

Design for Well-being: An Innovative Method of Home Design to Enhance Community Quality of Life

Yayu Rubiyanti

Interior Design Department, Faculty of Visual Art,
Indonesia Institute of The Arts, Yogyakarta, Indonesia

Correspondence Author Email: yayu.rubiyanti@isi.ac.id

Abstract

Urban development and social change challenge residential design that accommodates people's quality of life. Residential houses play an essential role in the well-being of their residents. Designs that pay little attention to well-being adversely affect Health and accessibility. Cities face complex issues such as social inequality, disaster vulnerability, and environmental pressures. An innovative approach is needed, with quality of life as the primary focus.

The research aims to explore and develop wellbeing-based design as an innovative approach in residential design, with the primary objective of improving the quality of life in communities. Quality of life is an essential indicator in measuring the well-being and happiness of individuals and families. In the context of rapid urbanization and dynamic social change, home designs that focus on the well-being of communities are becoming increasingly relevant.

In this study, the Design Thinking method is a practical approach to designing wellbeing-based houses and improving the quality of life in communities. The research results in more inclusive, ergonomic, and robust housing designs that support the quality of life of communities. In this research process, relevant aspects, such as room layout, natural lighting, ventilation, the use of environmentally friendly materials, and the ability of the home to accommodate family and community change and diversity, will be the primary focus. In addition, the study also considers advanced technologies that can be integrated into residential home design to improve the well-being of its inhabitants.

The research results provide wellbeing-based design recommendations that can be adopted by architects, city planners, and developers in designing houses that are more inclusive, ergonomic, and capable of supporting the quality of life of communities as a whole.

Keywords

wellbeing-based design, quality of life, home design, innovative approach and urban development

Introduction

Well-being, or, in English, commonly called *well-being*, is the main goal for every human being, and a healthy life balance is the goal. There are broad interpretations of the literal definition of welfare, one of which Tiberius stated that welfare is a good living condition for individual beings in the broadest sense. Meanwhile, according to Ereaut and Whiting, a group collectively agrees on welfare. Another interpretation of well-being put forward by Jackson is to feel good and function well. [1] There is a fine distinction between Health and well-being, thus slightly obscuring its meaning. Health is assumed to be a neutral state; there is no disease, while well-being is Health and happiness that is measurable, so it cannot be neutral and its improvement. [2] Today, people's interest is focused on personal well-being. It grows through fulfilling personal values of

non-material aspects of life, appreciation for the search and fulfilment of personal values, good work-life balance, and healthy life balance. From an economic point of view, paying attention to well-being is very relevant. Happy people are more successful in many areas of life because they tend to be more social, altruistic, and active, like themselves. They have healthier bodies and immune systems and better conflict-resolution skills. Meta-analyses show that being and feeling happy makes people feel better, more energetic, and physically fitter, leading to a longer life expectancy, more creativity and open-mindedness, better relationships, and more productivity in their work. In 2011, the political agenda of the United Nations General Assembly made the issue of happiness one of its resolutions. They called on UN member states to take steps to pay more attention to the happiness of their citizens when determining how to achieve and measure social development in their countries. [3] Still in line with the political agenda, UN Secretary-General Ban Ki-moon stressed the importance of attention to people's well-being and happiness. He pointed out that creating an enabling environment to improve people's well-being is a development goal, and it is time to shift the emphasis from economic sector production to measuring people's well-being. [4] Environments and designed objects become unspoken associates in our daily lives, engaging in diverse interactions with humans, both intentional and unintentional. Therefore, studying the potential of design and environment is essential to creating attractive environments that promise a better world and happiness for its inhabitants. Interior design has become a powerful tool to achieve this goal. In today's modern society, where most of the time is spent indoors, health problems such as allergies, stress, depression and anxiety are rising. Good environmental design is not only about appearance and function but also about providing benefits to the occupants, enabling growth, productivity, and deep happiness in daily activities. This study aims to produce recommendations and optimize every aspect of residential design by the rules of well-being. The design in question is in the form of a space design plan in a residential house. The design results are expected to be used as a reference for residential design. They can increase awareness about the importance of a good room because it will affect the welfare of the soul of its residents. Ensuring good Health and promoting people's well-being is one of the agendas for the 2015-2030 period for Sustainable Development and the 17 Sustainable Development Goals (SDGs), so this topic is very relevant for now. Well-being is fundamental, relevant, and necessary to enable the industrial and economic sectors to face all kinds of challenges today and in the future. In reflecting on mobility and Health, one of the outputs is to age well, work, and live well in an attractive environment. This research has a high significance because it faces complex challenges in urban development and social changes that can affect the quality of life of the overall community. The importance of this research is reflected in the urgency to develop innovative approaches that consider more people's well-being in residential design. By integrating aspects of well-being in the design, this research has the potential to impact the quality of life of urban communities significantly. In addition, technological aspects are also an important consideration in improving the quality of life of residents. Therefore, the problem underlying this research is developing innovative design approaches that pay more attention to welfare aspects in designing residential homes by overcoming challenges such as layout, natural lighting, ventilation, the use of environmentally friendly materials and technology integration.

Literature Review

This study was conducted by considering various inputs and understandings from previous studies. Tahoun (2019), in his article entitled "Awareness Assessment of Biophilic Design Principles Application," *discusses awareness and application of biophilic design principles in the building industry in Egypt* [5]. Research methodology involves surveying architects to assess the knowledge and application of biophilic design. The article also explores the benefits of implementing biophilic design in the workplace, including increased productivity and improved well-being, including the economic benefits of biophilic design, such as reduced energy costs. Elements such as natural light, a quiet workspace, procurement of indoor plants, and indoor colours prove desirable. Respondents believe that the design of the space layout and façade treatment can improve natural light, and they prefer the dome office and the presence of indoor plants. However, not all respondents believe that colour positively impacts productivity. The survey also highlights that academics are the most aware of biophilic design, suggesting a need for more awareness and promotion of biophilic design in the workplace.

Potočnik (2019), in his article entitled "Occupant Perception of spectral light content variations due to Glazing Type and Internal Finish", *examines the influence of glass type and internal finish on the perception of spectral light content by building occupants*. [6] The study used experimental measurements and computer simulations to evaluate the quantitative and qualitative aspects of indoor lighting. The findings suggest that the optical properties of glass and wall finishes significantly impact the circadian potential of indoor environments. This article is an in-depth analysis of how the type of glass used and the internal finish of a building can affect how building occupants perceive spectral light. This study used a combination of experimental approaches and computer simulations to carefully evaluate measurable aspects and subjective experiences related to indoor lighting. The findings of this study are fascinating. It was found that the optical characteristics of the glass used and the wall finish material significantly influenced the indoor environment's circadian potential. That is, not only is the lighting provided quantitatively important, but also how it is filtered and reflected by materials in the room. These findings are used to design buildings with more optimal lighting, not only for functional purposes but also to consider the well-being of occupants in the long run. The article also points out the importance of considering factors such as the optical properties of building materials in planning interior environments that align with natural human circadian rhythms.

Abdelaziz Mahmoud (2023), in his article entitled "*Simulating the Natural Lighting for Physical and Mental well-being in Residential Buildings in Dubai, UAE*", emphasizes the importance of the role of lighting in creating a comfortable and healthy atmosphere in a residential environment [7]. Lighting provides enough light to carry out daily activities correctly and significantly impact overall human well-being. One of the essential points discussed in this article is the need for a layout that can mimic the lighting level and natural colours similar to sunlight. Lighting can potentially affect the human body's biological rhythms (circadian). Proper lighting settings can help regulate human circadian rhythms, positively impacting better sleep, mood, and energy levels throughout the day. The study also proposes the application of different lighting scenes for different rooms in residential apartments. This approach allows for variations in lighting tailored to the activities carried out in each space. For example, softer, dimmer lighting may be more suitable for the lounge or sleeping area, while brighter, focused lighting is needed in the work or dining area. In addition, this article also highlights the need for a lighting system that can be adjusted as needed.

With an adjustable lighting system, residents can set the optimal lighting level according to their activities. Not only does this increase comfort, but it can also help save energy by optimizing lighting. This article underscores lighting's importance in creating a healthy, comfortable, and environmentally friendly environment. By considering lighting levels, colours, and flexibility of lighting systems, we can create an environment that supports human well-being and survival.

Marco (2020), in his article entitled *"Too Much Stuff and the Wrong Space: A conceptual framework of material possessions"*, presents a conceptual framework for understanding material ownership in the context of residential design [8]. The focus lies on understanding the value, temporality, and visibility of ownership and emphasizes the need to provide better storage in the home. The study argues that considering these characteristics can improve residents' quality of life and well-being. Material ownership can significantly impact the quality of life and well-being of residents. Such ownership can provide security, comfort, and personal expression. Possession valued for utilitarian purposes or the enjoyment and pleasure it brings can increase residents' daily activities and overall satisfaction with their living space. Material ownership also plays a role in shaping residents' self-identity and personal values. Possessions that have sentimental value or reflect personal history and relationships can contribute to a sense of self and be a source of pride and connection. However, the accumulation of material possessions can also cause hassle and chaos in the house, which can negatively affect the well-being of residents. Studies have shown that residents who feel their homes are too full of ownership can experience stress, low mood, and insomnia. This is particularly relevant in the UK's housing crisis, where new homes often lack adequate storage space for occupant ownership. To effectively accommodate material ownership, residential design needs to consider the nature of this ownership and its interaction with the physical space of the home. A conceptual framework that considers value, temporality, and visibility of ownership can guide the design process and improve the storage provision in new homes.

By understanding the different categories of ownership and their significance to occupants, designers can create spaces that allow for the organization and display of belonging while promoting a sense of well-being and functionality. In summary, material possessions can contribute to residents' quality of life and well-being by providing comfort, personal expression, and a sense of self-identity. However, complexity and lack of storage space can have adverse effects. Residential design must consider the value and characteristics of ownership to effectively accommodate it and increase occupants' overall satisfaction with their living space. This collection of research provides a broad and in-depth view of how residential design innovations can improve the community's quality of life and well-being. The findings of this study underscore the importance of natural lighting, the use of appropriate materials, and adjustment to human circadian rhythms in creating a healthy and comfortable residential environment. By considering these elements, designers can create more functional and aesthetically pleasing residential spaces that support residents' well-being.

Methods

This study possesses a practical aim with a specific focus on residential design geared towards potentially enhancing the mental health of its occupants. The research endeavours to investigate and integrate various concepts to facilitate the creation of a residential environment conducive to mental and emotional well-being. The research will primarily concentrate on the predominant housing typologies in the Yogyakarta region. To achieve these objectives, the study will employ the Design Thinking methodology, which enables the engagement of multiple

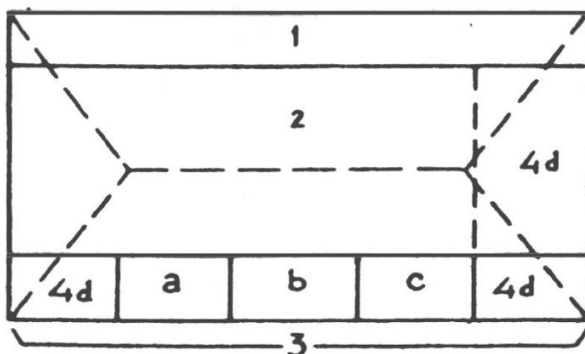
stakeholders in the problem-solving process and will serve as instrumental tools for comprehending the needs of the residents and developing a design that supports their mental well-being. This research holds practical significance, intending to foster psychologically and emotionally enriched residential designs for the population of Yogyakarta.

Results and Discussion

1. Typology of residential houses in Yogyakarta

In the first stage, an in-depth understanding of the house's occupants follows the typology of the inhabited house and the needs and problems faced. Direct observations were made to determine how residents interact with the space inside the house and how the current design affects their comfort and productivity. Yogyakarta has a typology of residential houses that reflect the locals' cultural heritage, geography and needs. By typology, we mean the overall shape of the dwelling that can be seen in the floor plan. In general, the floor plan of a residential house is square or rectangular, following the aesthetics of the Javanese. There are several typologies of residential houses that are predominantly used in Yogyakarta, including limasan and joglo; the rest of the people use modern houses made of bricks.

Limasan house, taken from the word "*lima-lasan*", is a simple calculation of the use of sizes: "*molo*" 3m and "*blandar*" 5m. Limasan house has a high roof but is in the form of a flat pyramid. Limasan houses are more superficial and often used as a living room or place to relax. Limasan is preferred for those who prefer a significant place because the extension of the pyramid house is more accessible than houses with other forms. The room arrangement is divided into three parts, namely the front room, the middle room, and the back room. However, the middle room is more spacious than the front and back rooms. In the back room, there are 3 "*senhongs*" namely "*senhong kiwa*" and "*senhong tengen*". Instead, adding a "*senhong*" or room is usually placed to the right of the right *senhong*.



Description:

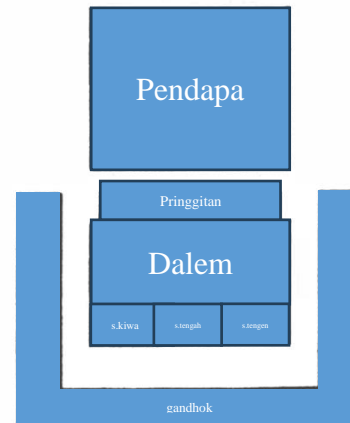
1. Front room
2. Middle room
3. Back room
 - a. Senhong kiwa
 - b. Senhong tengah
 - c. Senhong kiwa
4. d. Additional room

Joglo house is a traditional house with high, sharp, pyramid-shaped, and elegant columns. It is the primary preference still used in urban and rural areas in Central Java, Yogyakarta, and East Java province. A common feature of this joglo building form is the use of a stacked "*blandar*" called "*blandar tumpangsari*" which is stacked upwards. The building has four tree pillars in the centre called "*saka guru*". The shape of this building is a square size.

The arrangement of rooms in the "joglo" form of houses that ordinary people widely own is also divided into three parts, namely the meeting room called "pendapa", the middle room or room for wayang performances ("ringgit") called "pringgitan", and the back room called "dalem" or "omah jero" as the family room. In that room, there are 3 pieces of "senthong" (room) namely "senthong kiwa", "middle senthong" and "right senthong". Joglo-shaped houses owned by the nobility (noble) are usually more complete buildings. To the left and right of the "dalem" is a small, elongated building called "gandhok" with rooms. [9]



A joglo house scheme owned by a commoner



Scheme of a joglo house owned by a nobleman

Joglo houses strongly reflect Javanese culture and architectural art and are often found in rural and urban areas in Yogyakarta. In this busy and modern world, joglo house residents embrace the peace and beauty of traditional Javanese architectural art in every aspect of their lives. They care deeply about cultural and historical values, and joglo houses manifest their identity and personality. The Javanese call Joglo a traditional Javanese artwork, making it sacred in Java.

The Javanese have lived in Joglo and Limasan houses as part of their essential traditions, either in the palace environment as traditional architecture or in rural areas as vernacular dwellings of different quality levels. They associate the traditional Joglo and Limasan with the high social status of the nobility or those with critical societal positions, such as the royal family or Priyayi.[10]

Modern houses in Yogyakarta cover many architectural styles, from minimalist to contemporary, integrating the latest technology and design. Its residents live a dynamic life in an atmosphere that responds to the demands of the times. They find well-being through the comfort, functionality, and flexibility of designs that meet everyday needs. In the modern home, efficiency and ergonomics are critical. Each space is designed for a specific purpose, from ergonomic workspaces to functional kitchens. Technology has a central role, allowing occupants to easily control lighting, temperature, and safety through smart devices. They balance modern aesthetics, clean lines, open spaces, and practical living, affecting comfort and productivity. Although all modern, residents feel that giving a personal touch and warmth through decorations and meaningful items is essential. Modern residents of houses are examples of individuals who adapt to technology but still appreciate human values. Their home is more than just a place to live; It is a space of reflection and self-expression that reflects well-being through time-appropriate design, flexibility, and respect for personal values.

2. The Concept of Well-being in Residential Design

The concept of well-being and its integration into residential space design refers to an approach that includes a deep understanding of human well-being and how these welfare principles can be applied to the design of residential environments. Well-being in this context includes physical, mental, emotional, and social aspects that contribute to the quality of life of a person or group in a particular space or environment. The integration of well-being in the design of residential spaces includes various elements and strategies to create an environment that supports the Health and happiness of its residents. It considers aspects such as natural lighting that affects circadian rhythms, good air circulation for respiratory Health, environmentally friendly and healthy materials, and room layouts that promote social interaction and privacy. According to the World Health Organization, health is a complete physical, mental, and social well-being, not just disease or infirmity. [11] From this statement, an ambiguity arises about Health and well-being. Health is a condition that can be measured, assuming a person is in a state of zero or neutral from disease. At the same time, well-being is a state of Health and happiness measured in a neutral condition and a state of improvement. Well-being is a state where there is a feeling of Health and happiness in all three parts of the self where: (1) the body feels light, healthy, fresh, agile, alert, and serene; (2) clear, bright, perceptive and efficient mind, information and analysis can occur quickly, learning becomes easy, reasoning ability effectively and memory is good; (3) Clear emotions, generosity, positivity, a sense of unity, love and care arise naturally without expecting anything in return [12].

Interior design can support the well-being of its occupants but does not provide it. Designing for well-being in the interior can be said to be designed well. This is a valuable effort and can potentially change human life. The expectations of a design from the user of space have been framed in Maslow's hierarchy entitled Universal Principles of Design [13], which states that the most basic requirement of a user is that a (1) design must be functional. If the design does not work, it has no value that most people will agree on. (2) The next step is that the design must be reliable in order to be able to certify that a design is trustworthy. (3) The third hierarchy is the usefulness of the design and how different user abilities can quickly do something; (4) design can allow users to do things they have never tried before; (5) The success of a design is when users start creating, innovating beyond their original use.

This concept also recognizes that the design of residential spaces includes physical aspects and considers its inhabitants' psychological and emotional qualities. The use of colours, textures, and other visual elements can affect the mood and feeling in the room. Therefore, in integrating well-being into the design, the designer must consider the desired nuances and atmosphere to create a comfortable and calming environment. In addition, ergonomics and comfort factors are also important considerations in the integration of well-being in design. Furniture design and space layout should consider how occupants interact with their environment most efficiently and comfortably. The integration of well-being in the design of residential spaces has a significant impact on the quality of life of its residents. An environment designed with well-being principles in mind can create an atmosphere that supports physical and mental health, increases productivity, and creates positive social relationships. Therefore, this concept becomes essential in designing residential spaces that are not only visually beautiful but also meet the welfare needs of its residents.

3. Innovative home design methods

In the context of developing innovative design methods and their impact on the quality of life of communities, this study identifies some of the key challenges that may be faced. These are the challenges and include the solutions:

1. Lighting and air conditioning

The air and light quality inside the house significantly affects its residents' physical and mental well-being. Home environments without adequate ventilation or natural light can be detrimental to the Health and mood of their occupants. It is essential to design a house with particular attention to this aspect. This is relevant to what Gaekwad et al. argue because humans have a natural affinity for nature. Connection with nature, such as fresh air and natural light, promotes well-being.[14] In designing a house, it is necessary to consider the layout of the room and materials that support air circulation. Window arrangement, ventilation, temperature technology and natural light are essential. Good air quality, avoid breathing problems, and improve sleep. Natural light contributes to circadian rhythms, sleep optimization, and mood. The design challenge was to optimize air and light quality without sacrificing privacy or aesthetics. The right technology and design strategies support holistic well-being. Designing homes focusing on air quality and light is essential to support physical and mental well-being. With inspiration from Biophilia Theory, designers create natural, balanced, well-being-supportive homes.

To improve indoor air quality, strategic measures need to be implemented carefully. Activated carbon-based air filtration systems can be installed throughout the room to remove particles and pollution and create a fresh and clean atmosphere. Vacuum cleaners with HEPA filters should regularly clean floors and surfaces, catch the smallest dust particles, and prevent dirt and allergens. Home décor and furnishings are selected from dustproof materials, reducing dust accumulation and facilitating cleaning. Windows and vents are well maintained for healthy airflow. Protective vegetation planted around the house naturally blocks dust and pollution. Special filters on doors and windows reduce dust and pollution, maintaining optimum air quality. This effort makes the house a clean and healthy environment with fresh air, free of air pollution.

Using thick curtains and sun layers on windows can maintain a comfortable temperature and lighting. Insulation materials, selection of wall materials, and planning of natural lighting also contribute to the comfort of the room. Shade plants and attention to natural ventilation and orientation of buildings maintain a calm and fresh environment. Alternative spaces, modern furniture and integrated system control technology, add flexibility and efficiency. With these measures, occupancy becomes more comfortable and efficient, following the needs of its residents, creating an ideal home and providing welfare to residents.

2. Social Isolation

Modern society faces the challenge of social isolation due to a home environment that does not support community interaction. Digitally connected, the paradox is that we are increasingly physically isolated. Open homes that focus on the individual reduce opportunities for spontaneous social interaction, causing alienation and loss of sense of community. The implications of George Herbert Mead's concept of thought related to symbolic interaction, namely interactional perspective and situational definition concepts, highlight the importance of communication and interaction between individuals in shaping

social understanding and self-identity.[15] The absence of interaction space impacts social relationships, as individuals give meaning to and respond to the environment, influencing behaviour and interaction. The lack of meeting rooms leads to increased social isolation. Individuals can re-establish supportive social interactions by redesigning residential spaces to invite informal gatherings. Open spaces like parks or communal areas can facilitate direct interaction, reduce isolation, and build community. These challenges are complex but open opportunities to redesign residential spaces with an inclusive approach. Design for well-being must articulate spaces inviting informal gatherings, collaborations, and conversations between neighbours. A family room or garden can open communication, build closeness, and reduce social isolation.

In designing a house, both a joglo and a modern home, attention to personal space and timing is very important. Although this house has ample open space, maintaining privacy is a thing that counts. This can be achieved by creating enclosed areas or rooms with doors that can be closed. In addition, using partitions or curtains that can be opened and closed as needed is also a solution to create privacy when needed. Designing spaces that can double function and transform into shared or personal spaces as needed is also a wise approach. In addition, timing and technology management also play an essential role. Creating rules or schedules for family and individual activities helps balance socialization and privacy. Setting limited screen time for electronic devices in the family can reduce digital distractions and improve communication between family members. Shared activities such as dinner or family gatherings promote healthy social interaction. Thus, careful planning regarding space and time can create a harmonious residential environment within the house.

3. Universal Accessibility

Designing houses to improve residents' quality of life and support the community contains the principle of inclusivity, which is an essential foundation. Inclusivity means considering accessibility and comfort for different groups, regardless of age or physical condition differences. However, applying this concept in design often presents complex challenges. Inclusive homes for all ages must recognize diverse needs and preferences. The design should consider parents with limited mobility, children who require play and learning spaces, and people with disabilities who require physical accessibility. Designers must approach this challenge with attention and sensitivity, integrating each group's needs into the home's design. Elements such as ramplanks, wide doors, or secure stairs create inclusivity. Although complex, these challenges can inspire creative innovation in design, resulting in homes that embrace and unite communities in all stages of life. In the context of well-being, inclusivity in design enhances community sustainability and provides opportunities for individuals to feel accepted and engaged. This theory of human ecology, proposed by Ellen Swallow, describes the complexity of interactions between individuals and the physical and social environments, which shape the quality of life and human well-being. This theory highlights the need to understand the dynamics of different community groups and how the environment affects their participation. In the face of the challenge of inclusive design, this theory suggests that space is not separate from a network of social relationships. By understanding the roles and interactions between individuals and their environment, designers can create adaptive, responsive, and inclusive homes, building a solid foundation for society's overall well-being.

Universal Ramp and Accessibility are essential to creating an inclusive environment for all. The installation of wheelchair-friendly access ramps or other accessibility solutions ensures that access is easily accessible to those with disabilities. An in-home accessibility solution is also needed. This includes expanding or making doors broader, interior design changes to accommodate accessibility needs, and installing elevators or lifts where possible. By ensuring adequate access to the upper floors via convenient and safe stairs and an accessibility-friendly interior design with wide doors, flat floors, and good lighting, the home becomes more inclusive and accessible for all its residents.

4. Multi-functional Room

The challenge of multi-functional space in home design reflects the principle of well-being that emphasizes the importance of creating an environment that supports a balanced and sustainable life. In an era of increasingly dense urbanization, the need to optimize space in the house is becoming increasingly urgent. Well-being is not only related to physical comfort but also to the ability of residential spaces to support diverse activities in daily routines. It is relevant to the concept of affordance in environmental psychology theory introduced by James J. Gibson. Affordance refers to the ability of the environment to provide instructions to individuals on how to use it. In the design of multi-functional spaces, affordance becomes vital because the space needs to provide visual and functional clues about how diverse activities can be carried out comfortably. In the face of these challenges, designers need to consider using furniture that can be rearranged or folded so that the room can be changed quickly according to needs. Motion walls or partitions can also bring flexibility in designing spaces that adapt to different activities. Technology can also be an ally in creating multi-functional spaces, such as using changeable screens or innovative solutions that control lighting and temperature. In terms of well-being, a multi-functional space allows residents to live a balanced lifestyle without feeling limited by a narrow space. Well-being not only involves the physical aspect but also impacts the psychological aspect. Well-designed spaces allow residents to switch between activities comfortably, reducing stress and increasing productivity. In addition, multi-functional spaces also support social and family interaction because different activities can be carried out in the same room. Overall, facing the challenges of multi-functional spaces through flexible and adaptive design reflects a real effort to create well-being for occupants.

Several important considerations must be considered when designing a joglo room or limasan house. Using partitions or curtains helps separate spaces when privacy is needed while maintaining design flexibility. Creating personal space or arranging additional space next to a joglo or limasan house is a solution to overcoming privacy challenges. Planning the interior wisely, including furniture that can be shifted or adjusted, increases the flexibility of the space. In addition, communication between family members and good use of space is crucial to overcoming the challenges of multi-functional spaces. In modern homes, the use of partitions or curtains, customized interior design, and the installation of access ramps are essential aspects that need attention.

5. Inter-generational Socialization

Inter-generational socialization in home design aims to create an environment that supports interaction and exchange between individuals of different age groups. This is in keeping with the principle of well-being in design, which focuses on creating an environment that supports positive social relationships. Creating spaces encouraging

meeting and collaboration between different generations positively impacts the community's quality of life. Human ecological theory recognizes the complex relationships between individuals, the physical and social environments, and how the interactions between these components shape the quality of life and well-being of humans in various contexts. In this regard, the theory provides a broad view of how interactions between different generations in the home can shape supportive social dynamics. Designers must consider space settings supporting informal home interactions that encourage inter-generational socialization. Cosy living rooms, gardens or communal spaces, and lounging areas can be places where family members of different generations can gather, discuss, and interact without barriers. The placement of furniture and design elements that facilitate interaction also plays an essential role in creating an atmosphere that supports inter-generational socialization. From the well-being perspective, intergenerational socialization results in an environment that promotes firmer, understanding, and resilient relationships within the community. Individuals of different ages can learn from each other, share experiences, and support each other. Thus, homes designed to encourage inter-generational interaction improve individuals' quality of life and strengthen positive social bonds within the community.

In facing challenges in multigenerational families, open communication is vital. Encouraging honest dialogue and mutual respect for each generation's views helps build understanding and harmony. In addition, shared activities such as family projects can strengthen intergenerational relationships and provide opportunities for positive interaction. Family traditions also play an essential role in promoting intergenerational socialization. Celebrating holidays, cooking traditional dishes together, or holding regular family gatherings are all excellent ways to cultivate relationships. In addition, it is essential to recognize that each generation in the home may have different social needs. Respecting privacy and personal space is also essential. Setting specific times for shared family activities, setting rules or limited screen time for electronic devices, and designing a comfortable personal space are additional steps that can help create a harmonious and inclusive family environment.

6. Security and Privacy

Well-being in home design describes efforts to create a safe and comfortable environment for residents while paying attention to social connectivity. As Oliver expressed in environmental psychology theory, physical factors affect individuals' psychological well-being.[16] Designers need to consider space settings that respect privacy without isolation. Using partitions, room layout, and proper window design can create a comfortable resting place while still allowing natural light and air circulation.

Privacy and security support residents to rest, feel safe and develop a deeper connection with themselves. However, the design challenge is finding the right balance between privacy and connectivity to keep social interactions valuable. With the integration of design elements that support these two aspects, the home can be a place that supports the community's well-being and meets individual needs.

Consider using room dividers such as curtains, layers, or partitions that can be used to create privacy when needed. Use curtains or curtains, movable room partitions, or coated glass or glass film that provides privacy without sacrificing natural light. In addition, an

automatically controllable system of doors and windows can also help manage privacy more efficiently.

7. Sustainability

Innovative design in a residential context must involve deep consideration of environmental impacts in the long term. This challenge involves the process of designing homes that not only meet the needs of today's occupants but also maintain the sustainability and balance of the ecosystem. Well-being-focused designs should be able to accommodate these challenges holistically. In designing an environmentally friendly home, designers must consider sustainable material choices, efficient energy use, and green technology applications. Renewable energy, solar panel installation, and arrangements supporting natural airflow are ways to integrate green technology in design.

Similarly, design strategies such as cross-ventilation and rainwater collection can help reduce a home's carbon footprint. Eco-friendly, environmentally-focused design has far-reaching implications. A healthy and sustainable environment contributes to better air and water quality and reduced exposure to harmful chemicals. In addition, an energy-efficient home can reduce residents' long-term living costs, provide financial stability, and improve their quality of life. The design challenge was to find the right balance between environmental efficiency and human comfort. In the face of these challenges, designers must combine knowledge of green technologies, sustainable material developments, and design principles supporting well-being. Through a holistic approach, innovative design can be a means to produce homes that benefit the environment, residents, and the community.

Good maintenance, the use of recycled materials, and renewable energy considerations are essential in maintaining the sustainability of a Joglo home. Regular maintenance and use of eco-friendly materials in renovations can reduce environmental impact. Installing solar panels and conserving wood from sustainable sources also support the reduction of dependence on fossil energy sources. In addition, seeking government subsidy and incentive programs and implementing sustainable designs such as increased insulation, prudent resource management, and selecting environmentally friendly materials are essential to maintaining the sustainability of joglo homes.

Conclusion

The contemporary emphasis on well-being represents a primary focus today. This reflects efforts to achieve a healthy life balance and personal happiness. Well-being includes many interpretations, from individual living conditions to mutual societal agreement. From an economic standpoint, prioritizing well-being is particularly relevant, given its strong correlation with individual success, social engagement, and overall quality of life. Happy individuals exhibit positive traits, including social traits, altruism, productivity, and better health. The importance of this is also underscored by the recognition of the United Nations, as seen from the resolutions and calls to its member states to consider the happiness of their citizens in social development planning.

The critical role of design and the environment in improving well-being should not be taken lightly. Interior design has a solid role in creating an environment that supports physical and psychological well-being, productivity, and happiness. In contemporary lifestyles increasingly inclined indoors, with growing health issues such as stress and depression, the skilful

environmental design goes beyond mere considerations of aesthetics and function. This research aims to provide relevant recommendations and optimize housing design following the principles of well-being. The aim is to raise awareness of the critical role of well-designed residential spaces in helping the development of the well-being of its residents. Finally, given that well-being is a central aspect of the Sustainable Development Goals (SDGs) for 2015-2030, this research has enormous relevance. Faced with complex challenges in urban development and dynamic social change, this research seeks to develop innovative approaches that prioritize well-being in housing design. The approach is expected to address various issues, including spatial layout, natural lighting, ventilation, eco-friendly materials, and technology integration.

This study confirms the importance of well-being and provides practical solutions for integrating it into housing design. It has the potential to significantly improve the quality of life for urban residents' while being in line with global sustainability goals.

Reference

- [1] R. Cain and A. Petermans, *Design for Well-being: an applied approach*. New York: Routledge, 2020.
- [2] Elina. Grigoriou and Richard. Francis, *well-being in interiors : philosophy, design & value in practice*. London: RIBA, 2019.
- [3] United Nations and General Assembly, "Happiness- towards a holistic approach to development," 2011, Accessed: Feb. 27, 2023. [Online]. Available: <http://www.un.org/en/ga/search/view:doc.asp?symbol=A/RES/65/309>
- [4] J. Helliwell, R. Layard, and J. Sachs, "World Happiness Report 2013," 2013.
- [5] Z. N. A. Tahoun, "Awareness assessment of biophilic design principles application," in *International Sustainable Built Environment Conference 2019: Policy to Practice, SBE 2019*, Institute of Physics Publishing, 2019. doi: 10.1088/1755-1315/329/1/012044.
- [6] J. Potočnik, J. D. B. Cadena, M. Košir, and T. Poli, "Occupant perception of spectral light content variations due to glazing type and internal finish," in *International Sustainable Built Environment Conference on Resilient Built Environment for Sustainable Mediterranean Countries, SEB 2019*, B. Daniotti, M. Imperadori, and S. L. Spagnolo, Eds., Institute of Physics Publishing, 2019. doi: 10.1088/1755-1315/296/1/012033.
- [7] N. S. Abdelaziz Mahmoud, G. El Samanoudy, and C. Jung, "Simulating the natural lighting for a physical and mental Well-being in a residential building in Dubai, UAE," *Ain Shams Engineering Journal*, vol. 14, no. 1, 2023, doi: 10.1016/j.asej.2022.101810.
- [8] E. Marco, K. Williams, and S. Oliveira, "Too much 'stuff' and the wrong space: A conceptual framework of material possessions," *Interiority*, vol. 3, no. 2, pp. 219–242, 2020, doi: 10.7454/in.v3i2.78.
- [9] S. Dakung, "ARSITEKTUR TRADISIONAL DAERAH ISTIMEWA YOGYAKARTA," 1998.
- [10] N. C. Idham, "Javanese vernacular architecture and environmental synchronization based on the regional diversity of Joglo and Limasan," *Frontiers of Architectural Research*, vol. 7, no. 3, pp. 317–333, Sep. 2018, doi: 10.1016/j.foar.2018.06.006.
- [11] N. Satorius, "The Meanings of Health and its Promotion," 2006. [Online]. Available: www.cmj.hr
- [12] R. A. Emmons and M. E. McCullough, "The Psychology of Gratitude," 2004.
- [13] W. Lidwell, K. Holden, and J. Butler, "Universal Principles of Design," 2010.
- [14] J. S. Gaekwad, A. Sal Mosehian, P. B. Roös, and A. Walker, "A Meta-Analysis of Emotional Evidence for the Biophilia Hypothesis and Implications for Biophilic Design," *Frontiers in Psychology*, vol. 13. Frontiers Media S.A., May 27, 2022. doi: 10.3389/fpsyg.2022.750245.
- [15] N. Siti and S. Siregar, "KAJIAN TENTANG INTERAKSIONISME SIMBOLIK," 2011.
- [16] Karon. Oliver, *Environment*. Hodder & Stoughton, 2002.

Biography



Yayu Rubiyanti, M.Sn. (Known as Ruby Sofyan) is an interior consultant and furniture designer with over ten years of experience. She has cooperated with companies such as Santai Furniture and several prestigious companies in Yogyakarta and Semarang, producing innovative designs in interior and furniture projects. She is passionate about sharing her knowledge through her dedication as a teacher who focuses on incorporating elements of sensitivity and sustainability in interior and furniture design work to inspire aspiring young designers. Its commitment to sustainability emphasizes its dedication to responsible and ethical design principles. In addition to his academic role, she actively contributes to the design community as a secretary of the Indonesian Furniture Designers Association (HDMI) and the Indonesian Interior Designers Association (HDII), prestigious professional organizations in their fields. Driven by personal interests and experiences, she explores much of her spiritual well-being. This quest became a source of profound inspiration, allowing her to pin deep meaning and resonance to her design work. Her skills, experience, and dedication to sustainable design have resulted in valuable contributions to the industry. Her creative vision, combined with her involvement in academia and the design community, demonstrates his commitment to pushing the boundaries of design innovation and promoting sustainability in interior and furniture design.