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# Interior Design Strategies for Improving Quality of Life: How Can Residential Spaces Reflect a Healthy Lifestyle and Psychological Comfort

Ayman M Obeidat<sup>1,\*</sup> and Ahmad M Obeidat<sup>1</sup>

<sup>1</sup>Full-Time Lecturer of interior design, Department of Interior Design, Faculty of Art and Design, Ajloun National University, Jordan

<sup>2</sup>Assistant professor of interior design, Department of Interior Design, Faculty of Art and Design, Ajloun National University, Jordan

Corresponding authors: (e-mail: ay.obeidat@anu.edu.jo).

**Abstract** Interior Design Techniques That Improve the Quality of Life in a Residential Setting Using concepts like ergonomics, biophilic design, with space planning and sustainability at heart can help designers create homes that will have both physical as well as mental benefits for the people inhabiting them. Natural lighting, warm fabrics, color and smart technologies not only make housing more attractive but also enhance the overall experience of those who reside in it. Interior design is one of the most effective tools that can go a long way in improving living standards within homes. Through thoughtful weaving of a variety of design ideas we have the ability to enliven spaces that are more so contributing towards aesthetics for humans in addition to their overall physical and mental well being.

**Index Terms** interior design, residential spaces, quality of life, interior design strategies

## I. Some definitions of important terms related to the topic of interior design and quality of life

**Definition 1** (Interior design). The process of planning and coordinating elements within enclosed spaces with the aim of creating attractive and effective environments that suit the needs of users, taking into account aesthetics, functionality, and compatibility with lifestyle [1].

**Definition 2** (Quality of life). A concept that refers to the extent of individuals' well-being and satisfaction with their lives; it is affected by many factors including the environment, health, education, economic level, and sense of security [2].

**Definition 3** (Biophilia (biophilic design)). A trend in interior design that aims to enhance communication with nature by adding plants, natural lighting, and natural materials (such as wood and stone), to reduce stress and increase the feeling of comfort [3].

**Definition 4** (Ergonomics). The science of designing spaces and furniture to be compatible with the needs of the human body, ensuring comfort and reducing the chances of injury and stress, especially in office and residential environments [1].

**Definition 5** (Natural lighting). Using natural light (sunlight) as a source of lighting within the space, due to its benefits related to improving mood, increasing productivity, and reducing reliance on artificial lighting [4].

**Definition 6**. Acoustic comfort is a state of acoustic quietness achieved by designing the interior environment to reduce unwanted noise and enhance the clarity of sound within the space. Acoustic comfort-conscious design aims to reduce noise pollution and prevent high frequencies or annoying sounds from affecting the comfort of users [5].

**Definition 7**. Thermal comfort is a state of feeling comfortable and thermally satisfied in the surrounding environment, such that a person does not feel excessive heat or cold. Thermal comfort depends on several factors such as air temperature, humidity, air speed, temperature of surrounding surfaces, rate of physical activity, and the person's clothing [6].

**Definition 8** (Sustainable design). A design approach that focuses on utilizing environmentally friendly materials, using energy efficiently, and reducing waste, to help reduce environmental impact and promote sustainability [7].

**Definition 9** (Spatial planning). The process of distributing spaces and defining their functions in a way that ensures ease of

movement and smooth flow of activities, with specific areas allocated for different activities (such as work, relaxation, and storage) [8].

**Definition 10** (Smart technology). The use of smart technologies such as remotecontrol systems for lighting, temperature, and security, to facilitate space management, enhance comfort, and save energy [7].

**Definition 11** (Open design). A design that relies on integrating spaces without dividing walls (such as the living room and kitchen), which enhances the feeling of spaciousness and supports social communication within the space [2].

**Definition 12.** Automation, or machine operation is the process of using technologies and software to control and manage processes and tasks without direct human intervention or with minimal human intervention. Automation aims to improve efficiency, reduce errors, and speed up processes, whether in industry, manage Automation involves the use of intelligent systems, such as robots, artificial intelligence, and sensors.

These terms form the basis for understanding the principles of interior design and their impact on improving the environment surrounding the individual [9].

## II. Introduction

### II. A. Background and motivation

Interior design is increasingly influencing living spaces. Its role has changed from being purely decorative to becoming an essential part of promoting a healthy lifestyle and achieving psychological comfort, especially in light of increasing urbanization, greater awareness of the importance of mental health, and a focus on sustainability [8]. Mood, stress levels, and overall life satisfaction can be affected by a variety of elements, such as natural light, color coordination, materials used, and space organization. While thoughtfully designed spaces encourage focus and calm, crowded, disorganized environments can make stress and anxiety worse [6]. Applying comprehensive design principles to holistic environments can enhance independence and well-being. Two examples of sustainable interior design techniques that serve to enhance indoor air quality and reduce exposure to hazardous pollutants are the use of non-toxic materials and energy-saving choices. Furthermore, studies have shown that incorporating natural elements into indoor spaces a technique referred to as biophilic design helps improve mood and reduce stress [10].

The supportive effect of interior design on health and psychological issues is well understood, which also shows that it serves not only the purpose of beautification, but much more [2]. A great interior design can improve comfort and function as well as change the mood in different ways through the good use of colors, space and light. As people around the world spend more and more time indoors, whether at home or at work, effective interior design and its importance are growing [4]. This study looks at how this is achieved through interior design and how it enhances human life; for example, furniture that provides comfort, materials with appropriate color schemes, incorporating natural lighting into artificial sources, tectonic arrangements within the space and applying creative green solutions. From design to implementation [1].

### II. B. Problem statement and objectives

Although living spaces play a pivotal role in promoting psychological comfort and a healthy lifestyle, many modern homes are designed without full awareness of the impact of the environment on physical and psychological well-being [11]. Poorly designed living spaces often lead to increased stress and anxiety and reduced quality of life. And Some of the most prominent issues that negatively affect the health of residents include clutter, lack of practicality in spaces, lack of natural light, and the use of unsustainable materials. The goal of interior design is to explore and implement techniques that enhance quality of life by integrating concepts of psychological comfort, sustainability, and health into residential environments [6].

#### II. B. 1) Objectives

- Examine the body of research on the connection between interior design components (such as color, light, and space) and how they affect both physical and mental health.
- Design strategies that use best practices, such as color theory, material selection, and spatial organization, to encourage psychological comfort and a healthy lifestyle.
- To enhance indoor air quality and lessen the impact on the environment, find sustainable materials and design techniques that can be incorporated into homes.

### II. C. Research questions

- What are the key elements of interior design that are associated with improving psychological comfort?
- How can colors, lighting, and materials used affect psychological and environmental comfort?
- How can interior design contribute to improving air quality, natural lighting, and stimulating movement within the home?

- What are the interior design strategies that help promote healthy habits such as physical activity and physical comfort?
- What is the impact of incorporating nature (biophilic design) into residential environments on the psychological and physical health of residents?

### II. D. Methodology overview

This project will use a multifaceted methodology that combines qualitative and quantitative research methodologies in order to investigate and apply efficient interior design strategies that improve quality of life in residential areas. The strategy will be broken down into multiple crucial stages.

- Perform a thorough analysis on interior design, health, and wellbeing.
- Provide an overview of research on color psychology, universal design, sustainable practices, biophilic design, and the influence of design on mental health.
- Develop strategies that use best practices to encourage psychological comfort and a healthy lifestyle.
- Case Studies: Select and analyze several contemporary residential neighborhoods that are outstanding illustrations of effective design strategies for improving health and comfort.

The goal of this methodical approach is to generate practical discoveries that improve living spaces and foster psychological wellbeing.

## III. Related work

### III. A. Psychological awareness in interior architectural design

Achieving effective interior architectural design requires a comprehensive understanding of the psychological impacts on residents. This involves considering various dimensions and circumstances that influence the design process. As highlighted [12]. “As practitioners, we address design challenges for individuals who occupy these spaces by recognizing their needs—be they functional, social, psychological, or environmental. This necessitates an understanding of how to utilize research to clarify the relationship between human behavior and the built environment.” And Numerous research techniques and methodologies have been used to examine the complex relationships between interior design, architecture, and users’ psychological health. Irwin Altman, an architectural psychologist, developed a useful paradigm for studying the connection between environment and behavior that consists of three essential elements: environments, user groups, and environment-behavior phenomena. Furthermore, a thorough survey that focuses on three main aspects—comfort, home environment, and the meaning of comfort at home—has been created in order to define the wide notion of comfort in homes [13].

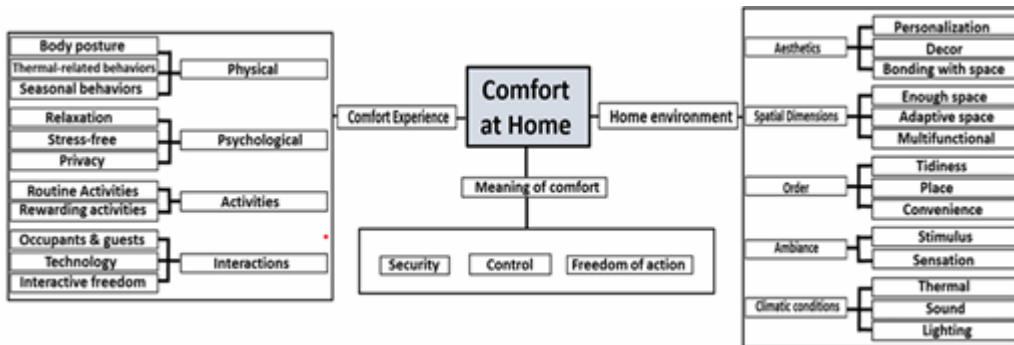


Figure 1: Home comfort measurements and sub-dimensions

### III. B. Increasing the contribution of positive energy to furniture and home design

#### a- Natural energy

By integrating the interior environment (flowers, rivers, green spaces, birds, and sunlight or moonlight) with the outer environment, we can increase the role of natural energy inside. This can be achieved by placing mirrors in the carefully considered locations across from the external openings; as a result, the interior will appear broader and brighter, displaying greater beauty and life. Using natural design elements like material, texture, color, shape, and light to bring the outside into the interior. Water through ornamental elements like aquariums, indoor fountains, etc. Living things like fish, birds, flowers, shade trees, etc. [11].

#### b- Openings (doors and windows)

##### b1- Creating the apertures’ shapes

To balance the quality of the entering energy of any kind and at every level, the openings' forms are crucial. By making the shape sufficiently broad to be proportionate to the interior space's area, this could be changed. Additionally, the openings and their iron work need to be planned using geometric shapes that release energy that moves horizontal negative green waves from the outside to the inside [14].



Figure 2: Home comfort measurements and sub-dimensions

#### b2- Doors

Two are rectangular in design, while the third is shaped like a rectified dome. Because the iron works, the three doors release horizontal green energy that is necessary for the home's entrance and crucial for energizing the guest. of the door features geometric-shaped movements, including rotations, double interfaces, and repetition, as well as the planned shapes of a spiral, square [11]. The balcony is situated atop two L-shaped Kaboly at a 90-degree angle. Its lower wooden portion is embellished with units, each of which is made up of three large squares with a common center, while the upper iron work features spiral shapes. These units provide double interface movements, rotation, and repetition [14]. As a result, the balcony radiates organizing energy.



Figure 3: The balcony is situated atop two L-shaped Kaboly at a 90-degree angle

The location of the openings has a significant part in the energy flow. Doors and windows are often positioned in the center to prevent energy diffraction. There are a number of ways to fix off-center doors, such as corner treatment, diagonally positioned square objects or furniture, vertical frame section outside the wall, semi-circular section outside the wall, and wall curvature [11].

#### c- Furniture

##### c1- Creating the furniture's shape

- When creating furniture shapes, we take into account the following guidelines to ensure that energy is arranged in the interior space:
- Rotation, double interface, repetitions, and shifting are examples of creating shape movements.
- Attaching to the shape's center
- Modifying the dolman, natural, and (45-90-36) degree forms.
- Adjusting the biogeometric tools and the golden proportion.
- Natural materials are used to create and finish floors and furniture.

- Taking into account the ergonomics of furniture design by taking into account the user's daily workload and duration of stay [14].

Through the use of corrective tools for the top arch and the golden rectangular shape for the mirror, as well as geometric motions like repetition, rotation, double interface, and shifting for small squares in the decoration, the mirror emits the helpful horizontal negative green components.

c2- Furniture placement:

- Achieving equilibrium energy in the interior space is the foundation for proper furniture layout.
- In symmetrical balance, the energy on both sides of the axis of symmetry is equal, whereas in nonsymmetrical balance, the energy around a small, special-shaped element is equivalent to that of a large, simple-shaped element.
- Because clutter in the flow of positive energy leads to clutter in thought, furniture placement in interior spaces must allow energy to flow through them. There will be areas allowing and optimizing the flow of good energy because a tiny interior space packed with furniture will obstruct energy flow to prevent this, we employ a few modest pieces of furniture. And A vast interior area that is empty of furniture will result in a maximal rush of energy flow; therefore, we must balance energy flow by filling the space with a fair amount of furniture [14].
- Furniture shouldn't be positioned next to apertures since direct exposure to energy flow is dangerous.
- Avoid placing furniture in areas of interior spaces that contain negative energy, such as under beam construction, pointy corners, or direct illumination.
- creating wall, ceiling, and floor designs [11].
- Geometric shapes with certain properties are employed in the design of walls, floors, and ceilings to release organizing energy in the room.
- Natural materials like stone, wood, or granite are employed to ensure that the beneficial natural horizontal component of green waves is emitted.
- Energy flow is blocked by walls, building dividers, closed doors, cramped quarters, poorly positioned lighting, and bulky, heavy furniture.
- Roads, hallways, windows, doors, open areas, properly positioned lighting, mirrors, crystals, water, and living things all contribute to the movement of energy [14].

### ***III. C. Techniques for interior design that enhance life quality***

Numerous disciplines, including architecture, psychology, environmental science, and public health, have shown a great deal of interest in the relationship between interior design, health, and well-being. The following important works and ideas help us comprehend how homes can represent psychological comfort and a healthy lifestyle [5].

#### **III. C. 1) Natural light integration**

People's health and well-being are greatly impacted by natural light. Exposure to daylight has been found to enhance mood, boost productivity, and even aid regulate circadian cycles, which have an impact on sleep patterns [15].

- **Optimizing Daylight:** Skylights, glass doors, and large windows let in more natural light, creating a positive atmosphere that improves mental wellness.
- **Reflective Surfaces:** Using mirrors and light-colored finishes can help to disperse natural light throughout a room, reducing the need for artificial lighting and creating a bright, open atmosphere [16].

#### **III. C. 2) Biophilic design: connecting with nature**

By using materials like wood and stone, as well as natural components like plants and water features, biophilic design seeks to bring the outdoors into indoor spaces. It has been demonstrated that spending time in nature lowers stress, enhances creativity, and improves cognitive function [14].

- **Indoor Plants:** Integrating greenery into interior spaces not only improves air quality but also creates a calming, natural environment that enhances well-being.
- **Natural Materials:** Using wood, stone, and other natural materials creates a more tranquil, grounded living environment and strengthens a person's connection to nature [7].
- **Views of Nature:** Position furniture to offer views of outdoor spaces, or use art and imagery depicting natural landscapes [9].

#### **III. C. 3) Space planning and flow**

Effective space planning ensures that a room serves its intended function while also promoting a comfortable and efficient flow of movement. Poor space planning can lead to cramped, cluttered spaces, which can increase stress and decrease productivity [17].

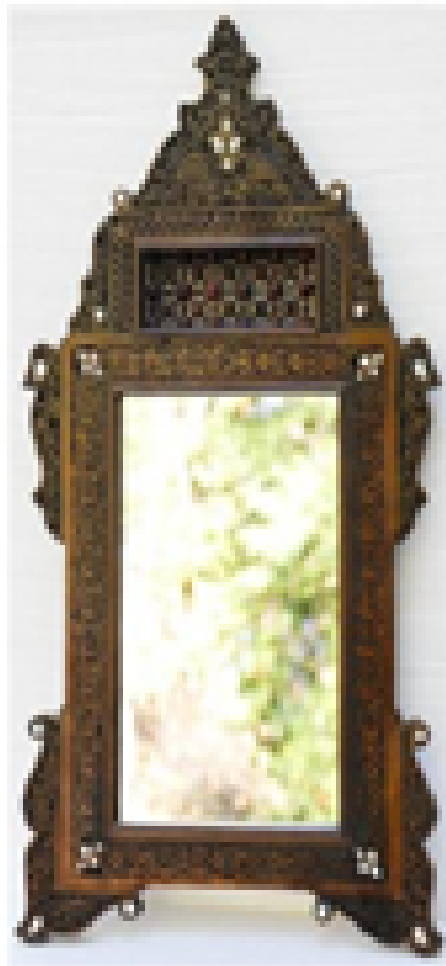


Figure 4: Using mirrors to increase the space of spaces



Figure 5: More natural light is made possible via skylights, glass doors, and large windows

- **Open-Plan Layouts:** An open-plan design creates a sense of spaciousness and encourages interaction between individuals, particularly in communal areas such as kitchens and living rooms [14].
- **Zoning:** Dividing a space into functional zones (e.g., work areas, relaxation zones, social spaces) ensures that each part of the home or office meets specific needs, contributing to both mental and physical comfort.
- **Furniture Placement:** Arrange furniture to promote easy movement, ensure visual comfort, and avoid cluttered or congested pathways [18].



Figure 6: Natural elements like plants



Figure 7: Open-plan design

#### III. C. 4) Ergonomics and comfort

Ergonomically designed furniture and layouts are essential for ensuring physical comfort and preventing long-term health issues such as back pain and eye strain, particularly in workspaces.

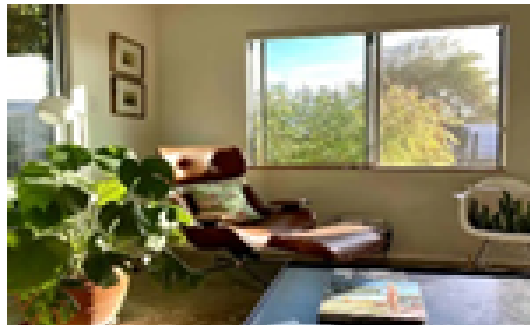


Figure 8: Comfort Zones

- Ergonomic furnishings: Modifiable desks, seats, and monitors contribute to the creation of a workstation that encourages proper posture and lessens physical strain, enhancing comfort and efficiency [19].
- Comfort Zones: In relaxation areas, soft seating, plush textiles, and ambient lighting create a warm, inviting atmosphere conducive to rest and recovery.

#### III. C. 5) Color psychology

Colors affect mood, productivity, and even physical health in a psychological way. Thus, interior design color choices can have a big impact on people's quality of life [3].

- Calming Colors: Soft blues, greens, and neutrals are ideal for bedrooms and relaxation areas as they promote calmness and reduce stress [17].
- Energizing Colors: Brighter colors such as yellow, orange, and red can be used in social or work areas to boost energy levels and stimulate creativity [20].



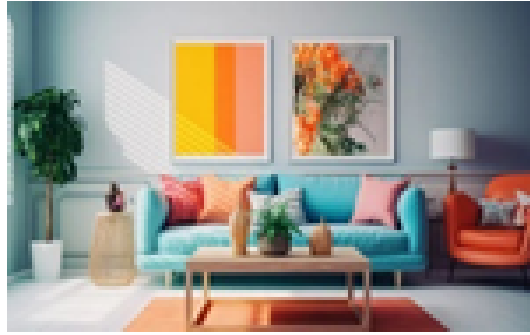


Figure 9: Use of various colors in interior design

- **Balanced Palettes:** A thoughtful balance between neutral tones and accent colors can create visually pleasing environments that support both relaxation and focus [13].

### III. C. 6) Acoustic comfort

Noise pollution is a significant source of stress and discomfort in homes and offices. Interior design can mitigate this by using soundproofing materials and thoughtful layouts that reduce unwanted noise [21].



Figure 10: Quiet areas to relax

- **Sound-Absorbing Materials:** Acoustic panels, carpets, and drapes can all assist lower noise levels, fostering a calmer atmosphere that improves concentration and relaxation.
- **Quiet Spaces:** Designating certain areas of a home or office as quiet zones ensures that individuals have a space to retreat to when they need to concentrate or relax without distraction.

### III. C. 7) Accessibility and inclusivity

Designing with accessibility in mind ensures that spaces are usable and comfortable for all individuals, regardless of age or ability.



Figure 11: Sliding doors save a lot of space in the room.



- **Universal Design:** Features such as wide doorways, low countertops, and barrier-free showers make homes more accessible to individuals with mobility challenges [20].
- The quality of life for people with varying physical abilities is improved by inclusive layouts, which make sure that every part of a house or place of employment is accessible to everyone.
- **Height Considerations:** Place frequently used items at accessible heights and ensure that storage, counters, and appliances are easy to reach for all users [22].
- **Clear Navigation:** Maintain clear, unobstructed pathways and consider using contrasting colors or textures to differentiate between floors, walls, and stairs, helping visually impaired individuals.

### III. C. 8) Sustainable and eco-friendly design

Sustainability is increasingly becoming a priority in interior design as individuals seek to minimize their environmental impact while also creating healthier living spaces [23].



Figure 12: The use of natural woods and fibres

- **Eco-Friendly Materials:** Non-toxic paints, sustainable woods, and natural fibers improve indoor air quality and reduce environmental harm [3].
- **Energy Efficiency:** Incorporating energy-efficient lighting, insulation, and appliances reduces energy consumption and creates a more comfortable living environment [12].
- **Recycling and Upcycling:** Repurpose furniture or materials, and incorporate recycling bins or composting areas, to encourage eco-conscious living habits [21].

### III. C. 9) Smart technology integration

Smart technology used in interior design can improve a space's comfort and usefulness.



Figure 13: Use smart home technology

- **Automated Systems:** Use smart home technology to automate lighting, temperature, and security systems, making the home more convenient and energy-efficient [12].
- **Mood Control:** Install smart lighting systems that can adjust color and brightness to align with the user's mood or time of day, supporting circadian rhythms and improving sleep quality [3].
- **Voice-Controlled Devices:** Smart home assistants can be used to control a variety of house features, including entertainment systems, lighting, and temperature, which makes daily chores simpler and more effective [23].

### III. C. 10) Ergonomics and comfort

The ergonomic design of furniture and spaces is crucial for physical comfort, especially in homes where people work remotely or spend long periods sitting.



Figure 14: Comfortable furniture

- **Comfortable Furniture:** Select ergonomic furniture that supports good posture and reduces strain, particularly for workspaces and relaxation areas [20].
- **Adjustable Lighting:** Provide multiple lighting options (e.g., task lighting, ambient lighting) that can be adjusted based on activities and preferences.
- **Textural Variety:** Use a variety of textures (soft fabrics, plush rugs, smooth surfaces) to create sensory comfort and a more inviting atmosphere [24].

### III. C. 11) Personalization

In interior design, "customization" refers to modifying living spaces to suit residents' preferences, needs, and lifestyles; this is achieved by personalizing the home's design.

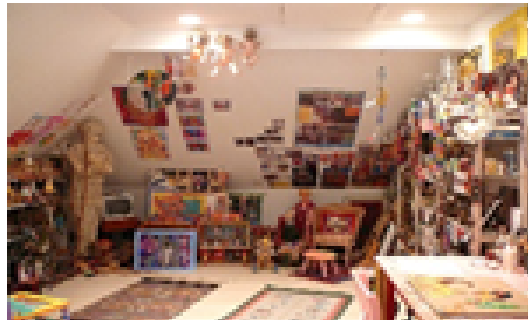


Figure 15: Custom-designed areas that cater to specific hobbies or activities

- **Emphasize valuable items:** Include sentimental objects like family portraits, artwork, or memories that capture the resident's character and life experiences [24].
- **Personalized Spaces:** To increase the space's usefulness and personal meaning, create areas that cater to particular hobbies or pastimes (such a craft room, home gym, or comfortable reading nook) [25].

### III. C. 12) Clutter-free design

The goal of clutter-free design is to produce straightforward, uncomplicated spaces that encourage peace and usefulness. In a society where distractions and material belongings frequently take up our time, the concept of clutter-free living is a design philosophy that encourages productivity and peace of mind. By removing extraneous items and making the most of existing space, clutter-free design aims to create a more cozy, roomy, and peaceful home atmosphere [7].

- **Several Storage Options:** To create a more tranquil and roomy environment and lessen visible clutter, rely on built-in storage, multipurpose furniture, and neatly arranged shelving.
- **Minimalist Aesthetic:** To achieve a chic, clutter-free, and calming ambiance, take a minimalist approach to decorating with an emphasis on quality over quantity.
- **Clutter Removal Strategies:** Work on regular organization and decluttering to keep your home calm, functional, and stress-free [18].



Figure 16: Organized shelving to reduce visual clutter



Figure 17: The house has adequate insulation to keep the interior temperature steady and stop drafts

### III. C. 13) Thermal comfort

The ability to maintain a comfortable indoor temperature that enhances the productivity and well-being of occupants is known as thermal comfort. The temperature of a residential space must be balanced to achieve physical comfort and general enjoyment. Interior spaces can provide the best conditions for relaxation and health by paying attention to factors such as insulation, ventilation and temperature control.

- Proper insulation: To ensure a stable temperature inside the home and avoid drafts, make sure the insulation is properly applied [2].
- Natural ventilation: Use windows and ventilation systems to promote air flow, improving comfort and air quality.
- Adaptive Heating and Cooling Systems: Rely on zoning systems and smart thermostats to provide personalized temperature management in different rooms of the home [19].

This is an analytical table with pictures that illustrates several interior design techniques for raising living standards in homes. Every tactic is graphically depicted to show how it is used in actual home interiors.

### III. D. Strategies for interior design that enhance life quality

The many interior design techniques and their impacts on life quality are compiled in this table.

### III. E. Case study

These case studies highlight the variety of interior design strategies that put comfort, health, and well-being first. These projects show how careful design can significantly improve the quality of life in residential settings by incorporating features like biophilic design, sustainable practices, and community-focused areas. This is a larger table that includes numerous in-depth case studies on interior design techniques that enhance psychological comfort and reflect healthy lives, therefore improving quality of life. Every case study highlights distinct tactics and results while concentrating on distinct facets of design.

#### III. E. 1) Case study: the healthy home

The Healthy Home project is a private home created to exemplify sustainability and wellness concepts. With an emphasis on comfort, health, and a connection to nature, this case study examines the design techniques used to create a space that improves the quality of life for its occupants.

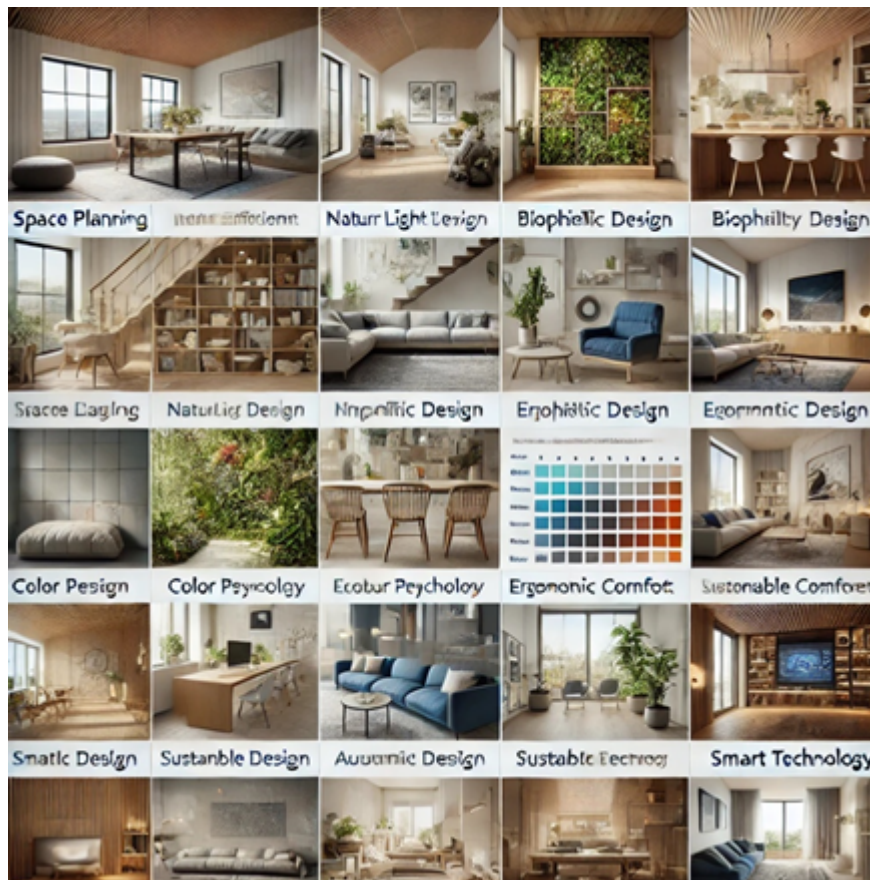


Figure 18: A collection of different designs

### III. E. 2) Case study: casa R

An open floor layout is used in this residential project to improve natural light and air circulation. Using local resources improves the family’s well-being by lowering carbon emissions and fostering a sense of connection to the environment and culture.

### III. E. 3) Case study: lodge in the woods

Espen Surnevik designed the tranquil retreat known as the “Lodge in the Forest” in Norway, which places great emphasis on interacting with nature, harnessing natural light, and using local materials. The design enhances the quality of life by establishing a serene ambiance that promotes outdoor living and leisure and cultivates a strong bond with the surrounding environment.

### III. E. 4) Case study: hygge house

House Hygge, created by Norm Architects in Denmark, promotes comfort, relaxation, and well-being by utilizing natural materials, gentle lighting, and warm interiors to embody the Danish idea of hygge. These designs enhance people’s quality of life by fostering social interaction, emotional health, and a closer bond with nature through the creation of a warm and inviting space.


### III. E. 5) Case study: tiny house project


A well-known example of a simple lifestyle that emphasizes eco-friendly practices, multipurpose areas, and a strong connection to nature is the "Tiny House" initiative. These tiny homes add to people’s quality of life by lowering clutter, encouraging a calm lifestyle, and supporting an eco-friendly and sustainable way of living. Additionally, residents gain from lowering stress levels, becoming financially independent, and fortifying communal relationships.

The results of global examples’ experiments show that interior design is not just an aesthetic improvement, but has a profound impact on quality of life, well-being, and social interaction. By implementing thoughtful design strategies, and communities can contribute to creating healthier and more sustainable living environments.

Design Strategy	Description	Impact on Quality of Life	Examples
Natural Light Integration	Maximizing daylight through large windows, skylights, and reflective surfaces.	Enhances mood, regulates sleep, boosts productivity.	Large windows, glass doors, light colored walls.
Biophilic Design	Incorporating natural elements like plants, wood, and water features.	Reduces stress, improves air quality, increases well-being.	Indoor plants, wood flooring, stone accents.
Space Planning & Flow	Creating efficient layouts and functional zones for different activities.	Increases comfort, reduces clutter, improves mental clarity.	Open-plan layouts, defined work, social, and relaxation areas.
Ergonomics & Comfort	Using furniture and layouts that support physical health and comfort.	Prevents physical strain, enhances comfort and productivity.	Adjustable chairs, ergonomic desks, soft seating.
Color Psychology	Using colors that influence mood and behavior.	Calming or energizing spaces depending on the color scheme.	Soft blues for bedrooms, bright yellows in workspaces.
Acoustic Comfort	Using soundproofing and sound-absorbing materials to reduce noise.	Enhances focus, reduces stress, improves relaxation.	Acoustic panels, carpets, sound-insulating windows.
Accessibility & Inclusivity	Designing for ease of use and comfort for all individuals, regardless of ability.	Enhances usability for individuals with mobility challenges, promoting inclusivity.	Wide doorways, barrier-free showers, adjustable countertops.
Sustainable Design	Using eco-friendly materials and energy-efficient systems.	Reduces environmental impact, improves indoor air quality, lowers energy costs.	Non-toxic paints, sustainable woods, energy-efficient lighting.
Smart Technology Integration	Incorporating smart devices for better control and automation.	Increases convenience, enhances energy efficiency, improves comfort.	Smart lighting, voice-controlled thermostats, security systems.
Personalization	Tailoring living spaces to reflect the occupant's personality, preferences, and lifestyle.	Creates a sense of belonging and emotional connection, making the space feel more personal and comfortable.	Displaying family photos, artwork, or souvenirs; creating custom spaces like a reading nook or craft area tailored to specific hobbies.
Clutter-Free Design	Focuses on reducing visual clutter and creating organized, minimalist spaces that enhance functionality and peace of mind.	Promotes mental clarity, reduces stress, and creates a more spacious, serene environment, contributing to overall well-being.	Using built-in storage, multi-functional furniture, and regular decluttering to keep spaces neat and organized.
Thermal Comfort	Achieving a comfortable indoor temperature through proper insulation, ventilation, and adjustable heating and cooling systems.	Enhances physical comfort, improves sleep quality, and supports overall well-being by maintaining a stable indoor environment.	Installing smart thermostats, using well-insulated walls and windows, and incorporating natural ventilation through windows or air vents for optimal airflow and temperature.

Table 1: Strategies for interior design that enhance life quality


Case Study Element	Details	
Case Study Title	The Healthy Home	
Location	Portland, Oregon, USA	
Design Team	Architects: Holst Architecture Interior Designers: Studio 3	
Year	2020	
Design Strategies Implemented	 <ol style="list-style-type: none"> <li>1. Biophilic Design: -Sliding glass doors and large windows let in plenty of natural light, Indoor plants for peace and air cleansing</li> <li>2. An open floor plan: Encourages social interaction and easy mobility, Barrier-free zoning for particular activities</li> <li>3. Natural Materials: Low-VOC paints and repurposed wood are used, Comfort is improved by a diversity of textures</li> <li>4. Multipurpose and Ergonomic Furniture: Ergonomic designs support physical well-being, Furniture that can be used for a variety of purposes</li> <li>5. Psychology of Color: Neutral, gentle hues promote calm, Vibrant accents are used to stimulate</li> <li>6. Smart Home Technology: Monitoring systems for light and air quality, Automation to improve comfort</li> </ol>	
Outcomes	<p>Reduced tension and worry. A decrease in complaints of discomfort.</p> <p>Promoted get-togethers and a sense of community.</p> <p>Recognition of Sustainability</p>	


Case Study Element	Details	
Case Study Title	Casa R	
Location	Mexico	
Design Team	Tatiana Bilbao	
Year	2008	
Design Strategies Implemented	 <p>Open Floor Plan: Offers a feeling of openness and optimizes natural light</p> <p>Natural Ventilation: By strategically placing windows, cross-ventilation is made possible, which enhances cooling and air quality</p> <p>Local Materials: Using local resources, such wood and concrete, promotes sustainability and cross-cultural understanding</p> <p>Outdoor Spaces: By combining indoor and outdoor living, patios and terraces encourage time spent outside and support a healthy lifestyle.</p>	
Outcomes	<p>Better Air Quality: The occupants' comfort and air quality are enhanced by natural ventilation</p> <p>More Family connection: By promoting family connection, the open layout strengthens social bonds</p> <p>Improved Connection to Nature: Combining indoor and outdoor areas creates a calm environment by lowering stress and encouraging relaxation</p>	

The conclusions of these experiments can be summarized as follows:

- Improving interior design and preparing the residential environment to work according to comfort standards such as thermal, acoustic and visual comfort, leads to an increase in the level of satisfaction and comfort of residents. A carefully



Case Study Element	Details	
Case Study Title	Lodge in the Woods	
Location	Norway	
Design Team	Espen Surnevik	
Year	2012	
Design Strategies Implemented	<p>Natural Light: To create a light and airy ambiance, skylights and large windows are employed widely</p> <p>Local Materials: Sustainability is promoted by establishing a harmonious relationship with the environment through the use of wood, stone, and other locally accessible materials</p> <p>Outdoor Spaces: To improve outdoor living and leisure activities, incorporate decks and balconies that offer direct access to the outdoors</p>	
Outcomes	<p>Improving Relaxation: The open layout and natural setting create a soothing ambiance that promotes relaxation and stress relief</p> <p>Strong Bond with Nature: Residents' mental well-being is improved by the smooth transition between indoor and outdoor areas, which strengthens their bond with nature</p> <p>Positive Reviews: Both visitors and residents give the lodge great marks for its creative design and peaceful atmosphere</p>	

Case Study Element	Details	
Case Study Title	Hygge House	
Location	Denmark	
Design Team	Norm Architects	
Year	2018	
Design Strategies Implemented	<p>Cozy interiors: To generate a feeling of coziness and warmth, use warm materials like wool, cozy furniture, and gradient lighting</p> <p>Soft lighting: To create a calming environment that reduces tension, use dimmable lights, candles, and natural light</p> <p>Natural elements: To create a peaceful space that strengthens your bond with nature and promotes wellbeing, use natural materials like wood, stone, and plants</p>	
Outcomes	<p>Raise comfort levels: Cozy, inviting furnishings and calming lighting make residents feel more at ease</p> <p>Raise the happiness index: Hygge-related design concepts foster emotional well-being, which raises happiness and life satisfaction levels in general</p> <p>Community building: By promoting social gatherings and fortifying ties between friends and family, a friendly atmosphere cultivates a feeling of community</p>	


designed environment contributes to reducing stress and increasing concentration and productivity.

- Activating biophilic design elements, such as introducing natural light and plants, enhances mental health and reduces stress levels. Improving indoor air quality and thermal comfort also contributes to reducing health problems related to the respiratory system and skin diseases.
- Increasing energy efficiency by adopting sustainable strategies such as thermal insulation, smart control of lighting and ventilation, and several experiments recorded a significant decrease in energy consumption, which contributed to reducing financial costs and reducing the environmental impact of buildings.
- Sustainable and smart designs encouraged residents to adopt environmentally friendly lifestyles such as recycling and rationalizing water and energy consumption. Experiments have shown that designing homes according to sustainability standards enhances the sense of environmental responsibility among residents.

## IV. Conclusion

Interior design techniques that improve the quality of life in a residential setting Using concepts such as ergonomics biophilic design, with space planning and sustainability in mind can help designers create homes that will have both physical as well as mental benefits for the people who inhabit them.

In a nutshell, strategies for improving the quality of life in residential areas through interior design aim to create environments

Case Study Element	Details	
Case Study Title	Tiny House Project	
Location	Various locations across the USA	
Design Team	Various architects and designers	
Year	Gaining traction since 2000s	
Design Strategies Implemented	<p>Simplicity: Put an emphasis on adaptable furniture, clever storage options, and simple decor to clear clutter and simplify living areas</p> <p>Connecting to the outside: The sensation of space is increased and the connection to the outdoors is strengthened by large windows and doors that let in natural light</p> <p>Sustainable living: Homes become more ecologically friendly and self-sufficient through the use of eco-friendly materials and energy-efficient features like solar panels and rainwater collecting</p>	
Outcomes	<p>Stress reduction: A calm, clutter-free atmosphere fosters attentiveness and tranquility, which lowers stress levels</p> <p>Increasing satisfaction: Living simply allows many residents to be more financially independent and less maintenance-intensive, which makes them happy</p> <p>Community building: Because resources and amenities are shared, tiny home communities promote strong links and a sense of belonging</p>	

that are not only aesthetically pleasing but also encourage more fulfilling, healthy, and sustainable living arrangements. Adopting these ideas will be essential to improving everyone's quality of life as interior design evolves to meet the various needs of individuals and societies. If we recognize the close relationship between design, health, and well-being, we can create residential spaces that meet the needs of current occupants while also helping future generations live more sustainably and in harmony with their surroundings.

From the theoretical study, we conclude some interior design strategies to achieve quality of life.

- Effective space planning takes into account a space's function and movement in addition to form and design. This guarantees that every component carries out its purpose efficiently and encourages personal mobility and engagement. Open layouts foster social contact, relaxation, and general productivity, while well delineated zones offer areas for concentrated activity. Natural light and ventilation are essential for designing healthy living areas. In addition to lowering dependency on artificial lighting, strategically placed windows and skylights foster a sense of life. Additionally, stress reduction and mental wellness are enhanced by biophilic design concepts, which emphasize a connection to nature through the use of plants, materials, and natural views.
- According to interior psychology, color can significantly affect inhabitants' emotions and behaviors. While warm colors enliven a space, cool hues produce a sense of serenity. Designers may construct environments that elicit the necessary emotional responses from their occupants by comprehending and leveraging the psychological impacts of color.
- As environmental concerns increase, sustainable design methods are becoming more and more significant. Modern technologies, eco-friendly materials, and energy-efficient equipment all help to improve indoor air quality while also lessening their negative effects on the environment. By strengthening their sense of accountability, sustainable design also motivates inhabitants to embrace eco-friendly practices.
- Interior design that prioritizes well-being involves designing areas that encourage both physical and emotional comfort. According to ergonomic principles, furniture lowers the risk of stress and injury while promoting good posture. Including elements that enhance acoustic comfort, lower noise levels, and produce a serene setting perfect for focus and rest.
- A crucial first step in improving comfort and economy in a house is incorporating smart technology into the architecture. Home automation systems that regulate temperature, lighting, and security make it simple for residents to maintain a smooth living environment. This helps with energy conservation as well.
- In residential settings, interior design can also foster the growth of social networks and communities. Gardens, lounges, and communal workstations are examples of shared space designs that promote communication and camaraderie among inhabitants. A sense of belonging and general quality of life can be enhanced by this kind of engagement.
- Together, these design strategies raise people's standard of living. Well-designed environments can support physical and mental health by lowering stress and promoting activity, as well as by fostering mindful aesthetics and usefulness.

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