groups. Limited attention has been paid to evaluating the influencing factors in healing space design for the enhanced well-being of occupants using a systematic literature review. This literature gap suggests that while existing studies provide valuable insights, there remains a need for a more holistic exploration of the diverse factors that contribute to the effectiveness of healing space design.

Recognising the crucial role of influencing factors in the healing process, this study aims to bridge the existing research gap by conducting a systematic literature review that comprehensively identifies and analyses the factors influencing healing space design for the enhanced well-being of occupants. By explicitly addressing these limitations and undertaking a thorough analysis of influencing factors, this study seeks to contribute valuable insights to the evolving field of healing space design.

RESEARCH METHOD

This study employed systematic methods to collect secondary data from various existing studies, including quantitative, qualitative and experimental studies and randomised controlled trials. The primary objective was to comprehensively analyse and synthesise the gathered findings, both qualitatively and quantitatively, to identify the factors that influence the design of healing spaces with the aim of enhancing the well-being of

occupants. In this systematic review, the researchers adhered to the guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2009 to ensure proper reporting and rigorous methodology throughout the review process (Moher et al., 2009).

Search Strategies and Study Selection

The researchers conducted a comprehensive search across various academic databases, including Google Scholar, ResearchGate, ScienceDirect, Web of Science and Scopus, with the aim of identifying relevant articles about healing space design and the factors influencing it. The search was conducted using keywords such as 'healing space or healing environment', 'healing space design' and 'factors affecting healing space design'. These keywords were chosen to target articles specifically addressing the design of spaces intended to promote healing and well-being as well as those discussing the various factors that shape such healing spaces.

The database search yielded 514 articles related to the topic of healing space design. Subsequently, these articles underwent a rigorous screening and eligibility assessment following the predefined inclusion and exclusion criteria (Table 2). The selection process involved two screenings. In the initial screening, the three authors independently evaluated the articles based on their titles and abstracts. Following this, articles deemed potentially eligible were identified. In the second screening, eligible articles were assessed independently via a thorough examination of the full text by the three authors. Any discrepancies in the selection of articles were resolved through discussion and consensus among the authors regarding the application of the inclusion and exclusion criteria.

Table 2. Inclusion and exclusion criteria for articles

Criteria	**Inclusion Criteria**	**Exclusion Criteria**
Study topic	Exploration of healing space design	Studies unrelated to the exploration of healing space design
Study type	Both qualitative and quantitative studies, including empirical research, case studies, literature reviews, theoretical analyses, systematic reviews, and meta-analyses.	Non-peer-reviewed sources, such as newspaper articles, magazines, blogs, and non-academic websites.
Study language	Articles written in English.	Non-English studies.
Type of subject	Studies involving individuals interacting with or residing in healing spaces.	Studies not involving individuals interacting with or residing in healing spaces.
Intervention	Design factors enhancing well-Being in healing spaces.	Studies that do not specifically examine design factors aimed at enhancing well-being in healing spaces.

(*Continued on next page*)

Table 2. (*Continued*)

Criteria	Inclusion Criteria	Exclusion Criteria
Content	Studies focus on exploring the design factors enhancing well-being in healing spaces.	Studies that do not focus on exploring the design factors enhancing well-being in healing spaces.
Outcome measure	Enhanced well-being	Studies that do not measure or assess enhanced well-being as an outcome.
Full-text articles	Only full-text articles can be considered for inclusion.	Articles that are not available in full text.
Publication Timeframe	Studies published between 2013 and 2023.	Studies published before 2013.

Figure 2 provides an overview of the search process. Through this meticulous screening process, 24 full-text items were identified as meeting the criteria for inclusion in the systematic review. These selected studies primarily focused on examining factors influencing healing space design. The systematic review synthesised the findings from these 24 studies, providing valuable insights into the pivotal factors shaping healing spaces to enhance occupants' well-being.

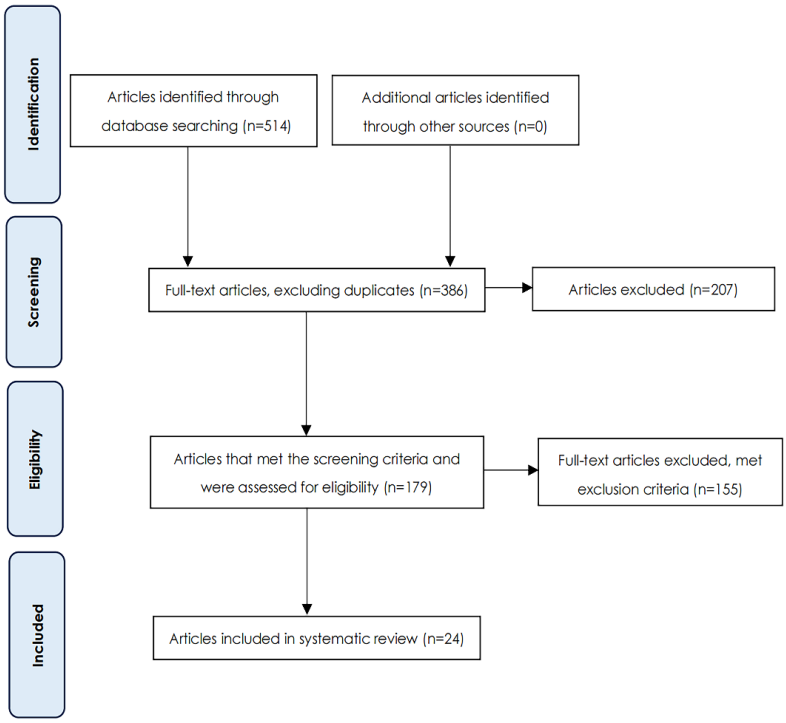

Figure 2. Flow chart of screening

Quality Assessment

The quality assessment process within this systematic literature review was designed to assess the reliability and validity of the 24 full-text articles. Each study's quality was evaluated based on five key criteria: research design, data collection instruments, sample size, outcome measures and

interpretation of major findings. These criteria aligned with the PRISMA 2009 checklist and flow diagram, ensuring a rigorous and comprehensive evaluation process. The three authors independently evaluated the quality of the studies, followed by a comparison of their scores. Any disagreements were resolved through discussion until consensus was reached. The studies exhibited variations in meeting the quality criteria, and none were excluded throughout the appraisal process.

Data Extraction

The data extraction process entailed the organisation of pertinent information from 24 selected full-text articles. An Excel spreadsheet was utilised to record key information extracted from each study, encompassing study details, research design, investigated factors, research findings and conclusions. This data extraction process was undertaken with the objective of gathering comprehensive information from each study, thereby facilitating a comprehensive analysis of the factors that influence healing space design to enhance the well-being of occupants. The corresponding author and the first author independently conducted the data extraction from the full-text articles, with the second author cross-verifying the data. Discrepancies were resolved by the second author.

RESULTS

After thoroughly examining and synthesising the findings related to influencing factors of the 24 selected studies (Table 3), the researchers identified 11 factors influencing healing space design for the enhanced well-being of occupants: nature, lighting, colour, social support, sense of control, privacy, safety, spatial layout, noise control, art and home-like environment. These factors are outlined below and in Table 4. Each influencing factor will be individually examined, providing in-depth insights into its significance in healing space design for the enhanced well-being of occupants.

Table 3. Factors influencing healing space design in the included studies

Author	Identified Influencing Factors
Alhsainat (2018)	Sense of control, social support, positive distractions (playing, education, arts, and nature), sensory dimension (sense of touch, vision, and acoustics), age-appropriate environment, security
Gupta et al. (2019)	Color, natural light, landscape, water, material, open space.
DuBose et al. (2018)	Home-like environment, access to view and nature, light, noise control, barrier-free environment, room layout
Nijhuis (2017)	Presence of nature, art, sense of control, ambient conditions

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Table 3. (*Continued*)

Author	**Identified Influencing Factors**
Meng et al. (2020)	Social/spatial support, eliminating the stress factors in the environment, distracting positive things, controllability, positive feelings.
Uwajeh & Ezennia (2019)	Comfortable furniture, social support, nature elements, privacy, lighting, sense of control, artwork, proper signage /wayfinding, and colour
Singh et al. (2021)	Social support, access to nature, light, color, art, gardens, indoor air quality.
Blom (2013)	Connected with nature, thermal comfort, natural materials, sunlight, and natural ventilation.
Sarjani et al. (2020)	Social support, sense of control, and access to nature.
Hesselink et al. (2020)	Sense of control, positive distractions (personalized room, connection to nature and the outside, undertaking activities), social support.
Timmermann et al. (2015)	a view of nature and sunlight
Mahmood & Tayib (2020)	Interior appearance (artificial lighting, colors, art and plants, and interesting ceiling designs), privacy, comfort and control
Beemer et al. (2021)	Connection to nature（viewing, incidental contact, and interacting with nature）, sense of control（direct control and indirect control(social interaction, noise exposure, presence or absence of natural lighting, and overall building quality), and indoor air quality.
Schreuder et al. (2016)	Spatial comfort (interior design, views and access to nature), safety, sense of control, privacy
Rafeeq & Mustafa (2021)	Layout typology
Pragati et al. (2021)	View to the outside, social support
MacAllister et al. (2016)	Homelike environment, positive distraction (TV), soft furnishings, social support
Sabar & Djimantoro (2020)	Homelike environment, sunlight, room layout, noise control, access to nature, barrier-free design.
Sarapultseva et al. (2022)	Views, nature, comfort and control, privacy, interior appearance, facility, dignity.
Gaminiesfahani et al. (2020)	Noise, music, lighting, nature, crowding, color, spatial needs (comfort, safety, and privacy), and positive distraction (play and art).
Bansi (2017)	Natural elements (sunlight, color, raw materials, fresh air), sounds, color, texture, light, shadows, materials, smells.
Gashoot (2022)	Flexibility and mobility, pleasant artwork, window views, technology, bright colors, sense of control.
Nejati et al. (2016)	Visual and access to the outdoors, additional amenities, privacy and Tranquility, sunlight, access to nature, fresh air.
Iyendo et al. (2016)	Natural surfaces, natural lighting, and natural views, landscaped gardens, fascinating colours, Access to personal control, privacy, social support, and positive distraction (art, music, television)

Table 4. Summary of the factors influencing healing space design

Influencing Factors	**Authors**
Nature： natural light, natural material, natural sound, water, natural air, access to nature, view of nature	Alhsainat (2018), Gupta et al. (2019), DuBose et al. (2018), Nijhuis (2017), Uwajeh & Ezennia (2019), Singh et al. (2021), Blom (2013), Sarjani et al. (2020), Hesselink et al. (2020), Timmermann et al. (2015), Mahmood & Tayib (2020), Beemer et al. (2021), Schreuder et al. (2016), Pragati et al. (2022), Sabar & Djimantoro (2020), Sarapultseva et al. (2022), Gaminiesfahani et al. (2020), Bansi (2017), Gashoot (2022), Nejati et al. (2016), Iyendo et al. (2016)
Lighting	DuBose et al. (2018), Uwajeh & Ezennia (2019), Singh et al. (2021), Gaminiesfahani et al. (2020), Bansi (2017)
Colour	Gupta et al. (2019), Uwajeh & Ezennia (2019), Singh et al. (2021), Mahmood & Tayib (2020), Gaminiesfahani et al. (2020), Bansi (2017), Gashoot (2022), Iyendo et al. (2016)
Social support	Alhsainat (2018), Meng et al. (2020), Uwajeh & Ezennia (2019), Singh et al. (2021), Sarjani et al. (2020), Hesselink et al. (2020), Beemer et al. (2021), Pragati et al. (2022), MacAllister et al. (2016), Iyendo et al. (2016)
Sense of control	Alhsainat (2018), Nijhuis (2017), Meng et al. (2020), Uwajeh & Ezennia (2019), Sarjani et al. (2020), Hesselink et al. (2020), Mahmood & Tayib (2020), Beemer et al. (2021), Schreuder et al. (2016), Sarapultseva et al. (2022), Gashoot (2022), Iyendo et al. (2016)
Privacy	Uwajeh & Ezennia (2019), Mahmood & Tayib (2020), Schreuder et al. (2016), Sarapultseva et al. (2022), Gaminiesfahani et al. (2020), Nejati et al. (2016), Iyendo et al. (2016)
Safety	Alhsainat (2018), Schreuder et al. (2016), Gaminiesfahani et al. (2020)
Spatial layout	DuBose et al. (2018), Rafeeq & Mustafa (2021), Sabar & Djimantoro (2020)
Noise control	Alhsainat (2018), DuBose et al. (2018), Gaminiesfahani et al. (2020)
Art	Alhsainat (2018), Nijhuis (2017), Uwajeh & Ezennia (2019), Mahmood & Tayib (2020), Gaminiesfahani et al. (2020), Singh et al. (2021), Gashoot (2022), Iyendo et al. (2016)
Homelike environment	DuBose et al. (2018), MacAllister et al. (2016), Sabar & Djimantoro (2020)

Nature

Nature, with its profound healing effects (Blom, 2013), emerged as an influencing factor in designing healing spaces for the enhanced well-being of occupants. Upon meticulous examination of the 24 studies included in this systematic review and synthesis, the following natural elements were recognised as influencing factors within the category of nature: natural light, natural materials, natural sound, water features, natural air, access to natural environments and views of nature (Table 4).

Natural light influences human health and performance by governing the body's circadian system, which manages feelings of drowsiness and alertness throughout a 24-hour cycle (Gaminiesfahani et al., 2020). Furthermore, natural light has been shown to reduce depression, improve sleep, shorten healthcare facility stays, lower pain medication costs, foster a positive environment, alleviate stress, aid infection control and enhance recovery rates (Gaminiesfahani et al., 2020; Gupta et al., 2019; Urlich et al., 2004). For instance, sunlight triggers chemical reactions in the skin, activating molecules such as vitamin D, which plays a crucial role in calcium absorption and in strengthening the immune system (Singh et al., 2021).

The incorporation of natural materials in healing environments reinforces one's connection to nature, enhances perception of the healing environment and expedites recovery, thereby promoting psychological and physiological well-being (Bansi, 2017; Najafi et al., 2019). Various materials possess distinct textures that can be employed to evoke specific moods or messages in an environment (Alhsainat, 2018). Texture variations enable users to perceive smoothness, roughness, coldness or softness through touch. By utilising diverse textures, the attributes of a space can be defined, significantly impacting users' physical and visual experiences and influencing the overall mood and identity of the space (Alhsainat, 2018; Gupta et al., 2019). Therefore, the greater the 'naturalness' of the building material, the more positively individuals will perceive these environments (Blom, 2013).

Natural sounds can contribute to therapeutic effects and promote overall well-being (DuBose et al., 2018). For example, noise can induce direct physiological stress and strain on the heart muscles, whereas natural sounds have the potential to alleviate these effects (Blom, 2013).

Water symbolises the cycle of life, from birth to death, and embodies spiritual purity, bringing positivity to mind, body and spirit. Its gentle sounds induce calm, peace, relaxation and tranquillity (Blom, 2013; Gupta et al., 2019). Furthermore, incorporating a water element activates the sense of hearing.

Fresh air is an indispensable element in building design, serving multiple essential purposes. It not only helps mitigate unpleasant odours but also ensures an adequate supply of oxygen to occupants. Additionally, fresh air contributes to enhancing thermal comfort within indoor spaces and plays a crucial role in supporting the healing process, particularly in healthcare facilities (Say Jer & Ibrahim, 2014; Walker, 2016). Importantly, the quality of indoor air extends beyond the physical realm. It has a profound impact on human health, influencing behaviour, emotions and overall wellness (Blom, 2013).

Access to nature and views of nature have been shown to reduce stress levels, foster positive and hopeful thoughts and alleviate anxiety and fatigue, ultimately enhancing one's overall quality of life (Sabar & Djimantoro, 2020; Sakallaris et al., 2015). Additionally, views of nature, such as gardens, can promote harmony of the mind, body and spirit (Sakallaris et al., 2015).

Fostering a strong connection with nature can yield positive impacts, including improvements in physical health, mental well-being and cognitive

function. As such, healing space design should prioritise the thoughtful incorporation of nature.

Lighting

Artificial light and natural light (discussed above) constitute the architectural lighting environment (Youssef, 2020). 'Lighting' in this context refers to artificial light. Lighting can significantly impact mood, behaviour and even the immune system, which influence healing (Huelat, 2003; Sternberg, 2009). Furthermore, artificial lighting can enhance the visual appeal of an environment (Nijhuis, 2017). Lighting, along with texture and colour, is crucial to prevent the creation of an ineffective and unsettling environment. For example, an abundance of natural daylight and the soothing use of light blue contribute to establishing a warm and inviting atmosphere (Alhsainat, 2018). However, excessive exposure to artificial light can lead to adverse effects such as eye fatigue, headaches and visual impairment (Singh et al., 2021). Therefore, a proper lighting design is crucial in creating a healing space.

Colour

The power of colour in design lies in its ability to evoke emotions, influence physiology, affect moods and behaviours, stimulate the senses and even enhance calmness, relieve pain, reduce negative emotions and increase one's sense of comfort in the environment (Alhsainat, 2018; Gaminiesfahani et al., 2020; Nijhuis, 2017; Singh et al., 2021). Colour can also create a supportive environment in healthcare settings; careful colour selection can help reduce stress and promote serenity (Iyendo et al., 2016). In various cultural settings and depending on the specific context, different colours have the potential to elicit either positive or negative effects on individuals (Gupta et al., 2019). Hence, meticulous attention to colour is imperative when designing a healing environment.

Colour harmonies can create a vibrant and visually captivating environment with the right balance of complexity (Alhsainat, 2018). Marberry and Zagon (1995) stated that the most prevalent colour harmonies include analogue harmony, complementary harmony, split harmony and full spectrum (Figure 3). Their effective utilisation can greatly enhance the aesthetic appeal and emotional impact of visual creations.

The careful selection of colours in healing space design is crucial for influencing emotions and promoting overall well-being. By thoughtfully incorporating colour harmonies, designers can create visually appealing environments that positively impact occupants' moods, contributing to a healing atmosphere.

Social Support

Receiving emotional support from loved ones and healthcare professionals is crucial in promoting positive healing outcomes (Hesselink et al., 2020). The presence of a supportive social environment is essential for psychological

well-being, making it imperative to establish such an environment in any healing situation (Beemer et al., 2021; Singh et al., 2021). Numerous studies have shown that social support can reduce stress and improve recovery rates (Nijhuis, 2017; Singh et al., 2021; Sternberg, 2009; Ulrich, 1991). Furthermore, social support can provide physical, psychological, social and cultural assistance, which is necessary for effective physical therapy (Kim, 2021).

The significance of social support in healing space design is paramount because it plays a crucial role in promoting positive healing outcomes and psychological well-being.

Sense of Control

A lack of personal control within one's environment has been linked to cognitive impairments and decreased motivation (Beemer et al., 2021). In this context, control refers to the ability to make decisions about one's surroundings and interactions (Herweijer-van Gelder, 2016). A lack of this type of control often leads to negative outcomes, such as depression, passivity, weakened immune system function and elevated blood pressure, all contributing to heightened stress levels (Beemer et al., 2021; Nijhuis, 2017; Ulrich, 1991). Research indicates that individuals with greater control over their environment, including factors such as furniture arrangement, lighting and temperature, tend to experience lower levels of mental stress (Beemer et al., 2021; DuBose et al., 2018; Schreuder et al., 2016).

The profound impact of personal control on well-being underscores the importance of a sense of control in healing space design.

Privacy

Privacy encompasses the opportunity for individuals to be alone or in the company of others, the ability to withdraw from unwanted situations, both visually and audibly, and the option to withhold personal information (Herweijer-van Gelder, 2016). It is a fundamental human need at the personal level (Alhsainat, 2018). Research has shown that maintaining privacy in healthcare settings can enhance patient satisfaction, improve sleep quality and reduce medical errors (Nijhuis, 2017; Schweitzer et al., 2004). Recognising and preserving privacy is crucial not only as a fundamental human need but also for its positive impacts on patient well-being and healthcare outcomes.

Safety

Safety is undeniably among the most fundamental humanitarian needs, encompassing the imperative task of safeguarding individuals from both physical and psychological harm (Joseph et al., 2016). This notion of safety extends beyond mere protection; it is intrinsically tied to the sense of security one experiences in a warm and welcoming environment, reminiscent of the comfort found at home (Alhsainat, 2018). Prioritising safety in healing space design allows for the creation of spaces that not only shield individuals from

harm but also provide the reassuring ambiance of security akin to the comfort of home.

Spatial Layout

Designing room layouts that alleviate stress and enhance overall quality of life is crucial (Sabar & Djimantoro, 2020). Interactions within a space are greatly influenced by its zoning, encompassing public, semi-public and private areas (Singh et al., 2021). Various aspects of spatial layout, such as the number of occupants in a room, shared bathrooms and the size of windows, can significantly impact an individual's health and emotional well-being (Nijhuis, 2017). Thus, the meticulous design of room layouts is integral for alleviating stress and enhancing quality of life.

Noise control

Noise, defined as unwanted sound (Nijhuis, 2017), has both physical and psychological implications. One notable effect is its capacity to induce stress (Herweijer-van Gelder, 2016), leading to an increase in blood pressure and heart rate (Fricke et al., 2018; Gaminiesfahani et al., 2020). Moreover, the impact of noise extends to healthcare settings, where it negatively affects patients' sleep and satisfaction (Nijhuis, 2017; Ulrich et al., 2008). Therefore, recognising and addressing the impact of noise on both physical and psychological well-being is critical to healing space design.

Art

Art is widely recognised for its capacity to offer positive distractions (Herweijer-van Gelder, 2016; Iyendo et al., 2016; Singh et al., 2021). Furthermore, art has the unique ability to elicit positive emotions and effortlessly capture the attention of patients, which can potentially reduce stress levels (Iyendo et al., 2016; Nijhuis, 2017; Ulrich, 1992).

Notably, artwork depicting natural scenes possesses a remarkable ability to reconnect patients with the outside world, thus expediting the healing process and facilitating their return to normality. Additionally, art can significantly enhance patients' satisfaction with their environment (Gashoot, 2022; Mahmood & Tayib, 2020). Art thus serves as a potent bridge connecting the human mind and soul (Singh et al., 2021). The profound impact of art on positive distraction, emotional well-being and patient satisfaction underscores its significance in healing space design.

Homelike Environment

A home-like environment in healthcare settings has demonstrated significant potential to benefit patients. These environments not only reduce patients' emotional distress but also promote feelings of comfort and relaxation while instilling a sense of control and security (Sabar & Djimantoro, 2020). Furthermore, a homelike environment contributes to fostering intimacy,

enhancing feelings of security and ultimately expediting the healing process (DuBose et al., 2018; MacAllister et al., 2016).

A home-like environment benefits occupants by reducing distress, enhancing comfort, instilling a sense of control and security, fostering intimacy and expediting the healing process.

DISCUSSION

In this study, the researchers conducted a comprehensive analysis of influencing factors in healing space design, categorising them into 11 primary categories: nature, lighting, colour, social support, sense of control, privacy, safety, spatial layout, noise control, art and home-like environment. The primary objective was to identify and analyse influencing factors and provide profound insights into healing space design with the ultimate goal of enhancing the well-being and therapeutic outcomes of occupants.

Among these 11 influencing factors, nature, sense of control and social support emerged as the most influential in the design of healing spaces. Colour, art and privacy were also closely associated with successful healing space design. Conversely, safety, spatial layout, noise control and a homelike environment were found to exert comparatively less influence on the enhancement of occupants' well-being.

These 11 factors collectively underscore the critical role of healing space design in improving the well-being of occupants. Nature, for instance, has been shown to reduce stress, enhance cognitive function and improve both physical and mental health. Adequate artificial lighting not only influences mood and behaviour but also impacts the immune system, fostering healing and creating visually appealing, inviting environments. Colours evoke emotions, influence physiology, reduce stress and promote serenity. Social support contributes to stress reduction and improved recovery rates, while a sense of control reduces stress levels and enhances mental well-being. Privacy meets fundamental human needs, enhances satisfaction, improves sleep quality and reduces medical errors.

Prioritising safety not only protects individuals but also provides a sense of security akin to the comfort of home. Spatial layout alleviates stress and enhances health and emotional well-being. Noise control contributes to stress reduction, improved sleep quality and overall satisfaction. Art provides positive distractions, elicits positive emotions, reduces stress, enhances satisfaction with the environment and creates connections between the mind and the soul. Lastly, a home-like environment reduces emotional distress, promotes comfort and relaxation, instils a sense of control and security, fosters intimacy and enhances feelings of overall security.

Influencing factors play a pivotal role in healing space design for the enhanced well-being and therapeutic outcomes of occupants. Therefore, identifying and analysing the impact of the 11 influencing factors discussed in this study provides valuable methods for and insights into creating healing spaces for the enhanced well-being of occupants.

CONCLUSION

This study conducted a comprehensive exploration of the influencing factors that create a positive healing space for the enhanced well-being of occupants through a systematic literature review of 24 relevant studies. Drawing on the insights of the studies, the researchers meticulously examined and categorised 11 pivotal influencing factors: nature, lighting, colour, social support, sense of control, privacy, safety, spatial layout, noise control, art and home-like environment. The central aim of this investigation was to identify and analyse the profound impact of these factors on the well-being of occupants within healing spaces.

The findings provide compelling evidence that the integration of these influencing factors into healing space design has the potential to profoundly enhance the well-being of occupants. This enhancement encompasses a spectrum of positive experiences and emotions, including feelings of comfort, tranquillity and positivity. Moreover, the incorporation of these elements has demonstrated the capacity to mitigate stress levels and yield health outcomes.

The implications of this study extend beyond the realms of academia, offering valuable insights for practitioners and professionals engaged in the design and planning of healing spaces. By recognising the pivotal role of these influencing factors, designers, architects and healthcare professionals can embark on a transformative journey, creating environments that not only heal but also enhance the human experience.

In conclusion, this study enriches the existing body of knowledge surrounding healing space design and underscores the indispensable significance of these influencing factors in the pursuit of enhancing the well-being and therapeutic outcomes of those who inhabit these spaces.

REFERENCES

Alhsainat, A. A. (2018). Holistic Healing Environment in Pediatric Hospital Settings. Master's thesis. Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ).

Alt, P. L. (2017). Sacred space and the healing journey. *Ann Palliat Med*, 6(3): 284-296. https://doi.org/10.21037/apm.2017.06.09

Bansi, V. (2017). Exploring the role of healing spaces in the metaphysical and physical realm: towards a place for meditation in Durban. PhD diss. University of KwaZulu-Natal.

Belčáková, I., Galbavá, P., & Majorošová, M. (2018). Healing and therapeutic landscape design–examples and experience of medical facilities. *ArchNet-IJAR: International Journal of Architectural Research,* 12(3): 128. https://doi.org/10.26687/archnet-ijar.v12i3.1637

Beemer, C. J., Stearns-Yoder, K. A., Schuldt, S. J., Kinney, K. A., Lowry, C. A., Postolache, T. T., ... & Hoisington, A. J. (2021). A brief review on the mental health for select elements of the built environment. *Indoor and Built*

Environment, 30(2): 152-165. https://doi.org/10.1177/1420326X19889653

Blom, M. (2013). Biophilic architecture and its influence on human behaviour and well-being: a proposed urban multi-use office park development. PhD diss. University of KwaZulu-Natal.

Cleveland, A. C. (2014). Symbiosis between biophilic design and restorative healing environments: The impact on overall well-being of urban dwellers. PhD diss. The Florida State University.

Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). 'Into the wild': A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review,* 77: 101841. https://doi.org/10.1016/j.cpr.2020.101841

Daelemans, B. (2020). Healing Space: The Synaesthetic Quality of Church Architecture. *Religions,* 11(12): 635. https://doi.org/10.3390/rel11120635

DuBose, J., MacAllister, L., Hadi, K., & Sakallaris, B. (2018). Exploring the Concept of Healing Spaces. *Health Environments Research and Design Journal,* 11 (1): 43–56. https://doi.org/10.1177/1937586716680567

Finlay, J., Franke, T., McKay, H., & Sims-Gould, J. (2015). Therapeutic landscapes and wellbeing in later life: Impacts of blue and green spaces for older adults. *Health & place,* 34: 97-106. https://doi.org/10.1016/j.healthplace.2015.05.001

Firth, K., Smith, K., Sakallaris, B. R., Bellanti, D. M., Crawford, C., & Avant, K. C. (2015). Healing, a concept analysis. *Global advances in health and medicine*, 4(6): 44-50. https://doi.org/10.7453/gahmj.2015.056

Fisher, J. C., Irvine, K. N., Bicknell, J. E., Hayes, W. M., Fernandes, D., Mistry, J., & Davies, Z. G. (2021). Perceived biodiversity, sound, naturalness and safety enhance the restorative quality and wellbeing benefits of green and blue space in a neotropical city. *Science of the Total Environment,* 755: 143095. https://doi.org/10.1016/j.scitotenv.2020.143095

Gaminiesfahani, H., Lozanovska, M., & Tucker, R. (2020). A scoping review of the impact on children of the built environment design characteristics of healing spaces. *HERD: Health Environments Research & Design Journal,* 13(4): 98-114. https://doi.org/10.1177/1937586720903845

Gashoot, M. M. (2022). Revisiting healing environments: Islamic interior elements in hospital rooms in north Africa. *HERD: Health Environments Research & Design Journal*, 15(1): 315-332. https://doi.org/10.1177/19375867211042350

Ghazali, R., & Abbas, M. Y. (2012). Assessment of healing environment in paediatric wards. *Procedia-Social and Behavioral Sciences*, 38: 149-159. https://doi.org/10.1016/j.sbspro.2012.03.335

Gupta, S., Choudhary, S., & Humaira, R. (2019). Elements of Healing Environment in Healthcare Centre. *International Journal of Research in Engineering, Science and Management*, 2(10): 667-669.

Gushée, S. R. (2018). What is a healing space? Available at: https://www.ruanliving.com/blog/what-is-a-healing-space [Accessed on 20 April 2023].

Hastuti, A. S. O., & Lorica, J. (2020). The Effect of Healing Garden to Improve the Patients Healing: An Integrative Literature Review. *Journal of Health and Caring Sciences,* 2(1): 34-47. https://doi.org/10.37719/jhcs.2020.v2i1.ra001

He, M., Wang, Y., Wang, W. J., & Xie, Z. (2022). Therapeutic plant landscape design of urban forest parks based on the Five Senses Theory: A case study of Stanley Park in Canada. *International Journal of Geoheritage and Parks*, 10(1): 97-112. https://doi.org/10.1016/j.ijgeop.2022.02.004

Huelat, B. (2023). The Importance of Environmental Interventions in Dementia Care. Available at: https://www.barbarahuelat.com/post/environmental-interventions [Accessed on 15 April 2023].

Huelat, B. J. (2003). Healing Environments Design for the Body, Mind & Spirit 2003. Available at: https://www.researchgate.net/publication/348943971 [Accessed on 15 April 2023].

Huisman, E. R., Morales, E., Van Hoof, J., & Kort, H. S. (2012). Healing environment: A review of the impact of physical environmental factors on users. *Building and environment*, 58: 70-80. https://doi.org/10.1016/j.buildenv.2012.06.016

Herweijer-van Gelder, M. H. (2016). Evidence-Based Design in Nederlandse ziekenhuizen: Ruimtelijke kwaliteiten die van invloed zijn op het welbevinden en de gezondheid van patiënten. *A+ BE | Architecture and the Built Environment*, (6): 1-456. https://doi.org/10.7480/abe.2016.6.1156

Hesselink, G., Smits, M., Doedens, M., Nijenhuis, S. M., van Bavel, D., van Goor, H., & van de Belt, T. H. (2020). Environmental needs, barriers, and facilitators for optimal healing in the postoperative process: A qualitative study of patients' lived experiences and perceptions. *HERD: Health Environments Research & Design Journal,* 13(3): 125-139. https://doi.org/10.1177/1937586719900885

Iyendo, T. O., Uwajeh, P. C., & Ikenna, E. S. (2016). The therapeutic impacts of environmental design interventions on wellness in clinical settings: a narrative review. *Complementary therapies in clinical practice,* 24: 174-188. https://doi.org/10.1016/j.ctcp.2016.06.008

Joseph, A., Choi, Y. S., & Quan, X. (2016). Impact of the physical environment of residential health, care, and support facilities (RHCSF) on staff and residents: A systematic review of the literature. *Environment and Behavior*, 48(10): 1203-1241. https://doi.org/10.1177/0013916515597027

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge university press.

Kim, S. (2021). Environmental Design Factors for Open Space in Healing Facilities-Focused on Ann & Robert H. Lurie Children's Hospital and the Nationwide Children's Hospital. *International Journal of Advanced Culture Technology*, 9(1): 7-15. https://doi.org/10.17703/IJACT.2021.9.1.7

Liu, Y., Chen, L., & Jiang, H. (2022). Influencing factor extraction of healing

environment identifiability based on environmental psychoanalysis. *Psychiatria Danubina,* 34(suppl 2): 620-620. https://hrcak.srce.hr/file/409155

Lotfi, Y. A., Refaat, M., El Attar, M., & Salam, A. A. (2020). Vertical gardens as a restorative tool in urban spaces of New Cairo. *Ain Shams Engineering Journal,* 11(3): 839-848. https://doi.org/10.1016/j.asej.2019.12.004

MacAllister, L., Bellanti, D., & Sakallaris, B. R. (2016). Exploring inpatients' experiences of healing and healing spaces: A mixed methods study. *Journal of patient experience,* 3(4): 119-130. https://doi.org/10.1177/2374373516676182

Mahmood, F. J., & Tayib, A. Y. (2020). The role of patients' psychological comfort in optimizing indoor healing environments: A case study of the indoor environments of recently built hospitals in Sulaimani City, Kurdistan, Iraq. *HERD: Health Environments Research & Design Journal*, 13(2): 68-82. https://doi.org/10.1177/1937586719894549

Marberry, S. O., & Zagon, L. (1995). The power of color: Creating healthy interior spaces. John Wiley & Sons.

Marques, B., McIntosh, J., & Kershaw, C. (2019). Healing spaces: Improving health and wellbeing for the elderly through therapeutic landscape design. *International Journal of Arts and Humanities,* 03(02): 20–34. https://doi.org/10.26686/wgtn.12413336.v1

Meng, L., Zhu, C., & Wen, K. H. (2020). Research on Constructing a Healing Environment for the Street Spaces of a High-Density City: Using Street Spaces in Macao's Old City Area. *International journal of environmental research and public health,* 17(13): 4767. https://doi.org/10.3390/ijerph17134767

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group*. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of internal medicine,* 151(4): 264-269.

Montefiore. (2023). Creating a Healing Hospital Environment. Available at: https://www.montefiore.org/healingarts-healing-environment [Accessed on 20 April 2023].

Nagib, W., & Williams, A. (2018). Creating "therapeutic landscapes" at home: The experiences of families of children with autism. *Health & place*, 52: 46-54. https://doi.org/10.1016/j.healthplace.2018.05.001

Najafi, S., Mitic, J., & Zanic, K. (2019,). Healing via Design. Available at: https://www.lovethatdesign.com/article/healing-via-design/ [Accessed on 17 April 2023].

Nejati, A., Shepley, M., Rodiek, S., Lee, C., & Varni, J. (2016). Restorative design features for hospital staff break areas: A multi-method study. *HERD: Health Environments Research & Design Journal,* 9(2): 16-35. https://doi.org/10.1177/1937586715592632

Nijhuis, J. V., & Wentink, C. (2017). Healing environment and patients' wellbeing Finding the relationship between healing environment aspects

and patients' well-being involving Dutch hospitals. Master's thesis. Wageningen University, Amersfoort.

Pragati, S., Priya, R. S., Rajagopal, P., & Pradeepa, C. (2021). Effects of built environment on healing the mental health of the people–literature review. *Frontiers in engineering and built environment*, 2(1): 34-42. https://doi.org/10.1108/febe-09-2021-0043

Rafeeq, D. A., & Mustafa, F. A. (2021). Evidence-based design: The role of inpatient typology in creating healing environment, hospitals in Erbil city as a case study. *Ain Shams Engineering Journal,* 12(1): 1073-1087. https://doi.org/10.1016/j.asej.2020.06.014

Sabar, D. P., & Djimantoro, M. I. (2020). The application of healing space concept in holistic care facilities: a brief guideline for design. *In IOP Conference Series: Earth and Environmental Science,* 426(1): 012068. https://doi.org/10.1088/1755-1315/426/1/012068

Sakallaris, B. R., Macallister, L., Voss, M., Smith, K., & Jonas, W. B. (2015). Optimal healing environments. *Global advances in health and medicine*, 4(3): 40-45. https://doi.org/10.7453/gahmj.2015.043

Sarapultseva, M., Zolotareva, A., Nasretdinova, N. Y., & Sarapultsev, A. (2022). The Healing Environment of Dental Clinics through the Eyes of Patients and Healthcare Professionals: A Pilot Study. *International Journal of Environmental Research and Public Health*, 19(20): 13516. https://doi.org/10.3390/ijerph192013516

Sarjani, M., Saragih, J. B., & Soebiyan, V. (2020). Healing spaces: exploring therapeutic concept for breast cancer clinic. *In IOP Conference Series: Earth and Environmental Science*, 426(1): 012097. https://doi.org/10.1088/1755-1315/426/1/012097

Say Jer, O., & Ibrahim, F. (2014). Enhancement of Space Environment Via Healing Garden. *American Transactions on Engineering & Applied Sciences*, 1(1): 281-298. https://tuengr.com/ATEAS/V03/0281.pdf

Schreuder, E., Lebesque, L., & Bottenheft, C. (2016). Healing environments: What design factors really matter according to patients? An exploratory analysis. *HERD: Health Environments Research & Design Journal,* 10(1): 87-105. https://doi.org/10.1177/1937586716643951

Schweitzer, M., Gilpin, L., & Frampton, S. (2004). Healing spaces: elements of environmental design that make an impact on health. *Journal of Alternative & Complementary Medicine*, 10(Supplement 1): S-71. https://doi.org/10.1089/acm.2004.10.S-71

Singh, S., Sabahat, M., & Qamrudiin, J. (2021). The Impact of Architecture in the Process of Healing & Well-Being. *International Journal for Research in Applied Science & Engineering Technology*, 9(3): 202–222. https://doi.org/10.22214/ijraset.2021.33196

Sternberg, E. M. (2009). *Healing spaces: The science of place and well-being.* Harvard University Press.

Timmermann, C., Uhrenfeldt, L., & Birkelund, R. (2015). Room for caring:

patients' experiences of well - being, relief and hope during serious illness. *Scandinavian journal of caring sciences*, 29(3): 426-434. https://doi.org/10.1111/scs.12145

Tuszyńska-Bogucka, W., Kwiatkowski, B., Chmielewska, M., Dzieńkowski, M., Kocki, W., Pełka, J., ... & Galkowski, D. (2020). The effects of interior design on wellness–Eye tracking analysis in determining emotional experience of architectural space. A survey on a group of volunteers from the Lublin Region, Eastern Poland. *Annals of Agricultural and Environmental Medicine*, 27(1): 113-122. https://doi.org/10.26444/aaem/106233

Twedt, E., Rainey, R. M., & Proffitt, D. R. (2016). Designed natural spaces: informal gardens are perceived to be more restorative than formal gardens. *Frontiers in Psychology,* 7: 88. https://doi.org/10.3389/fpsyg.2016.00088

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *science*, 224(4647): 420-421. https://doi.org/10.1126/science.6143402

Ulrich, R., Zimring, C., Quan, X., Joseph, A., & Choudhary, R. (2004). The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. *Concord, CA: The Center for Health Design,* 3.

Ulrich, R. S., Zimring, C., Zhu, X., DuBose, J., Seo, H. B., Choi, Y. S., ... & Joseph, A. (2008). A review of the research literature on evidence-based healthcare design. *HERD: Health Environments Research & Design Journal*, 1(3): 61-125. https://doi.org/10.1177/193758670800100306

Ulrich, R. S. (1991). Effects of interior design on wellness: theory and recent scientific research. *In Journal of Health Care Interior Design: Proceedings from the... Symposium on Health Care Interior Design. Symposium on Health Care Interior Design*, 3: 97-109.

Ulrich, R. S. (1992). How design impacts wellness. *The Healthcare Forum Journal,* 35(5): 20–25.

Uwajeh, P. C., Iyendo, T. O., & Polay, M. (2019). Therapeutic gardens as a design approach for optimising the healing environment of patients with Alzheimer's disease and other dementias: A narrative review. *Explore*, 15(5): 352-362. https://doi.org/10.1016/j.explore.2019.05.002

Uwajeh, P. C., & Ezennia, I. S. (2019). Evaluating Staff Perceptions of Supportive Healing Environment in Healthcare Facilities. *Journal of Contemporary Urban Affairs,* 3(1): 13-25. https://doi.org/10.25034/ijcua.2018.4678

Van der Linden, V., Annemans, M., & Heylighen, A. (2016). Architects' approaches to healing environment in designing a Maggie's Cancer Caring Centre. *The Design Journal*, 19(3): 511-533. https://doi.org/10.1080/14606925.2016.1149358

Walker, A. (2016). Natural Ventilation. Available at: https://www.wbdg.org/resources/natural-ventilation [Accessed on 20 April 2023].

Youssef, M. (2020). ROLE OF ARTIFICIAL LIGHTING IN EMPHASIZING THE ENTRANCE APPROACHES. *Architecture and Planning Journal (APJ)*, 26(2): 3. https://doi.org/10.54729/2789-8547.1041