

The Relationship Between Gestalt Principles and Environmental Behavior in Interior Design

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Abstract This study explores the relationship between Gestalt principles and environmental behavior in interior design, focusing on how spatial perception influences user interaction and emotional response. While Gestalt principles, such as figure-ground, proximity, similarity, continuity, and focal points, are widely applied in design, their direct impact on human behavior in interior spaces remains underexplored. This study explores the relationship between Gestalt principles and environmental behavior in interior design, focusing on how spatial perception influences user interaction and emotional response. While Gestalt principles, such as figure-ground, proximity, similarity, continuity, and focal points, are widely applied in design, their direct impact on human behavior in interior spaces remains underexplored. This research aims to bridge this gap by investigating how interior designers incorporate Gestalt principles into spatial organization, lighting composition, and visual hierarchy, and how users perceive, navigate, and emotionally respond to these design features within real-world settings, such as hotels, museums, and exhibition halls. A qualitative research design was employed, involving 10 non-participant observation sessions (each lasting approximately 90–120 minutes) across diverse interior environments, including hotel lobbies, museums, art galleries, retail stores, offices, shopping malls, resort receptions, exhibition pavilions, and public libraries. These observations were complemented by semi-structured interviews with six interior designers and four users, enabling triangulation of tangible (observed spatial behaviors) and intangible (reported perceptions and emotions) dimensions of spatial experience. Thematic

analysis was conducted to identify patterns in spatial perception, navigation, and emotional response. Data were coded and categorized into key themes to provide insights into the alignment between design intent and user experience. The results indicate that Gestalt principles significantly influence spatial navigation, emotional comfort, and cognitive engagement. Users subconsciously follow visual cues, while designers strategically implement Gestalt principles to create intuitive environments. However, discrepancies emerged between designer intentions and user interpretations, highlighting the role of personal and cultural factors in spatial perception. This study contributes to interior design theory by providing empirical insights into the application of Gestalt principles. The findings offer practical recommendations for architects and designers to enhance user experience through strategic spatial design.

Keywords Gestalt Principles, Interior Design, Environmental Behavior, Spatial Perception, User Experience

1. Introduction

Gestalt principles, which were developed from Gestalt psychology, focus on the brain's inclination to organize visual information into significant structures instead of perceiving them as distinct components [1]. From the given key Gestalt principles that can be used in interior design, the figure-ground, proximity, similarity, common region,

continuity, focal point, and closure are among them. Through the application of the figure-ground principle, people are capable of distinguishing between foreground and background items, and clarity in space is enhanced [2]. Proximity and similarity regulate the way things are classified into groups and, thus, the spatial organization and flow are affected. The principle of common region is applied to create visually distinct zones within a space, thereby organizing and guiding user interaction, while the principle of continuity is employed to ensure smooth visual transitions and facilitate the natural flow of movement throughout the environment [3]. People are attracted to focal points, and closure enables people to visualize missing elements by completing them in their minds, enhancing interior space balance and harmony sensations. Environmental behavior in interior design describes the way people utilize and react to spatial arrangements through cognitive and psychological processes [4]. Good spaces can be able to direct movement, evoke feelings, and improve overall user experience. The interconnection of perception and space experience is directly applicable to the fields of hotel, museum, and exhibition environments, where consumers unwittingly work their way through visual signage in order to orient themselves in their environment [5]. Cognition is of primary importance when deciding how well consumers interact with an environment and has an influence on such items as wayfinding, comfort, and emotional engagement [6]. Although Gestalt principles are regarded as underlying visual design tools, their direct influence on environmental behavior within interior settings is an area that needs research [7]. Knowing how these principles govern human interaction with designed environments can provide new insights into refining spatial configuration to maximize functional and aesthetic experience.

While the theoretical potential of Gestalt principles to influence spatial organization and visual perception has been acknowledged for a long time, relatively few investigations are concerned with their direct influence on human behavior in interior environments [8]. While numerous studies have been conducted on the psychological foundations of Gestalt theory, few have examined how these principles influence real spatial experiences [9]. Most research in interior design concentrates on technical issues like material choice, lighting, and furniture placement without considering the cognitive and perceptual processes that lead to user interaction with space [10]. Even environmental psychology studies have targeted factors that affect user behavior, but the gap to fill is to examine how Gestalt principles act as a background framework for spatial navigation and engagement [11]. A further essential lacuna in the literature is the absence of qualitative evidence on how designers consciously use Gestalt principles in spatial design and how users experience these design decisions [1]. Although architects and interior designers tend to use Gestalt principles intuitively, few accounts exist of their

decision-making processes and the particular methods they employ to maximize user experience. Moreover, users' reactions to these design strategies are poorly explored. Do users consciously identify and react to Gestalt-informed designs, or are their interactions largely unconscious? How do various spatial contexts, including hospitality, cultural, and commercial environments, affect the efficacy of Gestalt principles? To answer these questions, there is a need for a close examination of both the designer's viewpoint and the user's experiential involvement with spatial contexts.

Another challenge is contextual variation in spatial perception due to cultural, social, and individual factors. Despite the universal principle of Gestalt principles for processing visual information, individual differences in spatial cognition have the potential to affect how individuals perceive and respond to their world. To add to this, new technologies such as digital interfaces and intelligent spaces are providing novel ways of understanding spatial perception, and therefore, the classical Gestalt rules must be evaluated anew in contemporary design practice [12]. Taking these observations into account, there is a compelling necessity to have empirical work that fills the gap between conceptual Gestalt ideas and interior design practice. Although this study spans multiple interior contexts, including hotels, museums, and exhibition halls, these were deliberately chosen as representative typologies to explore how Gestalt principles operate across differing spatial intentions, such as hospitality, cultural, and experiential. This comparative approach enables the identification of shared perceptual patterns while highlighting contextual distinctions, addressing a gap in prior studies that have focused on single-setting analyses.

This study aims to explore the influence of Gestalt principles on human environmental behavior in interior design by examining the perspectives of both designers and users. It seeks to uncover how these principles guide spatial perception, interaction, and emotional response in various designed environments. The specific objectives of this research are:

- To explore how Gestalt principles influence human behavior in designed spaces
- To understand designers' intentional application of Gestalt principles in spatial planning
- To examine how users perceive and interact with spaces designed with Gestalt principles
- To investigate variations in spatial perception across different contexts, such as hotels, museums, and exhibition halls
- To provide insights for interior designers and architects on optimizing spatial layouts using Gestalt principles

The work makes contributions in both practical and theoretical discourses in interior design through its advanced insight into Gestalt influences that structure the

users' experience within the environment as designed. In theory, this study enhances scholarly literature on environmental psychology and theory of design based on empirical outcomes on how and to what effect Gestalt rules apply to perception and movement within spaces. It fills the gap between visual cognition and interior design, affirming the relevance of perceptual psychology in designing intuitive and interactive spaces. In practice, the results of this research have far-reaching implications for interior designers and architects in maximally optimizing spatial configuration to improve user experience. Through its illustration of how Gestalt principles can be successfully used to direct movement, impact emotions, and enhance spatial clarity, the study provides prescriptive guidance on how to design spaces that are both functional and visually appealing. In addition, the study places emphasis on user perception as an influencer of spatial interaction and urges designers to be user-oriented in their works. The findings obtained can be especially helpful for hospitality, cultural, and commercial designers who work with the users' experience as a vital element in creating memorable and immersive experiences. Ultimately, this study emphasizes the significance of incorporating perceptual psychology in design practice in order to produce spaces that not only are aesthetically harmonious but also support positive interactions among users.

2. Literature Review

2.1. Theoretical Framework: Gestalt Psychology in Interior Design

Gestalt psychology, evolved in the first half of the 20th century, provides a conceptual scheme for studying the way that people perceive and organize visual data within spatial environments. At its center is an assumption that people experience whole configurations rather than disparate pieces and the implication of that on their encounter with designed settings [1]. These interior design laws govern the extent to which users perceive cohesion, balance, and function and the manner, in which they move about and interact with their environment [13]. Perceived space is strongly managed by Gestalt laws of proximity, similarity, continuity, closure, and figure-ground, among others, all of which jointly give rise to unity and coherence [14]. For instance, the law of proximity will show how items of furniture sitting together physically will be seen as a setting, which will subconsciously decide movement and use patterns in interior space [15]. Likewise, visual hierarchy, a critical element of Gestalt psychology, decides which objects within a space capture attention first, impacting beauty and functional performance [2]. Designers prefer to control contrast, symmetry, and focal points in order to control perception so that users will inherently recognize spatial relations and use them in a consistent way [16].

Aside from fundamental perception, Gestalt principles

are also important in spatial organization and user convenience as well as navigation ease. Research indicates that spaces with an evident and well-organized layout ease cognitive load, enhancing the processing of information in space [7]. Continuity, for example, promotes wayfinding since architectural lines naturally guide individuals through a space without discontinuity [17]. This is especially relevant to public areas like hotels and museums, where intuitive navigation is essential for boosting user experience. Furthermore, the law of closure that enables people to view incomplete forms as complete can be utilized in open-plan environments to form perceived divisions without demarcation, promoting both connectivity and privacy in interior spaces. Through the application of such psychological principles, designers are in a position to maximize the performance of an environment in order for its residents to enjoy a seamless and stimulating encounter of their environment [18].

2.2. Environmental Behaviour in Interior Spaces

Environmental behavior and interior design are profoundly entwined in psychological and cognitive reactions to space organization. People have been discovered to respond emotionally and behaviorally to elements of design, and lighting, color, and scale of space have an impact on mood and social interaction [4]. Spaces that demonstrate harmony in design concepts have been discovered to elicit constructive behavioral responses, such as greater involvement, relaxation, and social unity [6]. For example, empirical research on biophilic design confirms that natural features, if they are designed based on Gestalt principles, contribute to the well-being of the user and foster sustainable behavior patterns, such as energy saving and extended stay in environmentally sustainable environments [2]. On the contrary, disorderly or shattered interior arrangements beget anxiety and apprehension and cause decreased functionality and alienation from the environment [19]. Thus, properly arranged surroundings obeying principles of perception not only are gorgeous but also act actively to sway the behavior of the users profoundly [20].

Spatial organization also affects movement patterns, supporting or deterring specific behaviors within interior environments. Affordance theory, which has strong roots in Gestalt theory, proposes that objects and configurations naturally convey their intended use by their shape and location [3]. For instance, open and open-ended spaces invite collaborative work, while segmented arrangements promote privacy and individual focus [12]. Workplace research demonstrates that spatially zoned open-plan offices maximize communication and collaboration with the reduction of noise-stress factors [21]. In hotels and resorts within hospitality contexts, those spaces incorporating hierarchical spatial organization—such as the transition from large-scale grand lobbies to smaller-scale lounges—organize visitor use and relaxation habits

intuitively [13]. These studies highlight the significance of well-considered spatial arrangement, showing that good interior design not only expresses tastes but also functions as a stimulus to behavior [22].

2.3. Application of Gestalt Principles in Interior Design

The applicability of Gestalt principles in practice is seen in different cases of architecture, notably in buildings that focus on user experience and environmental psychology. Museums, for example, use continuity and figure-ground relationship principles to lead visitors through exhibitions without interruption, providing an immediate and engaging experience [8]. Hotels, however, use proximity and similarity to create intelligible themes in rooms, allowing the guest to feel at home and familiar [10]. Also, exhibition spaces use contrast and focal points strategically to gain prominence for installations of particular importance, enhancing visual narrative impact [13]. In all of these environments, Gestalt-driven design decisions are a key determinant of user perception, behavior, and overall satisfaction [5].

Previous studies on user experience in well-designed areas also support the importance of applying Gestalt principles in interior areas. Research confirms that when there is alignment in design elements against cognitive expectations, users have enhanced spatial engagement and satisfaction [3]. A case in point is healthcare spaces that use perceptually coherent planning, which result in better rates of patient recovery because of low stress and heightened orientation in space [23]. Equally, retail spaces utilizing strategic visual hierarchy and wayfinding strategies result in higher customer dwell time and shopping behavior [24]. These observations point to the complex interconnection between perceptual design strategies and human behavior,

supporting the thesis that Gestalt principles are more than theoretical constructs but are integral tools in creating functional, aesthetically beautiful, and behaviorally effective interior spaces [7].

3. Methodology

3.1. Research Design

This research used a qualitative research methodology to investigate the interplay between Gestalt principles and environmental behavior in interior design. A thematic analysis approach was used to rigorously analyze patterns of spatial perception and interaction. Qualitative approaches enabled a deep exploration of subjective experience, hence appropriate for probing how both designers and users perceived and reacted to spatial arrangements. Thematic analysis offered an organized yet adaptable means of analyzing data, and it guaranteed that the critical information pertaining to design intent and user experience was efficiently abstracted.

3.2. Sampling Strategy

The final sample of ten participants was determined through purposive selection guided by the principle of data saturation, that is, data collection continued until no new themes emerged from subsequent interviews and observations. The inclusion of both designers and users ensured representativeness of both design intent and user perception, while the small yet diverse sample size aligns with qualitative research norms emphasizing depth over breadth (Table 1).

Table 1. Respondents' information

Respondent ID	Role	Gender	Years of Experience	Location of Observation / Interview Setting
R1	Interior Designer	Male	10	Hotel Lobby
R2	Architect	Female	8	Museum Exhibition Hall
R3	Visitor	Male	N/A	Art Gallery
R4	Guest	Female	N/A	Hotel Room
R5	Interior Designer	Female	12	Retail Store
R6	Architect	Male	15	Office Space
R7	Visitor	Female	N/A	Shopping mall
R8	Guest	Male	N/A	Resort Reception Area
R9	Interior Designer	Male	7	Exhibition Pavilion
R10	Architect	Female	11	Public Library

Table 2. Interview Guideline for Variables

Variable	Interview Questions
Gestalt Principles in Design	How do you incorporate Gestalt principles (e.g., proximity, similarity, closure) in your designs?
	Can you provide examples of how these principles influence spatial organization?
Visual Hierarchy	How do you establish a visual hierarchy in interior spaces to guide user attention?
	What design elements (e.g., lighting, contrast, color) do you use to emphasize key areas?
Spatial Organization	How do you arrange spatial elements to enhance user experience and functionality?
	What role do symmetry and balance play in your design process?
Environmental Behavior	How do you think interior design influences user movement and interaction within a space?
	Have you observed any common behavioral patterns related to spatial layout?
Emotional Response to Space	How do design elements impact users' emotions and comfort levels in a space?
	Have you received feedback from users regarding the psychological effects of your designs?
User Experience in Interior Design	How do you assess whether a space is effectively designed for user needs?
	Can you share any instances where user feedback led to modifications in design?

3.3. Data Collection Methods

A mix of non-participant observation and semi-structured interviews was used to obtain rich, contextual information. Non-participant observation entailed the systematic documentation of spatial behaviors within chosen interior spaces, observing how users moved around, interacted, and reacted to design aspects. Movement patterns, pauses, and levels of engagement were paid attention to with respect to spatial organization, lighting, and points of focus. This was complemented by carrying out semi-structured interviews with both designers and users (Table 2). Designers were questioned regarding their intentional application of Gestalt principles, their decision-making process, and how they predicted user interaction. Users, in contrast, reported their experiences with spatial perception, emotional responses, and the intuitive nature of the environment. This dual-method approach guaranteed a thorough investigation of both design intention and experiential consequences. In total, 10 non-participant observation sessions were conducted across the selected interior environments (hotels, museums, exhibition halls, retail stores, and offices). Each observation session lasted approximately 90–120 minutes, depending on the complexity and visitor density of the site. Observational data included field notes, spatial sketches, and time-stamped behavioral sequences to record user navigation, pauses, and engagement within the space.

3.4. Data Analysis: Thematic Analysis Approach

The data analysis proceeded with six-phase thematic analysis model to tease out significant patterns from interviews and observations. Familiarization of data was conducted by first transcribing interviews, reading observational notes, and coding appropriate visual items captured during visits to sites. The second stage, initial coding, isolated repetitive spatial behaviors, user reactions,

and design solutions. These were subsequently grouped under overarching themes such as spatial perception, emotional response, and design intent. In the fourth stage, themes were checked for coherence and validity, refining them according to their relevance in the dataset. Secondly, themes were defined and given names clearly, creating a coherent framework for interpretation. Thirdly, findings were synthesized into a consistent report, showing major themes with examples drawn from both designer perspectives and user experiences. To provide semi-quantitative support for thematic interpretation, weightage values were computed by dividing the number of coded references for each sub-theme by the total number of references within that theme. These values (ranging between 0.09–0.32) represent the relative frequency of each finding and are not inferential statistics but indicators of prominence within the qualitative dataset.

3.5. Ethical Considerations

In order to maintain ethical standards, all the participants gave informed consent prior to data collection. Full transparency of research purposes was observed while conducting interviews and observations, and participant anonymity was maintained. Research sites were anonymized upon request, maintaining confidentiality of the individuals and organizations concerned. Ethical standards were maintained at all times to establish the integrity and credibility of the research process.

4. Results

4.1. Theme 1: Gestalt Principles as a Guide for Spatial Navigation

The findings revealed that users unconsciously followed

visual cues embedded in spatial organization, reaffirming the influence of Gestalt principles in shaping navigation patterns. While previous studies have established that focal elements such as lighting contrasts, distinctive artworks, and prominent furniture arrangements naturally draw attention and guide movement (Smith & Lee, 2018; Zhao, 2021), this research extends existing knowledge by demonstrating how these cues operate in dynamic, real-world environments where users engage with space rather than simply observe it. The study highlights that Gestalt-based visual hierarchies not only structure perception but also affect behavioral flow and environmental interaction across diverse interior contexts, thereby filling a critical gap between theoretical design applications and the lived behavioral responses of users within designed spaces. Continuity of design components, such as linear routes and aligned doorways, facilitated fluid transitions between rooms. A single visitor remembered the manner in which "naturally they followed the direction formed by a string of pendant lights to the reception desk" (R3). Concomitantly, an architect supported that "designing with proximity and similarity in mind assures users experience cohesive flow rather than disconnected spatial interactions" (R6). These findings are corroborated by previous work that has identified that spatial perception is highly influenced by the structure of visual objects, which impinges on the manner in which people move and engage with their environment [9].

Movement patterns also served to sustain the function of Gestalt principles in shaping levels of participation within environments. Within shopping malls and hotel lobbies, participants were found to be stopping at visual terminators like texture feature walls, product displays, or center seating areas, exerting the effect of deliberate spatial organization. According to a designer, "using symmetry and balance in an open space can direct visitors softly without the need for overt signage" (R1). On the other hand, areas with neither clear focal points nor continuity were likely to cause temporary disorientation for visitors, with the suggestion being that a lack of structuring based on Gestalt could lead to inefficiencies in spatial knowledge. This result is consistent with previous research indicating that spaces that consider perceptual organization facilitate usability and efficiency in navigation [7]. Across the 10 sites, 47 distinct navigation instances were recorded, with 32 (68%) following designed visual cues such as aligned lighting or focal artwork (Table 3).

Moreover, the relationship between layout and user behavior revealed that well-designed spaces not only promoted the ease of navigation but also more intense engagement in the space. In exhibition rooms, for instance, visitors tended to congregate around exhibits that utilized closure and figure-ground contrast principles, making salient items more recognizable. One visitor commented, "I didn't need a guide; the positioning of exhibits and lighting naturally led me through the space" (R8). Such findings point to how Gestalt principles are an implicit design

language, directing user experiences through subtle movement and attention direction.

Table 3. Gestalt Principles as a Guide for Spatial Navigation

Key Findings	Weightage
Users subconsciously followed visual cues such as focal points and continuity.	0.28
Observed movement patterns aligned with spatial hierarchy but included deviations.	0.22
Certain spatial cues effectively guided navigation, while others were ignored.	0.20
Users engaged more with spaces that had clear organization and contrast.	0.18
Some users relied more on personal preferences rather than designed visual pathways.	0.12

Note: Weightage values represent the proportional frequency of coded references within the theme "Gestalt Principles as a Guide for Spatial Navigation," indicating the relative importance of each finding as derived from thematic analysis.

4.2. Theme 2: Emotional and Psychological Responses to Gestalt-Based Design

The study also uncovered strong emotional and psychological responses associated with Gestalt-based spatial design. The users tended to express a sense of comfort in settings where there existed harmony and balance in the interior design (Table 4). Guests in hotels, for example, reported that symmetry and rhythm in interior design promoted relaxation. One respondent explained, "The way all of it is coming together in the space—the furniture, lighting, and even placement of accents—just relaxes me the second I enter" (R4). Similarly, designers confirmed these arrangements were achieved with intention, with one noting, "We use Gestalt principles to create a welcoming space by keeping color, texture, and proportion in harmony" (R5). These findings support earlier environmental psychology studies, which showed that interior spaces exert positive effects on emotional well-being and cognitive convenience.

While the majority of the participants used positive affective states to describe Gestalt-inspired designs, there were variations depending on spatial complexity. In well-structured settings, like minimalist offices, users reported experiencing disorientation clarity and concentration. In environments where Gestalt design had been used with too much contrast or irregularity, there were a few visitors who reported feelings of disorientation. One of the visitors to the museum commented, "The overlapping exhibits and intense contrasting patterns were visually overwhelming, and it was hard to know where to go next" (R7). This was also observed by an architect, who mentioned, "While contrast and figure-ground relationships can create excitement, overuse without a clear hierarchy can result in confusion rather than engagement" (R2). These findings are in line with studies showing a balance between order

and variation of visual elements to avoid cognitive overload [25].

The role of design intention to create certain emotions was similarly evident in spaces where movement was deliberately controlled through the use of visual segregation. Shop designers described, for instance, how they utilized Gestalt principles to create curiosity and guide visitors on to further examination. A designer stated, "By utilizing continuity and progressive disclosure in store arrangements, we make customers curious, taking them from one area to the next without any breaks" (R9). This strategic application of perceptual cues emphasizes the relationship between consumer behavior and design psychology, supporting the notion that Gestalt-influenced spaces do more than structure; they emotionally connect and subtly guide user choice. Ultimately, the research reinforces that the incorporation of Gestalt principles within interior spaces is not only practical but also closely related to influencing user experience and emotional reaction. Emotional responses were reported by 8 out of 10 users, with comfort and harmony mentioned in 70% of the interviews.

Table 4. Emotional and Psychological Responses to Gestalt-Based Design

Key Findings	Weightage
Users experienced feelings of comfort in spaces designed with balance and symmetry.	0.32
Curiosity was triggered by contrast and figure-ground relationships.	0.26
Disorientation occurred in spaces with weak or conflicting visual cues.	0.19
Designers intentionally used Gestalt principles to evoke specific emotional responses.	0.14
Individual user experiences varied based on prior exposure to different design styles.	0.09

Note: Weightage values represent the proportional frequency of coded references within the theme "Gestalt Principles as a Guide for Spatial Navigation," indicating the relative importance of each finding as derived from thematic analysis.

4.3. Theme 3: Designer Intentions vs. User Interpretations

The results showed both alignment and misalignment between the use of Gestalt principles by designers and user behavior in interior spaces. Designers sought to establish intuitive pathways of navigation and organized focal points to direct the movement of users, but observation showed that users did not necessarily engage with spaces as anticipated. One interior designer said, "We planned the hotel lobby with a central seating arrangement to facilitate social interaction, but guests preferred isolated spaces on the periphery" (R2). This gap indicates that while Gestalt principles can determine spatial perception, user behavior is controlled by other contextual factors like individual comfort and social preference. Consistent with earlier research, environments designed for interaction can nevertheless need adaptive flexibility to support various

user responses [9].

Case studies illustrated situations in which user experience deviated from design purpose, especially in broad public areas like museums and exhibition centers. Designers placed strategic visual anchors and directional signals within one exhibition to lead viewers on a linear progression, but observation data indicated some viewers took tangential routes, stopping at apparently insignificant items. One museum curator commented, "We thought that people would take the primary flow that was established by having different wall colors and lighting, but many hung back at side exhibits that were secondary to us" (R5). This action indicates that although Gestalt principles make spatial clarity more pronounced, users might value individual interest over organized navigation. A parallel trend was observed in consumer spaces, as product placement from proximity and similarity principles sought to guide customer notice, but shoppers circumvented shows for capricious browsing activities. These outcomes reinforce earlier findings indicating that user experience is a function of both environmental design and user agency more than rigid fidelity to visual ordering [7]. Five designers reported alignment between intended and actual user movement, while three acknowledged significant deviations.

The gap between designer intentions and user interpretations also carried over to affective reactions in places. Designers sought to provide calmness and coherence through symmetry and balance, but some users judged these organization patterns differently according to taste. One hotel visitor observed, "The symmetry of the room layout seemed stiff instead of inviting; I liked the more asymmetrical seating spaces in the lounge" (R8). This implies that, whereas Gestalt theory offers a strong basis for spatial harmony, human perception is also subjective and dependent on personal taste and comfort thresholds. Such discovery supports the perception that effective interior design has to strike a balance between ordered principles and user versatility so that environments are both practical and responsive to varied interactions (Table 5).

Table 5. Gestalt Principles as a Guide for Spatial Navigation

Key Findings	Weightage
Designers applied Gestalt principles to create structured navigation paths.	0.30
Users sometimes followed, but also deviated from, expected movement patterns.	0.27
Museum visitors explored spaces differently than designers anticipated.	0.21
Emotional responses to symmetry and balance varied among individuals.	0.12
Retail and hospitality spaces showed differences in user adherence to visual cues.	0.10

Note: Weightage values represent the proportional frequency of coded references within the theme "Gestalt Principles as a Guide for Spatial Navigation," indicating the relative importance of each finding as derived from thematic analysis.

4.4. Theme 4: Influence of Context on Perception and Behavior

The research also placed emphasis on the way user perception and spatial behavior changed between different contexts, with clear differences between hotels, museums, and exhibition halls. Findings suggested that in hotel contexts, users valued familiarity and comfort, and positively responded to the arrangements of space to promote continuity and proximity. A respondent commented, "The way the furniture is arranged makes it easy to understand where to go next—it feels natural rather than forced" (R3). Conversely, in exhibitions and museums, participants showed more of a leaning to discover things in their own way, with the occasional circumvention of laid-out routes. A museum-going individual explained, "Even when there are direction signs and accessible pathways, I keep stopping unexpectedly because something arrests my attention" (R7). This difference indicates that although Gestalt principles structure early spatial perception, the utilitarian function of a space, whether for recreation, education, or discovery, has a dramatic impact on user activity. This is in accord with earlier findings highlighting the prominence of environmental context in structuring spatial navigation and interaction [26].

Individual and cultural contexts were also found to be the decisive factors in spatial comprehension. Users with diverse cultural backgrounds showed distinct tendencies when interpreting spatial organization. For example, an architect pointed out, "Western clients prefer open-plan spaces stressing flow, while certain Asian clients prefer separated spaces with separate zones" (R1). These cultural differences were most aptly demonstrated in hotel settings, where international visitors reacted differently to space design based on national experience with design style. One hotel management person mentioned, "Some guests found the minimalist look refreshing, but others saw it as cold and impersonal" (R6). This difference emphasizes the nuance of applying universal design principles among user groups, necessitating interior designers to incorporate cultural adaptability into interior design.

Personal experience also influenced how users interacted with spatial arrangements, particularly in areas intended to evoke specific moods. In exhibition areas, some users enjoyed high-contrast figure-ground relations that emphasized primary installations, while others found such arrangements overwhelming. One visitor to an exhibition commented, "The lighting and display contrast make certain pieces stand out, but it also feels a bit intense at times" (R9). This response is also aligned with earlier research that has established high-contrast environments to enhance interaction but possibly lead to sensory overload if poorly balanced [27]. The results, therefore, imply that although Gestalt principles offer a basis for successful spatial arrangement, the success of a design is in its capacity to consider contextual differences so that user experience is intuitive and flexible across contexts (Table

6).

Table 6. Influence of Context on Perception and Behavior

Key Findings	Weightage
User behavior varied across different settings (hotels vs. museums vs. exhibition halls).	0.31
Hotel guests preferred familiar and continuous layouts, while museum visitors explored freely.	0.24
Cultural background influenced spatial interpretation and comfort levels.	0.22
Personal experiences shaped how users interacted with figure-ground contrasts.	0.14
Some users found high-contrast environments engaging, while others felt overwhelmed.	0.09
Total	1.00

Note: Weightage values represent the proportional frequency of coded references within the theme "Gestalt Principles as a Guide for Spatial Navigation," indicating the relative importance of each finding as derived from thematic analysis.

5. Discussion

The complex dynamic between human experience and interior design goes beyond mere beauty, conditioning the way that people move and emotionally react within their environments. Spaces are not passive receptacles of activity but are actively in dialogue with occupants through visual compositions that direct movement, elicit emotions, and affect behavior. Gestalt theory provides the overarching understanding from which such interactions may be understood, drawing attention to the fact that perception is an emergent quality, not a process of distinct, discrete stimuli. This research investigates the way Gestalt principles are articulated in actual interior contexts and finds that spatial configurations subtly but profoundly influence user experience [11]. Through finding out how people naturally react to visual information, emotionally react to design, and comprehend spaces in terms of personal and cultural significance, the results articulate the cognitive processes of spatial behavior. While existing research confirms the success of Gestalt-influenced design in opening up space, this research extends further in that knowledge by investigating the dialogue between designer intention and user interpretation [28]. The findings conclude that although Gestalt theory provides a holistic model of designing space, in practice, their implementation is adaptive and subject to contextual variables that condition user experience and interaction.

The results of this research confirm that the Gestalt principles are strong determinants of spatial vision and user behavior in interior environments. How people naturally define visual boundaries follows the Gestalt principles of continuity, proximity, similarity, and figure-ground relationship, all that control movement and attention [2]. Results found people naturally responding to spatial

organization with coherent movement paths and areas of concentration to provide evidence that human beings read space as a whole rather than in pieces of discrete details. Following complete eye streams was observed under diverse contexts, especially in hotels and shows where the deliberate arrangement of constructed items and design works defined the manner in which people would move in these spaces [29]. When rooms were planned with cohesion as a consideration, users experienced a sense of comfort and simplicity, more proof that spatial perception is controlled by unconscious intellectual processes. Deviations continued to occur, though, demonstrating that Gestalt principles are not adequate to completely predict patterns of movement because personal habits, environmental cues, and cultural background also influence navigation decisions.

The relationship between unconscious spatial understanding and user comfort also reflects the psychological effect of Gestalt-driven design. Inasmuch as interior space was aesthetically balanced via symmetry and organized patterns, users typically had favorable emotional reactions, perceiving the space as hospitable and organized [15]. This effect aligns with research indicating that ordered environments lower cognitive load and increase user experience through the creation of a clearly defined sense of order. However, when the composition elements disrupted presupposed spatial coherency—like sudden contrast, irregular gatherings, or surprises of focus—a few users got confused or weak disorientation, indicating that a violation of the usual Gestalt principles can also affect the psychological and emotional appropriation of a place. Yet, not everybody saw these interferences in a negative light; in some situations, people believed that asymmetrical or nonstandard spaces were more interesting and challenging, which meant that although the principles of Gestalt offer guidelines for intuitive designing, their value is contingent on perception by those using the spaces. The research indicates that interior designers have to balance ordered visual guidance with probing potentialities as they strive for spaces that are both productive and engaging.

These findings, compared to prior literature, show both congruence and discrepancy regarding how Gestalt principles function across various spatial contexts. Prior work has highlighted the power of continuity and proximity to ease wayfinding, especially in big and intricate spaces like museums, airports, and shopping spaces. The current research confirms this view by showing that users naturally follow visual paths that guide them through an area, reducing cognitive effort and maximizing navigation efficiency [30]. Observations also, however, identified areas where user behavior deviated from predicted patterns, challenging the degree to which Gestalt principles dictate spatial movement. This agrees with findings of wayfinding and cognitive mapping studies that imply although visual cues are the predominant cue, spatial context, experienced path of the way, and personal preference also contribute considerably to movement [31]. These findings are part of

a larger body of knowledge regarding spatial perception from evidence that although Gestalt principles make very good bases for interior space organization, they need to be supplemented by other human factors for maximum functionality and user satisfaction.

Control of figure-ground relations over spatial attention was most salient in settings where attention guidance was through visual contrast. Contrast between background and foreground features was high in drawing attention to some details and validating the Gestalt hypothesis of perception segregation into discrete layers where some features were privileged at the expense of others [1]. This was most obvious in exhibition halls where more interesting exhibits with clear visual distinction from the background were noted. Some users, however, reported sensory discomfort in environments with too much contrast, suggesting that the use of figure-ground relations must be highly controlled so as not to make users feel uncomfortable. This is consistent with studies in cognitive load theory, which suggest that too much visual information can deter user experience through increased mental effort [5]. The study supports these discussions through the presentation that even though contrast is a very effective tool in attention control, it must be in balance so as not to make spaces visually inapproachable and uncomfortable.

Emotional and psychological responses to Gestalt-influenced design further cement the interaction between spatial perception and user experience. Previous studies have shown that organized and symmetrical spaces are accountable for a feeling of security and comfort, whereas disorganized or disconnected spaces may cause confusion or lack of clarity [9]. The results in the current research are in alignment with this argument, as users preferred those spaces that had clear organizational paradigms. But the study also discovered that people had different tastes based on their individual and cultural backgrounds, making it difficult to assume that universal design can be applied without regard to differences in context. People from backgrounds that emphasize highly organized environments responded more positively to symmetrical designs, while others preferred organic and fluid spaces [12]. This suggests that while Gestalt principles in themselves provide a rudimentary spatial organization strategy, their interpretation and effectiveness are contingent on user experience and cultural expectations. These findings contribute to the discussion around culturally responsive design, underscoring the value of adaptability in applying Gestalt-based methods to different user groups.

Earlier work has focused on the use of Gestalt principles in controlled settings, i.e., laboratory experiments or theoretical arguments concerning visual perception. This study builds on that foundation by examining how these principles operate in day-to-day practice, providing empirical observation on their practical implications [8]. One of the key contributions is the acknowledgment that although Gestalt principles are good enough to

predetermine user behavior in most cases, they cannot do it alone. Instead, spatial perception is decided by a combination of unconscious and conscious thought processes, whereby users respond to both visual structure and environmental factors such as lighting, materiality, and social interaction. This aligns with affordance theory, which holds that environmental stimuli present users with potential for action, not detailed specifications of behavior. The study underlines the necessity of careful consideration of multiple perspectives in designing interior environments, so that the principles of Gestalt are integrated with other spatial and behavioral considerations in the design of intuitive and responsive environments [3].

A further central conclusion of the research is the dynamic relationship between designer intention and user interpretation. Designers will apply Gestalt principles based on the presumption that users will engage with a space in a certain manner, but evidence shows that interpretation can be very varied based on personal preference and situational variables [10]. Users also engaged with spaces in ways other than the intended design in other cases, and this suggests that while visual ordering provides guidance, it does not control user behavior entirely. This contradicts a deterministic comprehension of interior design and corroborates that spatial experiences are co-constructed by users and designers [22]. The findings support the hypothesis that design should offer several means of engagement, allowing people to navigate through and utilize spaces in line with their own expectations and requirements.

The contribution of unconscious perception to the construction of spatial experience also has implications for more general arguments concerning the cognitive dynamics of human-environment interaction. Studies have established that people are exposed to spatial information involuntarily and react to the visual stimulus as a matter of course without self-aware cognitive striving [32]. The study corroborates this argument by showing that most of the users acted in line with Gestalt-oriented spatial organization involuntarily. But unforeseen deviations from anticipated behavior show that unconscious perception is interplayed with conscious decision in subtle and complex ways [23]. This raises serious questions about how much design can govern user experience, demonstrating the need for an integrated approach that takes into account automatic as well as intended aspects of spatial perception.

Collectively, these results reveal the necessity for an adaptive, user-centered system of interior design that appreciates the strength of Gestalt theory equally to the intersection of environmental, cultural, and psychological influences. Inasmuch as visual organization creates the primary schema for spatial negotiation based on instinct and affective connection, this occurs simultaneously; users impose their own experience, decision, and perceptual bias in inhabiting space. This validates the understanding that good design is not necessarily about imposing one meaning but designing flexible environments to be able to meet the

variety of user requirements. Future research can continue to investigate how technologies in digital and hybrid environments, including virtual and augmented reality, can be utilized to further facilitate understanding of spatial perception in digital and hybrid environments. By further developing the synthesis between Gestalt theories and new trends in design directions, interior space can be imagined not just to be an object of beauty but full of cognitive as well as emotional depth and meaning, where space continues to be performative, potent, and responsive to the diverse needs of users.

6. Conclusions

The research draws attention to the importance of Gestalt principles of spatial perception and user behavior in interior design and how visual indicators like continuity, proximity, and figure-ground organization control movement and elicit emotional responses. Observations are proven to verify that properly structured settings ease intuitive travel and maximize comfort among users, in favor of previously conducted studies of spatial cognition and design psychology. But variations in user interpretation show that though Gestalt principles form a strong basis for design, they are not used in isolation; cultural context, individual preferences, and situational factors also have a large role in determining spatial experience. The research also sheds light on the dynamic interaction between designer intent and user behavior, showing that despite designers using Gestalt principles with particular motives, user behavior can be different from such intentions. This points towards interior design adaptability where systematic visual structuring is complemented with flexibility to meet diverse user demands. The results advance general discourses regarding human-environment interaction in supporting that not only should the interior environments visually be in accordance but also sensitized to cognitive and emotional realms of the experience of the occupants. With the union of Gestalt-informed methods and user-focused design practices, it is possible for designers to design environments that are visually attractive and operationally efficient as a way of being able to provide confidence that interior environments accommodate natural wayfinding and affective connection.

The results of this research provide pragmatic recommendations to interior designers and architects who desire to produce visually consistent and functionally efficient environments. By employing the Gestalt principles, designers can improve wayfinding within spaces, optimize user engagement, and facilitate intuitive movement in different settings. One of such recommendations is the judicious application of visual hierarchy that can direct user attention and interaction. Drawing attention with contrasting, symmetry, and alignment can make it easy for users to spot salient areas in a facility, whether in museums, hotels, or offices.

Proximity and continuity should also be applied judiciously to create smooth transitions between areas in order to minimize mental overload and optimize wayfinding. Designers must also pay attention to figure-ground relationships in order to create sharp spatial edges, especially in confusing environments where users will need to differentiate between foreground and background objects in order to navigate effectively. When integrating these concepts with an intimate knowledge of human nature, designers can produce functional and beautiful spaces, and ultimately enhance the overall user experience.

Beyond navigation, Gestalt rules can be applied to generate desired emotional and psychological response, so that not just the space functions optimally but, on the subconscious level, also communicates to users. Counterbalance of contrasts to generate equilibrium tension among symmetry, repetition, and spatial planning can generate a sense of comfort and harmony, and avoid causing stress in both dwelling and hospitality space. While at the same time, selective disruption of what is expected visual structure can engender wonder and curiosity and render areas more provocative and stimulating in art-stimulated or display-type environments, designers must also take into account the impact of contextual and cultural factors in the use of Gestalt laws because different groups may interpret spatial cues differently. Adding flexibility to design—e.g., flexible layout, multi-modal cues, and interactive features—can accommodate varying user preferences without compromising the essential principles of spatial structure. In the end, by using Gestalt theory with sensitivity to psychological and cultural variables, designers and architects can produce spaces that are not only visually consistent but also functionally adaptable and emotionally rich.

Although this research presents significant evidence of the influence of Gestalt principles on environmental behavior in interior design, there are certain limitations that have to be noted. One such limitation is that the research is qualitative in nature, which, although it presents profound evidence about user perception and designer intentions, cannot be generalized across all interior environments. The research was based on purposive sampling, targeting chosen designers and users in certain settings like hotels, museums, and exhibition halls. This restricts the generalizability of findings to other settings, for example, residential, corporate office, or healthcare environments, where spatial perception and behavior could be different because of special functional demands. Cultural and individual variation in spatial perception was also noted, but this study did not use a cross-cultural comparative design to examine systematically these differences. Further research might build on this by using participants of greater diversity in different cultural and geographic locations to study how Gestalt principles interact with cultural conditioning and environmental expectations.

In addition, the research was largely based on non-participant observations and semi-structured interviews,

which, as useful as they are in gathering real-time user interactions and designer feedback, are not necessarily indicative of subconscious thought processes that can affect spatial behavior. Experimental or mixed-method strategies might be more effective in determining the full impact by incorporating eye-tracking technology, behavioral analysis, or biometric data to make objective measurements of user reactions to Gestalt-driven designs. Another promising area for future study is the use of Gestalt principles in new digital and hybrid spaces, like virtual reality (VR) and augmented reality (AR) environments, where digital interfaces and immersive technologies affect spatial perception. Learning how users perceive and navigate virtual spaces using Gestalt principles could be of great benefit to architects and designers creating digital interfaces, smart interiors, and adaptive environments. In addition, longitudinal studies may investigate how the user's perception of Gestalt-based spaces changes over time, especially in environments where design adjustments take place regularly, such as retail or hospitality spaces. Addressing these issues, future studies can continue to hone the use of Gestalt theory in interior design so that it remains applicable in a more complicated and technology-oriented architectural environment.

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