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# A Study on the Influence of Nature-Inspired Green Colour Schemes on Psychological Comfort and Relaxation in Spa Interiors

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**Abstract:** The integration of nature-inspired green colour schemes into spa interior design has gained increasing attention due to their potential influence on human psychological well-being, emotional comfort, and relaxation. Colour plays a significant role in shaping human perception, mood, and environmental experiences, particularly in wellness-oriented spaces designed to promote physical and mental rejuvenation. The present study investigates the influence of different nature-inspired green colour schemes on psychological comfort and relaxation in spa interiors. It explores how variations in green colour hues, including light green, sage green, olive green, mint green, and deep forest green, contribute to creating calming, refreshing, and restorative indoor environments. The research focuses on understanding the relationship between colour perception, interior aesthetics, emotional responses, and relaxation experiences among spa users. Furthermore, it examines the interaction of green colour schemes with natural lighting, materials, textures, indoor plants, and spatial arrangements to develop a harmonious and nature-oriented atmosphere. A qualitative and quantitative research approach is proposed, incorporating literature reviews, interior colour analysis, user perception surveys, and comparative evaluation of selected spa interior environments. The findings are expected to identify suitable green colour combinations that enhance visual comfort, reduce perceived stress, support positive emotional experiences, and improve the overall quality of spa environments. The study aims to establish practical design recommendations for incorporating nature-inspired green palettes into contemporary spa interiors, contributing to human-centred, biophilic, and psychologically restorative interior design practices.

**Keywords:** Nature-Inspired Colours, Green Colour Psychology, Spa Interior Design, Psychological Comfort, Relaxation, Human Well-Being, Biophilic Design, Colour Perception.

## I. INTRODUCTION

Interior design plays an important role in shaping human experiences, emotions, and psychological well-being. The colours, materials, lighting, textures, and spatial arrangements used in an interior environment can significantly influence how individuals perceive and interact with a space. In recent years, increasing attention has been given to the relationship between interior design and human psychological comfort, particularly in wellness environments such as spas, meditation centres, and relaxation facilities. These spaces are

specifically designed to provide a peaceful atmosphere, reduce mental stress, encourage relaxation, and support physical and emotional rejuvenation. Therefore, selecting appropriate colour schemes is an essential aspect of creating a comfortable and restorative spa environment.

Colour psychology is an important area of interior design that examines how different colours influence human emotions, moods, perceptions, and behavioural responses. Among various colour groups, green is widely associated with nature, freshness, harmony, balance, and tranquillity. Green colour schemes can create a visual connection with natural surroundings and contribute to a calm and refreshing atmosphere. Different shades of green, such as mint green, sage green, olive green, pastel green, and forest green, provide different visual experiences depending on their brightness, saturation, and intensity. Light green shades generally create a soft and refreshing appearance, whereas darker green shades can provide a sense of depth, richness, and connection with natural environments. The appropriate selection and combination of these shades can improve the visual quality and perceived comfort of spa interiors.

Nature-inspired green colour schemes are also closely associated with the principles of biophilic design, which focuses on incorporating natural elements and environmental characteristics into built spaces. Biophilic interior design uses natural colours, indoor plants, wooden materials, stone textures, natural lighting, and organic patterns to establish a connection between people and nature. In spa environments, these design elements can help create a peaceful and welcoming atmosphere. The combination of green colour palettes with natural materials, water features, soft lighting, and appropriate furniture arrangements can enhance the overall sensory experience and support relaxation. Such design strategies are particularly relevant to tropical spa interiors, where natural vegetation, sunlight, water, and organic materials can be integrated into the interior environment.

Psychological comfort and relaxation are important factors in evaluating the effectiveness of spa interior design. A well-designed spa environment should provide visual comfort, emotional satisfaction, privacy, and a feeling of tranquillity. Colour selection can influence the perceived atmosphere of a space and may contribute to reducing visual discomfort and perceived stress. However, the psychological response to colour may vary according to individual preferences, cultural backgrounds, personal experiences, lighting conditions, and spatial characteristics. Therefore, understanding the relationship between different green colour hues and human psychological responses is essential for developing effective interior design strategies.

## II. DESIGN ANALYSIS, SURVEY FINDINGS AND USER PERCEPTION

### 2.1 Comparative Analysis of Selected Spa Case Studies

I selected four SPA settings to understand how green colour, materials, lighting and nature-related elements are used in different contexts. Veda Spa and Della Spa represent urban commercial settings, while Vanya Vilas Resort and Spa and Taj Resort and Spa provide resort-based references from the Tadoba region. The comparison is based on the site

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observations and photographs available for the first three settings and on the supplied photographs and visual references for Taj Resort and Spa. I have not described the Taj reference as a personal site visit.

| Parameter | Veda Spa, Nagpur | Della Spa, Chandrapur | Vanya Vilas, Tadoba | Taj Resort and Spa |
|---|---|---|---|---|
| Setting | Urban commercial SPA | Urban commercial SPA | Nature-oriented resort SPA | Resort-based visual reference |
| Main palette | Beige and Green & warm neutrals | Beige, warm neutrals and black framing | Beige, cream, brown and selected blue | Beige, cream, brown and muted green |
| Green application | Plants and selected upholstery; muted blue-green accents | Dark bottle-green upholstery and hanging artificial creepers | Green is more evident in the external landscape than in interior finishes | Muted green accents visible in supplied images |
| Materials / texture | Bamboo, textured walls and upholstery | Black metal framing, glass, textured walls and wood-finish flooring | Timber, textured walls and earthy finishes | Woven and natural-looking finishes; decorative wood |
| Lighting | Warm concealed and subdued treatment lighting | Warm pendants, concealed and low-level passage lighting | Warm concealed or decorative lighting visible | Warm artificial lighting visible in selected views |
| Nature relationship | Indoor plants and bamboo details | Artificial hanging greenery | Strong external vegetation; more neutral SPA interior | Outdoor vegetation, water and shaded seating |
| Basis of comparison | Site observations and photographs | Site observations and photographs | Site observations and photographs | Photographs and visual references examined for this study from Online website & resources |

From this comparison, i observed that green is introduced differently in each setting. At Veda Spa, the largely neutral interior is supported by plants and selected furniture accents. At Della Spa, darker green upholstery and hanging artificial creepers are more visually noticeable. At Vanya Vilas, the surrounding landscape provides a strong green setting, while the documented interior palette is mainly earthy and neutral. In the available Taj images, muted green accents appear alongside woven textures, outdoor water and planting.

I do not consider one SPA setting to be universally better than another because their locations, functions and available documentation differ. Instead, I have used the comparison to identify design features relevant to my proposed Tadoba SPA: a balanced neutral base, selected green surfaces or upholstery, carefully placed planting, natural textures, warm lighting and a visual connection with the outdoor landscape. These considerations are consistent with the literature on SPA planning and biophilic design [2, 3, 7, 9, 10].

**2.2 Analysis of the Six Selected Green Colour Hues**

In this research, green is not treated as one uniform colour. I have selected six hues—mint, sage, olive, moss, emerald and forest green—because they differ in visual character, lightness and intensity. Their appearance may change according to the surface, finish, surrounding materials and lighting. The hue names are used as working categories; for a controlled comparison, the same colour samples should be shown to all respondents.

I have treated these applications as design possibilities rather than fixed rules. A darker green may appear balanced in a well-lit room but visually heavy in a small or dim space. A lighter green may also appear different when used across a large wall compared with a small fabric

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sample. For this reason, I consider the colour sample, surface finish, surrounding materials and lighting together [1, 8].

| Selected hue | Visual description used in this study | Possible design application to test |
|---|---|---|
| Mint green | Light and relatively fresh-looking green | Small accents in reception, transition spaces or selected wet-area details |
| Sage green | Muted, softened green | Treatment-room surfaces, soft furnishings or relaxation lounge accents |
| Olive green | Earthy green with a yellow/earth association | Furniture, selected wall panels and combinations with timber |
| Moss green | Natural, medium-to-deep green appearance | Feature surfaces or selected upholstery |
| Emerald green | Richer and more saturated green | Limited decorative accents rather than extensive use across every surface |
| Forest green | Deep and darker green | Controlled feature areas, furniture details or selected partitions |

I have also kept green finishes separate from living plants. A painted green wall or green upholstery introduces colour, whereas a living plant also brings form and texture into the space. Since green hue is the main variable in my research, plants, lighting, materials and landscape views are considered supporting design conditions [5, 7, 9, 10].

The supplied summary does not contain the actual frequency count for each of the six hues selected in Question 1. Therefore, I have not ranked mint, sage, olive, moss, emerald or forest green by respondent preference. The preference chart can be completed once the six category counts from the original response sheets are entered. This distinction is important because the design applications discussed above are the researcher's interpretation, not a measured survey ranking.

## III. QUESTIONNAIRE SURVEY: DATA PRESENTATION AND ANALYSIS

### 3.1 Survey profile and valid responses

The questionnaire was prepared for adults aged 30–45 years. It records respondent details, prior SPA visits, preferred green hue, perceptions of green colour, perceptions of nature-inspired interiors and preferred locations for green colour application. A five-point Likert-type scale was used for the agreement statements: 1 – Strongly disagree, 2 – Disagree, 3 – Not sure / neither agree nor disagree, 4 – Agree and 5 – Strongly agree.

The target sample proposed in Chapter Three was 100 respondents, divided equally between 50 urban/metro and 50 local/regional participants. The actual valid dataset supplied for analysis contains 92 responses. The final distribution is shown below.

| Respondent category | Proposed target | Actual valid responses | Percentage of valid sample |
|---|---|---|---|
| Urban / Metro | 50 | 48 | 52.17% |
| Local / Regional | 50 | 44 | 47.83% |
| Total | 100 | 92 | 100% |

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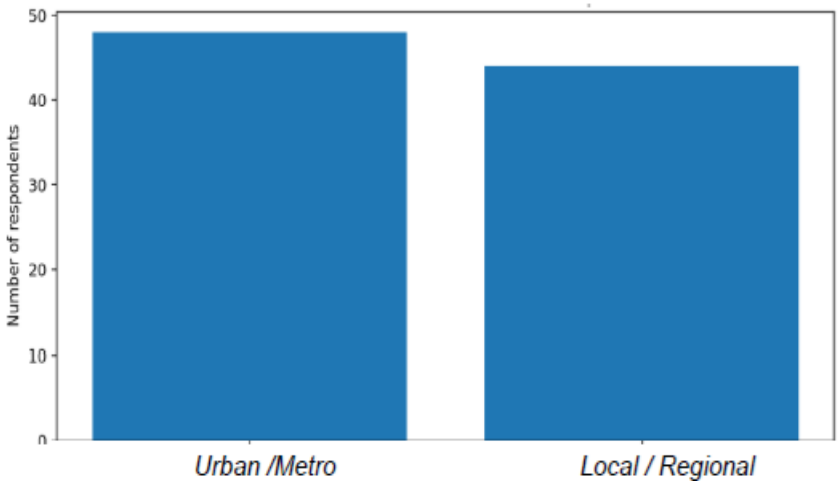



Chart 4.1: Distribution of valid questionnaire responses (n = 92).

The urban/metro group represents 52.17% of the valid sample, while the local/regional group represents 47.83%. The two groups are therefore relatively balanced, although the achieved sample is eight responses below the proposed target of 100. The results are interpreted using the actual total of 92 valid responses rather than the original target.

The questionnaire also records gender and age, but the aggregate survey summary supplied for this chapter does not provide the frequency distribution for those fields. Similarly, it does not provide the number of respondents who had previously visited a SPA. These variables should be tabulated from the completed questionnaires before final submission; no demographic proportions have been assumed in this analysis.

### 3.2 Perceived psychological well-being

Examine whether respondents associate green colour in a SPA with calmness, comfort and relaxation. The reported mean scores are presented on a five-point scale. A higher mean indicates a stronger level of agreement within the respondent group.

| Questionnaire theme | Urban / Metro mean | Local / Regional mean | Overall mean |
|---|---|---|---|
| Perceived calmness | 4.2 | 4.4 | 4.30 |
| Perceived mental comfort | 4.3 | 4.1 | 4.20 |
| Perceived relaxation | 4.4 | 4.5 | 4.45 |

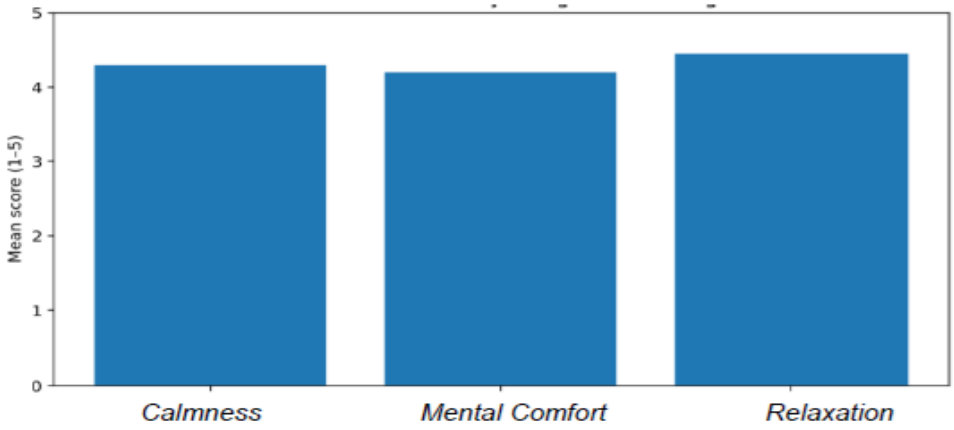



Chart 4.2: Overall mean scores for perceived psychological well-being

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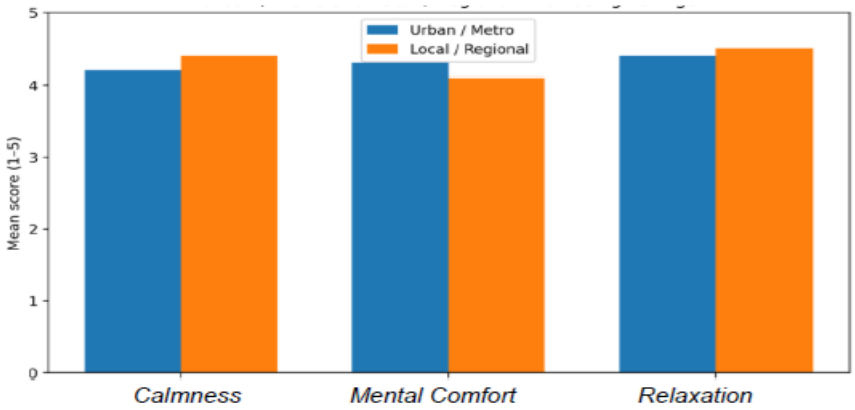



Chart 4.3: Comparison of urban/metro and local/regional mean scores for well-being

The overall mean for perceived calmness is 4.30. The local/regional group reported a mean of 4.4, compared with 4.2 for the urban/metro group. This indicates that both groups tended to agree with the statement that green colour in a SPA can make the space feel calm, with a slightly higher mean in the local/regional group.

For perceived mental comfort, the overall mean is 4.20. The urban/metro group recorded 4.3 and the local/regional group 4.1. The difference is small, and both means remain above the neutral midpoint of 3. This suggests a generally favourable perception of green colour in relation to comfort among the respondents.

Perceived relaxation received the highest mean among these three themes, at 4.45 overall. The urban/metro mean is 4.4 and the local/regional mean is 4.5. Within the limits of this descriptive survey, respondents therefore showed a positive association between green colour in SPA interiors and the idea of relaxation. These results describe reported opinions; they do not establish that green colour by itself causes a measurable psychological change [1,4,8].

## IV. THE PROPOSED TADOBA TROPICAL COUPLE SPA

The proposed Tropical Couple SPA is planned as an extension of The Bamboo Forest Safari Lodge, located in the Chimur–Tadoba region of Maharashtra. The resort master plan provides the overall context for understanding the location and relationship of the proposed SPA with the existing resort facilities.

The resort layout includes accommodation blocks, recreational areas, dining spaces, swimming pool, internal circulation routes, parking and landscaped open spaces. These facilities form the larger environment within which the proposed SPA is planned.

The highlighted portion of the master plan identifies the proposed SPA location within the resort premises. Its position establishes a connection with the resort's accommodation and recreational facilities while allowing the SPA to function as a separate wellness zone. The proposal aims to provide an additional relaxation and wellness facility for resort guests, particularly couples and visitors seeking refreshment and rejuvenation.

Thus, the proposed SPA is designed in response to the existing resort layout and its natural surroundings. The following design analysis focuses on the planning, functional arrangement, circulation and interior character of this proposed SPA facility.

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The Plan & View of The Bamboo Forest Safari Lodge, located in the Chimur–Tadoba



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I have planned the proposed SPA within the larger resort master plan for the Tadoba region. The highlighted location and the detailed floor-plan drawing indicate an approximate built-up footprint of 3,000 sq.ft. (about 279 sq.m.), with an overall plan dimension of 60 ft × 50 ft. The proposal includes one couple treatment suite and two single treatment rooms, with attached shower, Jacuzzi and sauna provisions as shown in the plan.




Plan: Proposed 3,000 sq.ft. SPA floor plan with functional spaces and dimensions

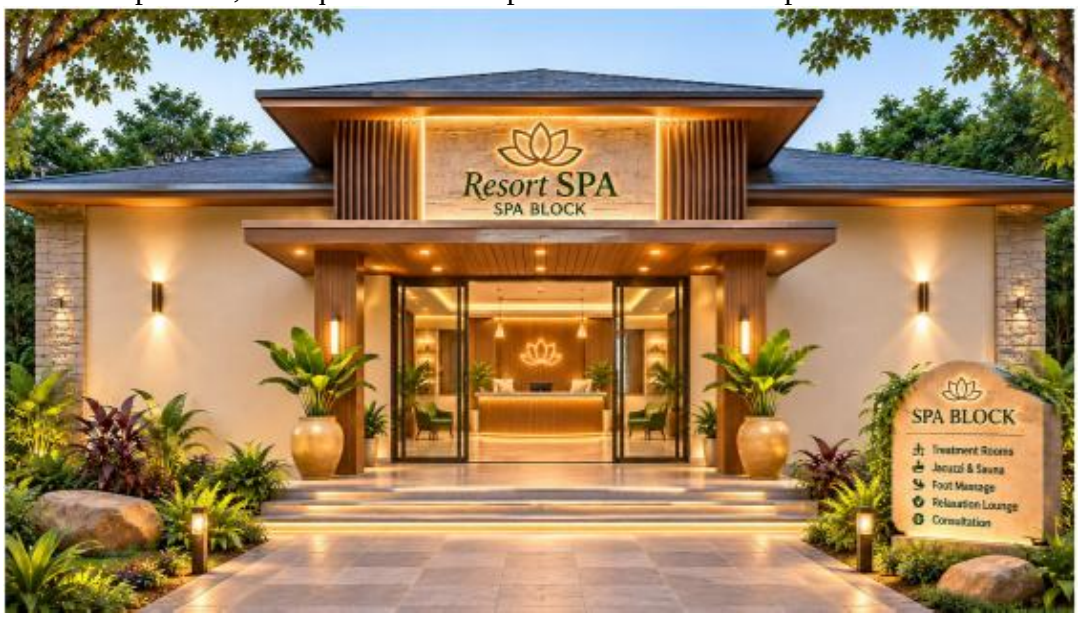



Image: Proposed exterior view of the SPA block, developed as a resort arrival identity

## V. FINDINGS, RESULTS AND DISCUSSION

### 5.1 Green Colour and Human Psychological Well-being

The literature reviewed in this study helped me understand that colour influences the way people visually experience and emotionally respond to an interior environment. Green is commonly associated with nature, vegetation, freshness and balance. Its presence in an interior can create a visual impression of calmness and comfort.

The questionnaire findings also indicate a positive response towards green colour in SPA interiors. Among the 92 valid respondents, the overall mean score for perceived calmness was 4.30, mental comfort was 4.20 and relaxation was 4.45 on a five-point scale.

These results indicate that the respondents generally associated green colour and SPA environments with calmness, comfort and relaxation. Therefore, I consider green hues suitable for creating a peaceful visual atmosphere in tropical SPA interiors.

### 5.2 Green Colour, Nature and Refreshment

One of the important observations of this research is the relationship between green colour and its association with the natural environment. Green is commonly seen in trees, leaves, plants and forests. Because of this association, green shades can help establish a visual connection with nature within an interior space.

The survey recorded an overall mean score of 4.40 for perceived freshness and 4.30 for renewed energy. These findings indicate that respondents generally viewed nature-inspired SPA interiors positively in relation to freshness and renewed energy.

I also observed that the presence of plants, natural-looking materials and a connection with the outdoor environment can strengthen the refreshing character of a SPA interior.

### 5.3 Nature-Inspired Elements and Rejuvenation

The study indicates that green colour should not be considered separately from the other elements of interior design. Plants, natural materials, suitable lighting, ventilation and a peaceful atmosphere can work together to create a more comfortable and nature-connected environment.

In the questionnaire, green combined with natural materials received 90 selections, while green combined with plants received 89 selections. These were the highest recorded application preferences in the multiple-response question.

The overall mean score for perceived renewal or restoration was 4.50, which was the highest among the six reported perception themes.

This finding suggests that respondents positively associated a peaceful SPA environment with a feeling of renewal and restoration. It supports the use of green colour together with natural materials and planting rather than depending only on green painted surfaces.

### 5.4 Findings from the Six Selected Green Hues

I studied six green hues in this research: mint green, sage green, olive green, moss green, emerald green and forest green.

Each shade has a different visual character and can be considered according to the function, lighting and atmosphere of a particular SPA space.

Mint and sage green can be explored for lighter and softer visual environments. Olive and moss green can be considered for earthy and natural interior expressions. Emerald and forest green can be used selectively as stronger accent colors.

However, the available aggregate survey data does not provide the individual selection counts for all six hues. Therefore, I have not declared any one shade as the most preferred

colour. The final selection should be based on physical colour samples, material combinations and actual lighting conditions.

### 5.5 Findings from the Comparative SPA Case Studies

The four selected SPA references helped me understand different approaches to the use of colour, materials, furniture, lighting, greenery and spatial planning.

Veda Spa, Nagpur and Della Spa, Chandrapur provided references from urban commercial SPA environments. Vanya Vilas Resort and Spa and Taj Resort and Spa provided resort-based references from the Tadoba region.

The comparison helped me understand that a SPA interior can develop a stronger relationship with its natural surroundings through the selection of materials, colours, planting and spatial connections.

These observations influenced the design direction of my proposed SPA extension at The Bamboo Forest Safari Lodge, Tadoba.

## VI. CONCLUSION

Green colour has a special place in this relationship because it is the colour most commonly associated with natural elements such as trees, leaves, plants and forests. When green hues are introduced into an interior, they can create a visual connection with the natural world and help develop a calm and soothing atmosphere.

The findings of my questionnaire survey support this understanding. The 92 respondents generally expressed positive perceptions towards green colour and nature-inspired SPA environments. The preference for combining green colour with natural materials and plants further indicates the importance of creating a complete nature-inspired environment.

I have also understood from the literature review and traditional Ayurvedic perspective that human well-being is closely connected with maintaining harmony between the body, mind and surrounding environment. Spending time in peaceful natural surroundings, experiencing fresh air and being visually connected with greenery can support a sense of relaxation and mental refreshment. In this context, green colour can act as an interior design element that reminds people of nature and strengthens this connection.

For me, the most important learning from this research is that rejuvenation in a SPA should not be considered only as a result of treatment activities. The surrounding environment also plays an important role in shaping the overall experience. The colours, materials, plants, air, lighting, privacy and connection with nature together influence how a person experiences the space.

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