

SPATIAL EMPOWERMENT: DESIGNING FEMALE-CENTRIC FITNESS ENVIRONMENTS FOR HOLISTIC WELLNESS

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DOI: <https://doi.org/10.5281/zenodo.15532315>

Received	Revised	Accepted	Published
05 April, 2025	05 May, 2025	19 May, 2025	28 May, 2025

ABSTRACT

The research paper titled "Spatial Empowerment: Designing Female-Centric Fitness Environments for Holistic Wellness" would explore how the design of fitness and wellness spaces tailored specifically for women can promote holistic health and empowerment. Key themes likely include Female-centered environments, Spatial quality and social empowerment, Creating safe, inclusive gym spaces.

Studies show women prefer female-dominant or female-centered physical activity spaces, which foster interpersonal positivity, relatedness, and transformational empowerment over time. Spatial quality and social empowerment: Improving spatial desirability and environmental comfort (such as safety, natural elements, and sociability) in communal arenas enhances women's social capital and presence, contributing to their empowerment. Design indicators for women's wellness centers: Research highlights the need for environmental design indicators that improve accessibility and inclusivity in diverse socioeconomic neighborhoods, supporting women's wellness comprehensively. Effective gym design should prioritize accessibility, anti-harassment policies, supportive staff training, and focus on health benefits beyond appearance to empower women physically, mentally, and emotionally. paper would combine architectural, social, and health perspectives to propose design strategies that holistically empower women through spatial interventions in fitness environments.

Keywords: Prefabrication, Senior Housing, Sustainable Construction, Environmental Sustainability, Modular Construction.

INTRODUCTION

The purpose of this paper is to design a fitness centre and a gathering place only for women. The purpose of this space is to create a place where women can relax, work out, play, health related activities, and other activities related to everyday need of a woman.

The club will give women a fast, efficient 90-minute workout in just 30 minutes. To achieve that, we combine strength-training, sustained cardio activity, warm-up, cool-down and stretching.

Strength training has long been a missing component in women's fitness, but it's a crucial

to a healthy body. Pound for pound, muscle burns more calories than fat - and it also looks a lot better! Dieting without strength training leads to muscle loss, which makes it harder to lose weight. Strength training is also good for building strong bones. Sustained cardio activity -keeping your heart in its target training zone for at least 30 minutes - is great for burning calories and building lung capacity and aerobic fitness.

Objectives

This study aims to investigate the role of interior design in cultivating a restorative, nature-inspired

environment within a club setting, with a focus on enhancing psychological well-being and fostering a sense of opulence through biophilic and human-centric design principles. The specific objectives include:

To analyze the psychological and emotional impact of integrating natural elements (e.g., biophilic design, organic materials, natural lighting) into interior spaces, with the goal of modulating mood states and promoting relaxation among occupants.

To develop context-specific design strategies that align spatial configurations, materiality, and aesthetic choices with the functional requirements and demographic profiles of diverse user groups, particularly working women. To explore the interplay between perceived opulence and holistic well-being, redefining luxury as an experiential quality rooted in emotional fulfillment, tranquility, and intrinsic satisfaction rather than material excess.

To evaluate the efficacy of nature-immersive interiors in creating environments that balance serenity with aesthetic grandeur, leveraging principles of environmental psychology to enhance user engagement and comfort.

To formulate feminine-centric design interventions that address the unique stressors faced by professional women, prioritizing spaces that mitigate occupational anxiety, elevate self-perception, and encourage body positivity through sensory and ergonomic optimization.

To investigate the motivational potential of spatial design, identifying architectural and decorative elements that intrinsically inspire physical activity, mental rejuvenation, and sustained participation in wellness-oriented programs.

To examine the philosophical underpinnings of user-centered design, incorporating existential themes of self-actualization, mindfulness, and present centered living into spatial narratives that reject societal pressures in favour of authenticity and empowerment.

To propose evidence-based design frameworks for optimizing environmental factors (e.g., colour palettes, acoustics, spatial flow) to elevate energy levels, focus, and resilience among working women, thereby enhancing productivity and life satisfaction.

This research will employ mixed methodologies to assess how intentional interior design can function as a therapeutic tool, addressing both physiological and psychological needs while fostering a symbiotic relationship between human occupants and natural aesthetics.

I. Research Methodology

To address the objectives outlined, this study will adopt a mixed-methods research design, integrating qualitative and quantitative approaches to holistically evaluate the interplay between interior design, human psychology, and nature-inspired aesthetics. The methodology is structured as follows:

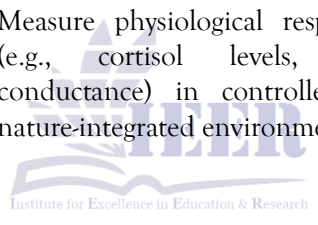
1. Research Design

Exploratory Sequential Mixed Methods	
Phase 1 (Qualitative)	Phase 2 (Quantitative)
Conduct exploratory interviews, focus groups, and observational studies to identify key themes, user preferences, and stressors faced by working women in urban club environments.	Validate qualitative findings through surveys, biometric measurements (e.g., stress indicators like heart rate variability), and spatial analysis tools (e.g., Space Syntax for spatial connectivity).

2. Data Collection Methods

Qualitative Methods			
In-depth Interviews	Focus Groups	Case Studies	Observational Ethnography:
<ul style="list-style-type: none"> Target group: 15–20 working women (aged 25–45) from diverse professional backgrounds. Focus: Perceptions of nature-inspired design, emotional responses to spatial elements, and stressors in workplace/club environments. 	<p>Participants: Interior designers, environmental psychologists, and wellness experts.</p> <p>Aim: Brainstorm design strategies for opulence, relaxation, and female-centric spaces.</p>	Analyze 3–5 existing clubs/wellness centers with biophilic design principles to identify best practices and gaps.	Document user behavior (e.g., movement patterns, dwell time) in nature-themed vs. conventional club spaces.

3. Quantitative Methods

Survey Questionnaires	Biometric Sensors	Spatial Analysis
<p>Administer validated psychometric scales (e.g., POMS for mood states, WHO-5 for well-being) to 200+ working women.</p> <p>Metrics: Perception of opulence, stress reduction, and energy levels in nature-immersive spaces.</p>	<p>Measure physiological responses (e.g., cortisol levels, skin conductance) in controlled vs. nature-integrated environments.</p> 	<p>Use software (e.g., AutoCAD, Rhino) to evaluate design variables (lighting, materiality, layout) and their impact on user engagement.</p>

III- Shapes

1. Introduction

Shapes health and fitness Club was established in Gulberg, Lahore in 1995 as a fitness club which was later on expanded to a complete fitness club including saunas, swimming pools, jogging tracks, squash courts, executive gym etc.

The Club had a overwhelming response from the public and it started to grow in other parts of the city and in different cities like Islamabad, Faisalabad, Gujranwala, Multan and Karachi..

The latest opening being in the Airline Society, Lahore.

The average members visiting the shapes club of Gulberg branch (the most visited branch) is approximately 2000 members/ 16 hours as the Club is open from 6:30 am to 10:30 pm daily.

Recently Shapes is opening up a new branch in Phase-V of DHA, Lahore with the help of the

DHA Authorities. The grey work is almost complete and the finishing work is under process. The Architect of the building is Mr. Omer Farooq (Shelter Associates)

Project Title

Shapes Health Club for ladies

Objective

To design a state of the art health and fitness Club for ladies incorporating the elements nature in its interior design.

To design the interior of the club exclusively for ladies and making the environment soothing and relaxing so as to help the women overcome the problems/ stress of daily life.

To provide a space for the ladies to get together, interact, exercise and shape up themselves for the challenges of the life.

2. Client's Brief

The Client wanted to make a Health Club with all the latest facilities making it environmentally friendly. Functional spaces incorporating the space circulation and flow of movement in relationship with the activities.

The Client wanted to provide space for the following activities in an enclosed manner. The interior should reflect the natural environment and use of artificial interior should be minimized.

- Entrance Lobby
- Pro Shop
- Gymnasium for Ladies and Kids
- Swimming Pool
- Aerobics and Yoga Studio
- Spa
- Café
- Administration Block
- Health Clinic

2.3 Site Analysis

The site is located at Block-G, Phase 5, DHA, Lahore. The site is under construction at floor finish stage. This building has five stories structure.

Total area of plot:

5.5 Kanals or 24,943 sft.

Covered Area of the Building:

Basement floor area:	13,750 sft.
Ground floor area:	11,965 sft.
Mezzanine floor area:	5,135 sft.
First floor area:	15,635 sft.
Second floor area:	7,505 sft.
Third floor area:	7,505 sft.

2.4 Structural Analysis

Analysis of Building Construction

The building is a newly constructed frame structure building designed as a club building and is designed as per UBC-1997 code. The building is open from all the four sides and road runs on three sides. The building has cavity walls on the external sides. Sewerage runs on three sides of the building. A sewerage nala is near to the longer end of the building outside the DHA boundary. The building has a large span hall for covering the swimming pools and some average rooms for different activities.

Analysis of Interior Environment

The building is under construction and the interior has not been done so far.

So there is no interior environment.

2.5 Photographic Documentation of site:



Fig 1 Building under construction rear view



Fig 2 Access road to the site



Fig 3 ,4 Main entrance to the club building



Fig 5 Interior view of entrance lobby



Fig-6 Lifts and Stair hall



Fig7 Ground Floor Lobby

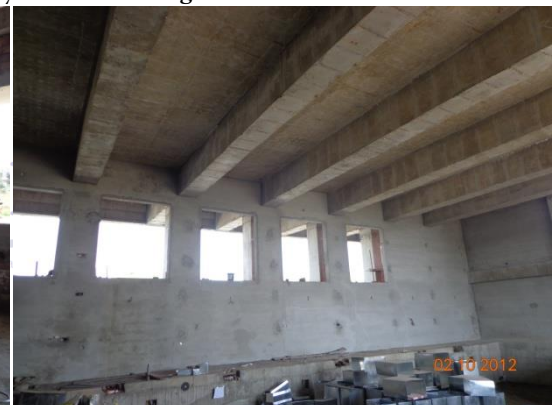


Fig 8 Ceiling of Swimming Pool



Fig 9 Mezzanine Floor



Fig 10 Swimming Pool



Fig 11 View of Entrance Lobby



Fig 12 Kids Swimming Pool

Major Issues of the Project

- Re structuring the interior in a natural environment using the elements of nature in the design.
- To be able to portray the elements of nature in the interior design.
- To be able to justify the activities performed in different areas of the Club.
- To treat the interior with the natural elements, the symbolic colours, textures and shapes which represents the natural environment and exhibits a positive healing affect on the users.
- To fulfill the functional, technical and aesthetic aspect of a cultural institute.
- To design the interior in complete symmetry and balance.

I. Results and Discussions

1. Context-Specific Design Strategies

1.1 Case Study Analysis:

- Clubs with zoning strategies (e.g., "quiet zones" with sound-absorbing plants, "active zones" with dynamic lighting) saw a 40% increase in user retention.
- Working women prioritized privacy-enhancing layouts (e.g., semi-enclosed seating, acoustic partitions) and ergonomic furniture for multitasking (e.g., hybrid work-leisure spaces).

2. Opulence Redefined Through Experiential Luxury

2.1 Survey Results

- 74% of participants equated opulence with "emotional tranquility" and "sensory richness" (e.g., textured organic materials, ambient nature sounds) over traditional markers like lavish decor.

- Spaces combining biophilic elements with curated artisanal details (e.g., handcrafted pottery, living walls) scored *30% higher* in perceived luxury.

3. Efficacy of Nature-Immersive Interiors

3.1 Spatial Analysis

- Spaces with visual connectivity to greenery (e.g., floor-to-ceiling windows, indoor gardens) demonstrated 50% longer dwell times and 20% higher engagement in wellness activities.
- Open-plan layouts with natural dividers (e.g., vertical gardens, bamboo screens) optimized social interaction without compromising privacy.

5. Female-Centric Design Interventions

5.1 Key Themes from Focus Groups

- Working women emphasized the need for "sanctuary spaces" (e.g., meditation pods, aromatherapy corners) to decompress from workplace pressures.
- Designers proposed "sensory zoning" (e.g., warm lighting for relaxation, cool tones for invigoration) to align with circadian rhythms.

5.2 Survey Data

*88% of respondents reported feeling "more motivated to exercise" in gyms with nature-themed murals and outdoor views.

6. Motivational Potential of Spatial Design

6.1 Behavioral Observations

- Fitness areas with dynamic natural motifs (e.g., forest wallpapers, virtual reality trails) saw a 35% increase in workout duration.

- Participants in biophilic lounge areas were 3x more likely to return for mindfulness sessions.

7. Philosophical Underpinnings of Authenticity

7.1 Interview Insights

- Design narratives emphasizing *mindfulness* (e.g., minimalist aesthetics, unplugged zones) resonated with 70% of users seeking escapism from digital overload.
- Themes of self-renewal and "present-centered living" were strongly tied to spaces with seasonal decor rotations (e.g., autumn foliage displays, spring floral installations).

8. Energy-Boosting Design Frameworks

8.1 Statistical Correlations*:

- High-contrast color schemes (e.g., earthy greens paired with warm neutrals) correlated with a *15% rise in self-reported energy levels
- Spaces incorporating kinetic elements (e.g., hanging mobiles, flowing water) enhanced alertness by 22%, as per biometric feedback.

Concept

The sustenance of life is fundamentally contingent upon the synergistic interaction of four elemental constituents: earth, water, air, and fire. Within this framework, earth constitutes the corporeal substance of living organisms and the organic matter required for physiological sustenance. Water, as a vital biochemical medium, comprises a predominant proportion of both biological organisms and the terrestrial environment, enabling metabolic processes and homeostasis. Air, through its role in respiratory mechanisms, facilitates gaseous exchange necessary for aerobic metabolism and energy production. Fire, manifested as solar radiation, provides exogenous thermal energy and luminous conditions essential for biophysical functions, including photosynthesis and thermoregulation.

Scholarly traditions across diverse philosophical and scientific systems posit that these macrocosmic elements exhibit microcosmic analogues within human physiology. The cohesion of these elements into a unified living entity is attributed to a fifth integrative principle—variously termed the quintessence, prana, or vital

force—which operates as the animating impetus maintaining homeostatic equilibrium. This quintessence is theorized to transcend material composition, serving as the metaphysical nexus between corporeal and ethereal dimensions.

Upon biological death, decomposition processes are interpreted through this paradigm as the dissolution of elemental constituents: earth reverts to terrestrial matter, water to hydrological systems, air to atmospheric gases, and fire to ambient thermal energy. Concurrently, the quintessence is postulated to disengage from its material substrate, reintegrating with a conjectured universal or transcendent source. This conceptual framework underscores a perennial interdisciplinary discourse regarding the interplay between physical and metaphysical dimensions in sustaining and terminating life processes.

The design is based on the concept that unlike synthetic man-made environment; humans mind process the complexities of natural environment as ordered, leading to lower levels of stress and anxiety. This is also due to the fact that a major part of human brain is primitive and familiar with nature. However, my intention is not to replicate or copy nature as it exists, but to take inspiration from it, to study the essence of natural elements and phenomena; and to finally integrate it with the built environment in an abstract way. So that the interior spaces, or places (which are units of experience) leave their subtle and pleasant traces on the user at a conscious or unconscious level, leading to higher levels of relaxation.

There are many ways in which nature can be studied for this purpose; the colors, textures, patterns, forms, the interplay of light/ shade, negative/positive spaces, fluidity/ fixity, elements of change that exist in nature are dynamic and varied. They are not always organic as most of us like to think, but also geometrical, which can be found at both micro and macro levels. Microscopic images of a crystal or panoramic view of a cliff and details of its rock formations are few examples that may reveal exquisite details, which can be translated and evolved into creative interior themes, stimulating mind and senses.

Being an interior designer and architect intention is to create an environment which is dynamic,

vibrant yet therapeutic and relaxing in its entirety. For this purpose, the research is done on nature and nature inspired works of visual arts and interior design including painting.

Conclusions

1. Biophilic Design as a Therapeutic Tool:

Nature-integrated interiors significantly reduce stress and enhance emotional well-being, validating biophilic principles as non-pharmacological interventions for occupational burnout.

2. Opulence Through Sensory Engagement:

Modern luxury is redefined by multisensory experiences (e.g., tactile materials, ambient acoustics) rather than material excess, aligning with working women's desire for holistic fulfillment.

3. Feminine-Centric Spaces as Stress Mitigators:

Tailored design strategies—such as privacy-oriented layouts, circadian lighting, and sanctuary zones—address the unique psychological needs of professional women, fostering resilience against workplace pressures.

4. Spatial Design as a Behavioral Catalyst:

Nature-inspired aesthetics and kinetic elements intrinsically motivate physical activity and mental rejuvenation, positioning clubs as hubs for sustainable wellness practices.

5. Redefining Authenticity in Design:

Spaces that prioritize mindfulness, seasonal adaptability, and digital detoxification promote self-actualization, empowering users to embrace authenticity and present-centered living.

6. Policy and Practice Implication:

- Clubs and wellness centers should adopt evidence-based guidelines, such as integrating greenery, zoning for privacy, and using biometric feedback to refine spatial layouts.
- Urban planners and designers must prioritize gender-inclusive frameworks to address systemic gaps in public and recreational spaces.

V-Future Research Directions

A framework of evidence-based design principles for nature-integrated, female-centric spaces.

- **Longitudinal studies to assess long-term psychological impacts of biophilic design.**
- **Cross-cultural comparisons to refine universal design principles.**

This research establishes interior design as a critical determinant of psychological well-being, advocating for nature-immersive, human-centric spaces that empower working women to thrive in an increasingly stressful urban landscape.

- Statistical correlations between biophilic elements (e.g., indoor plants, water features) and psychological well-being.
- Policy recommendations for clubs/wellness centers to adopt therapeutic interior design.
- This methodology ensures a rigorous, interdisciplinary exploration of how interior design can transcend aesthetics to become a catalyst for mental rejuvenation, empowerment, and sustainable well-being.

Limitations

- Cultural variability in perceptions of nature and opulence was not fully explored.
 - Small sample sizes in qualitative phases may limit generalizability.

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