FURNITURE IN SERVICE AND INSTITUTIONAL SPACES: A SYSTEMATIC REVIEW (2015-2025)

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Abstract. This study reviews research on space and furniture, focusing on service settings such as restaurants and cafes, to incorporate relevant background into the examination of the furniture-space relationship. According to the PRISMA 2020 guidelines, literature is obtained from Web of Science Core Collection, Scopus and EBSCOhost, and only English journal articles published from 2015 to 2025 are included. After deduplication, the titles, abstracts and full texts are screened in stages, and finally 28 studies are included and numbered from S01 to S28 to ensure traceability. The results show that there are concentrated research situations in the medical care field (32.1%) and commercial service scenarios (25%), the education and learning environment accounts for 17.9%, and the distribution in residential, workplace, wine, rural, and judicial scenarios is less. The seat furniture belongs to the main category, accounting for 67.9%, of which most are used for tables and desks, accounting for 50.0%, indicating that the seat-space relationship in space research often relies on the sitting posture and the coordination of the seat surface to be reflected. In terms of methodology, quantitative empirical research dominates, accounting for 60.7%; qualitative research, 21.4%; case studies, 10.7%; and mixed-methods design, 7.1% as an auxiliary. In cross-mapping, the distribution of seats in various scenarios is relatively extensive. Most other furniture types are clustered by scenario, and the functional scope of medical and care environments is the broadest. This review will build a replicable baseline by treating furniture as an element of spatial research and analysis, expects more consistent furniture-level operationalization, and needs to pay attention to experience aspects, such as aesthetics and emotions, that have not been fully studied.
Keywords: *systematic review, servicescape, physical environment, furniture, seating*

Introduction

In the context of economic growth, the spatial environment is not only a container for services but also a key to the service experience. Existing research shows that the physical characteristics of service scenarios have a significant impact on customers' and employees' cognitive and behavioral reactions, which, in turn, affect evaluations and behavioral intentions (Bitner, 1992). In many contemporary service industries, such as hospitality, retail, healthcare, and education, the design of the physical environment has gradually become a strategic managerial tool rather than merely a functional arrangement. A well-designed spatial environment can shape perceptions of quality, influence emotional responses, and facilitate smoother interactions between service providers and customers. As service encounters are often intangible and experiential, customers frequently rely on environmental cues to evaluate service quality and professionalism. Therefore, the physical setting functions as a form of nonverbal communication that signals organizational values, brand identity, and service standards. Atmospheric design is a controllable factor that can influence consumers' choices and the length of their stay by affecting sensory or emotional aspects (Kotler, 1974). The research focuses on analyzing the pressures on the components of the environment. Furniture is a key element that supports behavior, guides movement, determines

privacy, and enhances a sense of order or comfort. From the perspective of environmental psychology, furniture not only provides physical support for activities but also structures the spatial logic of interaction. The arrangement, size, and material of furniture can subtly influence how individuals move, communicate, and perceive interpersonal distance. For example, open seating layouts may encourage social interaction, while partitioned seating may increase privacy and concentration. In addition, ergonomic design and aesthetic coherence contribute to users' sense of comfort, safety, and emotional satisfaction. These factors collectively shape the perceived usability and attractiveness of the service environment.

The current literature shows that fur is often grouped with other physical variables, resulting in unclear classification and inconsistent measurement. This ambiguous situation restricts effective comparison. The service servicescape framework was originally intended to address high-capacity and enterprise-level settings, yet the research results remain ignored, and there is no systematic, comprehensive focus on specific aspects of the service. Recently, evidence suggests that the effect is associated with configuration and context, not in a linear manner (Gounaris et al., 2025), which highlights the necessity of systematic categorization and standardized coding. In other words, the influence of furniture and spatial configuration may vary depending on the type of service environment, user expectations, and cultural context. For instance, the spatial requirements of a luxury hotel lobby differ significantly from those of a healthcare waiting area or a coworking space. Without a clear conceptual distinction and standardized measurement approach, it becomes difficult to compare findings across studies or accumulate cumulative knowledge in this research domain. Therefore, developing a refined classification system for furniture-related variables is essential for advancing empirical research and improving theoretical clarity.

Use the system appraisal method to identify the employee status in a specific context and perform synchronization. The search strategy is based on terms related to the service environment. When the employee status changes, and the address is within the contract, relevant contexts are included. The report ensures the transferability of identification and screening procedures in accordance with the PRISMA 2020 guidelines (Page et al., 2021). The keyword map provides a descriptive overview of these focuses (Van Eck and Waltman, 2010). Specifically, the systematic review process involves several stages, including database search, duplicate removal, title and abstract screening, and full-text eligibility assessment. Only studies that explicitly discuss environmental elements within service settings are retained for further analysis. By applying transparent inclusion and exclusion criteria, the review minimizes potential bias and enhances methodological rigor. The resulting keyword co-occurrence map helps visualize dominant research themes, emerging topics, and potential gaps in the literature. Consequently, this method not only organizes existing knowledge but also establishes a reproducible evidence base for subsequent conceptual development and empirical investigation.

Aim and research questions

This study systematically synthesises furniture-related research within spatial settings by describing publication and context profiles, summarising dominant methodological approaches, identifying the furniture types examined and their related dimensions, and mapping these types across spatial contexts. The research questions in this study are shown in *Table 1*.

Table 1. *Mapping of research questions to data extraction.*

No	Research questions
RQ1	What are the publication trends and spatial settings of the included studies?
RQ2	What furniture types, furniture-related dimensions, and keyword themes are reported?
RQ3	What methodological approaches dominate the included studies?
RQ4	How do furniture types vary across spatial settings?

Materials and Methods

Perform the screening report process according to the PRISMA 2020 statement, clarify the information source, database query logic, inclusion criteria, and exclusion reasons (Page et al., 2021). Record the search report and specific database query syntax in accordance with the PRISMA guidelines to improve transparency and reproducibility (Rethlefsen et al., 2021).

Sources and search

Three literature databases were used: Web of Sci Core Coll, Scopus, and EBSCOhost. Multiple databases can reduce indexing bias and improve the system's retrieval recall rate (Bramer et al., 2017). The retrieval scope is English journal articles published from 2015 to 2025. The retrieval formulas are adjusted to account for each database's characteristics to ensure semantic equivalence. For details, refer to *Table 2*.

Table 2. *Database search strategy and query syntax.*

Database	Search terms	Search criteria
WOS	(restaurant* OR "dining room" OR cafe* OR "coffee shop*" OR servicescape OR "physical environment" (Topic)) AND (seating OR chair* OR furniture (All Fields))	All fields; Publication years: 2015-2025; English; Article; (SCI-EXPANDED) & (SSCI) & (A&HCI)
SCOPUS	TITLE-ABS-KEY ((restaurant* OR "dining room" OR cafe* OR "coffee shop*" OR servicescape OR "physical environment") AND (seating OR chair* OR furniture))	All fields; Publication years: 2015-2025; English; Article;
EBSCO	(restaurant* OR "dining room" OR cafe* OR "coffee shop*" OR servicescape OR "physical environment") AND (seating OR chair* OR furniture)	All fields; Publication years: 2015-2025; English; Article; Status=Published

Eligibility criteria

Inclusion or exclusion criteria need to check whether the study explicitly explores the relationship between furniture and space (*Table 3*). Studies that treat furniture as a background will be excluded. Articles that meet the requirements need to explore the relationship between furniture and space or service space in research questions, methods, or findings. Articles need to have a clear research design and traceable research results. These criteria are consistent with PRISMA's focus on transparent screening and reporting of exclusion reasons (Page et al., 2021).

Table 3. *Inclusion and exclusion criteria for study screening.*

Phase	Inclusion	Exclusion
Abstract Screening	The abstract explicitly addresses both furniture-related content and a spatial or service-related context.	(a) Abstract lacks furniture and space (b) Abstract lacks furniture (c) Abstract lacks space or servicescape (d) ‘Seat or seating’ denotes non-physical semantics

Full-text filtering	The study substantively examines furniture in relation to spatial settings (as a core variable in aims, methods, or findings). The research design and outcomes are sufficiently reported for extraction and coding. Peer-reviewed journal article.	(a) Does not examine furniture–space relationships as a study focus (b) Methods or reporting are insufficient for extraction (c) Data or findings are unclear or not traceable (d) Not peer reviewed

Note: Inclusion and exclusion criteria were applied sequentially across screening phases. Counts reported in the PRISMA flow diagram reflect the implementation of these criteria at title and abstract screening and full-text assessment.

Study selection procedure and PRISMA flow

The study selection is divided into 3 stages (*Figure 1*). First, title checking is carried out, and the records retrieved from the merged and deduplicated database are combined. Then, the remaining records are filtered at the abstract level using standards. Finally, the full texts of the eligible studies are retrieved for evaluation, and the reasons for exclusion are recorded. The screening in these multiple stages meets the requirements of the PRISMA 2020 study selection (Page et al., 2021).

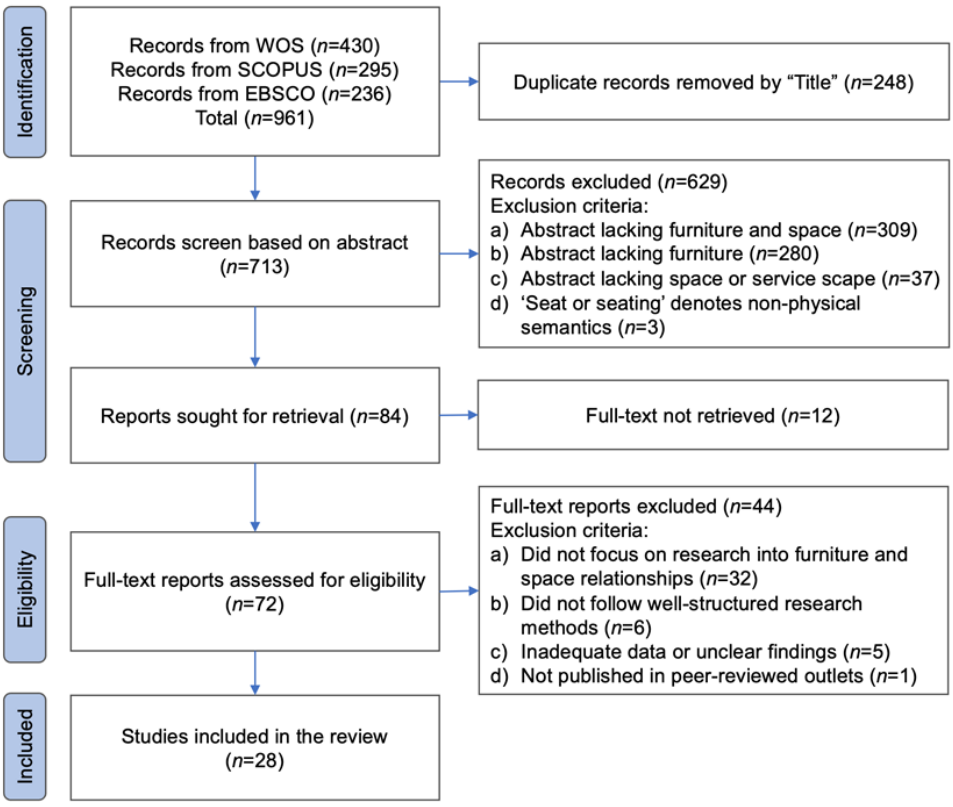

Figure 1. *PRISMA 2020 flow diagram of study identification, screening, eligibility, and inclusion.*

Results and Discussion

Study selection

This chapter summarizes descriptive results from the final set of 28 peer-reviewed articles, using study IDs S01–S28 to ensure traceability across *Table 4*.

***Table 4**. Supplementary included studies (n=28).*

IDs	Title of include studies	Reference
S01	Developmental implications of children bedroom in the interior environment and implementations of adults preferences	Yalcin et al. (2015)
S02	Analyzing Qualitative Changes of Rural Settlements due to Rural Furniture Establishment	Azizi et al. (2019)
S03	The Effect of Proximity on The Layout and Selection of Chair Types in The Coffee Shop Industry	Faridah and Dewi (2024)
S04	The Effect of Dining Room Physical Environmental Renovations on Person-Centered Care Practice and Residents' Dining Experiences in Long-Term Care Facilities	Hung et al. (2016)
S05	The impact of the physical environment on depressive symptoms of older residents living in care homes: a mixed methods study	Potter et al. (2018)
S06	Relocation to an activity-based flexible office – design processes and outcomes	Rolfö (2018)
S07	The effects of ceiling height and absorber placement on speech intelligibility in simulated restaurants	Culling et al. (2020)
S08	Comparative Study on Restaurants' Furniture: Ginkgo and Niazi's Restaurants in Famagusta, Cyprus	Ukabi and Gurdalli (2021)
S09	The perceptual effect of forms used on walls and furnishings in cafés	Yildirim and Müezzinoğlu (2024)
S10	Hospital furniture design: Cultural evolution and future trends	Tian et al. (2025)
S11	Research on pedagogical design strategies of children's furniture for children aged 3-6- promotion effect of traditional cultural elements on children's cultural enlightenment in new Chinese-style desk design	Li et al. (2025)
S12	Ergonomic suitability of special education kindergarten for children with special needs: pilot school example	Cemali et al. (2025)
S13	The role of restaurant diners' motivations and restaurant attributes in developing customer loyalty in traditional Chinese medicine restaurants	Kim et al. (2025)
S14	Evaluation and Design of Dining Room Chair Based on Analytic Hierarchy Process (AHP) and Fuzzy AHP	Liu et al. (2023)
S15	Furniture configurations in an active learning classroom make further differences in student outcomes	Kepez and Üst (2024)
S16	Factors Influencing Seating Preferences in Semi-Outdoor Learning Spaces at Tropical Universities	Tao et al. (2023)
S17	Dimensional Analysis of Seating Furniture from the 1960s and 1970s Intended for Redesign	Lange and Lis (2025)
S18	Designing worthy waiting spaces: a cross-cultural study of waiting room features and their impact on women's affective states	Huber and Bailey (2024)
S19	Examining Spatial Preference with Information Scape Using Partial Isovists	Aung et al. (2025)
S20	Hospitality in a theatre: The role of physical warmth	Pijls et al. (2021)
S21	Architectural indoor analysis: a holistic approach to understand the relation of higher education classrooms and academic performance	López-Chao et al. (2019)
S22	Detainee and layperson's expectations and preferences regarding police interview rooms	Hoogesteyn et al. (2020)
S23	The therapeutic waiting room therapist and service user perspectives on the psychologically support	Liddicoat (2020)
S24	The Role of Patients' Psychological Comfort in Optimizing Indoor Healing Environments: A Case Study of the Indoor Environments of Recently Built Hospitals in Sulaimani City, Kurdistan, Iraq	Mahmood and Tayib (2020)
S25	Becoming a nomad when hospitalized with a neurological disease: a phenomenological study	Beck et al. (2020)
S26	Design of urban furniture to enhance the soundscape: a case study	Fusaro et al. (2018)
S27	Qualities of Inpatient Hospital Rooms: Patients' Perspectives	Devlin et al. (2016)
S28	Impact of healthcare design on patients' perception of a rheumatology outpatient infusion room: an interventional pilot study	Bukh et al. (2015)

Basic information analysis

Figure 2 displays a Sankey diagram mapping the bibliographies of the 28 included studies by linking publication year, study identifier, and publication venue. The left column shows a substantial number of recent studies, indicating growing scholarly interest in furniture-space science. The second column, labeled S01–S28, enables tracing of information by presenting the publication year and journal for each study. The distribution of articles across various journals, as shown in the right column, demonstrates a wide range of evidence from different fields. These fields include interior design, ergonomics, acoustics, building and environmental research, healthcare management, hospitality, and sustainability. The frequent citations of the Health Environments Research & Design Journal underscore the importance of healthcare and

care-related environments in this field of study. Overall, the figure illustrates both a recent increase in research activity and a publishing trend across diverse journals. This pattern indicates that various applied research groups are investigating the issues related to chairs in space settings.

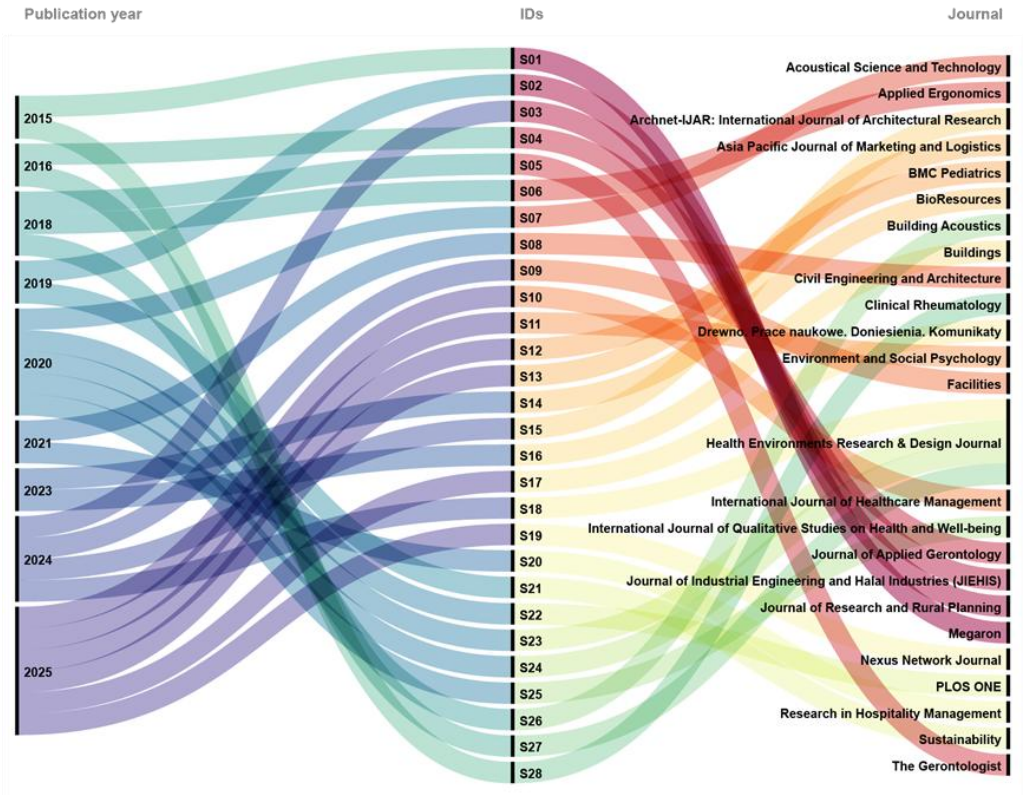

Figure 2. *Sankey diagram linking publication year, journal, and Study IDs.*

This *Figure 3* shows a map generated with VOSviewer that groups keywords used by authors across the studies. Bigger circles indicate that the keyword was used more often, thicker lines indicate keywords that appear together more often, and color indicates how recent the topic is. The map centers on words like furniture, interior design, and furnishings, showing that most research looks at furniture as part of indoor spaces, not just as a separate product. Words related to people, such as 'human,' ' psychology,' and 'perception,' suggest that many studies focus on how people experience and respond to furniture. There is a clear set of keywords, such as health care facility, nursing home, and patient satisfaction, highlighting the importance of healthcare settings in the research. Words about research methods, like surveys, questionnaires, and interviews, are found in the middle of the map, showing that these methods are used a lot. On the right, keywords such as physical environment, environmental quality, acoustics, thermal comfort, privacy, and ergonomics connect furniture to comfort and environmental issues. Some of the newer keywords indicate that more recent research is examining how furniture affects indoor quality and comfort. Overall, the map shows that research on furniture covers many fields, focusing on indoor spaces, user experience, care settings, and how furniture affects the environment.

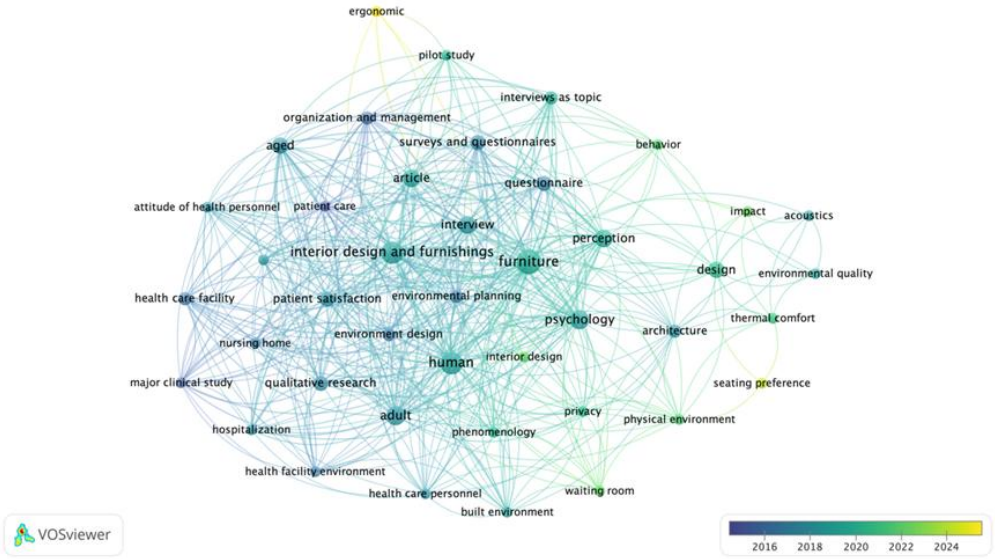

Figure 3. *VOSviewer keyword co-occurrence network.*

Space settings

Table 5 presents the main spatial backgrounds of 28 studies. The medical/nursing facilities are the largest category, containing 9 studies (32.1%; S04, S05, S10, S18, S23–S25, S27, S28), reflecting the research's emphasis on the nursing environment. The commercial/service environment settings are in the second most common position, with 7 studies (25.0%; S03, S07–S09, S13, S19, S20), in line with the review's attention to service-related spaces.There are 5 studies (accounting for 17.9%; S11, S12, S15, S16, S21) in the education and learning environment, indicating that the academic community continues to have interest in educational furniture. The number of remaining context studies is relatively small, such as residential (accounting for 7.1%; S01, S14) and single research categories, like workplace rural communities, public and urban environments, judicial punishment institutions, and multi-context places (each accounting for 3.6%; S02, S06, S17, S22, S26). From this distribution, it can be seen that there are many more institutions and service environments of the application compared to daily family or outdoor environments.

Table 5*. Space settings of included studies.*

Space setting	k	Study Ids	Share (%)
Healthcare & Care	9	S04, S05, S10, S18, S23, S24, S25, S27, S28	32.1
Commercial & Servicescape	7	S03, S07, S08, S09, S13, S19, S20	25.0
Education & Learning	5	S11, S12, S15, S16, S21	17.9
Justice & Correctional	1	S22	3.6
Public & Urban	1	S26	3.6
Residential	2	S01, S14	7.1
Rural & Community	1	S02	3.6
Workplace & Office	1	S06	3.6
Multi-context Venues	1	S17	3.6

Furniture focus and themes

Table 6 adopts multi-label encoding, and there may be overlaps in the sharing situation. Seat furniture belongs to the core content (19 studies, accounting for 67.9%), which indicates that most of the furniture-space association studies are carried out

through the use or experience related to sitting. Tables or desks follow closely (14 studies, accounting for 50.0%), highlighting that the coordination of the seat surface is often focused on in work or dining scenarios. Storage, finished furniture, and general furnishings are reflected in 5 studies (accounting for 17.9%), which indicates the secondary concern for a wide description of spatial organization and interior. The other categories are rare, mainly extensions in specific contexts, not the dominant themes (*Table 7*).

Table 6. *Furniture types extracted from full texts (multi-label coding).*

Furniture type	Definition	k	Share (%)	Study IDs
Seating furniture	Seating items such as chairs, armchairs, sofas, loveseats, and seating arrangements.	19	67.9	S03, S04, S05, S08, S10, S12, S14, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S27, S28
Tables and desks	Work and dining surfaces such as tables, desks, workstations, and side tables.	14	50.0	S01, S04, S07, S08, S10, S11, S12, S16, S21, S22, S23, S25, S27, S28
Storage and case goods	Storage furniture such as wardrobes, closets, cabinets, bookcases, shelves, and TV stands.	5	17.9	S01, S10, S12, S23, S27
General furnishings	Furniture described generically without naming specific item types.	5	17.9	S06, S09, S13, S15, S24
Beds and sleeping furniture	Sleeping furniture such as beds and sofa beds, including adjustable beds.	3	10.7	S01, S10, S27
Soft furnishings and accessories	Non-rigid furnishings and accessories such as rugs, cushions, carpets, pillows, and coat hangers.	3	10.7	S20, S23, S28
Children's and play furniture	Furniture intended for children or play and learning activities, including play furniture elements.	2	7.1	S10, S11
Settlement furniture system	Settlement-scale furniture system categories reported in rural settings, such as decorative and service-providing furniture.	1	3.6	S02
Street and urban furniture	Outdoor public furniture such as street furniture.	1	3.6	S26

Table 7. *Methodological profile of included studies.*

Study type	k	Study IDs	Share (%)
Empirical study (quantitative)	17	S01, S02, S07, S09, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S24, S26, S28	60.7
Empirical study (qualitative)	6	S03, S04, S12, S23, S25, S27	21.4
Case study	3	S06, S08, S10	10.7
Empirical study (mixed methods)	2	S05, S11	7.1

Space-setting by furniture-type mapping (descriptive cross-tabulation)

The types of furniture have spatial layouts and clear points of focus. Seat-type furniture exists in most layouts, especially prominent in healthcare and commercial service environments, and in educational layouts, table/desks with seats are key. In healthcare and care layouts, besides seats, there are the most diverse furniture, such as storage-type furniture, beds, and soft-type furniture, which indicates that a more extensive consideration of furniture functions in care-related environments (*Table 8*). This table maps furniture types to spatial settings through multi-label encoding, showing the contribution of multiple furniture categories in one setting in a research study. The medical / nursing environment is the most abundant, mainly seating furniture (k = 9; S04, S05, S10, S18, S23, S24, S25, S27, S28), followed by tables / desks (k = 6; S04, S10, S23, S25, S27, S28). The business / service environment research mainly refers to

seat furniture (k = 4; S03, S08, S19, S20), mentions general furniture less (k = 2; S09, S13) and tables / desks less (k = 2; S07, S08). The education / learning environment highlights tables / desks (k = 4; S11, S12, S16, S21), and contains seat furniture (k = 3; S12, S16, S21), and also separately mentions children / play furniture (S11), storage / cabinet furniture (S12) and general furniture (S15). Other contexts include single-label mappings: judicial/correctional (S22), multi-environment places (S17), public/urban (S26), residential (S01, S14), rural/community (S02), and workplace/office (S06).

***Table 8**. Cross-tabulation of space settings and furniture types (multi-label coding).*

Space setting	Furniture type	k	Study IDs
Commercial & Servicescape	Seating furniture	4	S03, S08, S19, S20
	General furnishings	2	S09, S13
	Tables and desks	2	S07, S08
	Soft furnishings and accessories	1	S20
Education & Learning	Tables and desks	4	S11, S12, S16, S21
	Seating furniture	3	S12, S16, S21
	Children's and play furniture	1	S11
	Storage and case goods	1	S12
	General furnishings	1	S15
	Seating furniture	9	S04, S05, S10, S18, S23, S24, S25, S27, S28
Healthcare & Care	Tables and desks	6	S04, S10, S23, S25, S27, S28
	Storage and case goods	3	S10, S23, S27
	Beds and sleeping furniture	2	S10, S27
	Soft furnishings and accessories	2	S23, S28
	Children's and play furniture	1	S10
	General furnishings	1	S24
Justice & Correctional	Seating furniture	1	S22
	Tables and desks	1	S22
Multi-context Venues	Seating furniture	1	S17
Public & Urban	Street and urban furniture	1	S26
Residential	Beds and sleeping furniture	1	S01
	Seating furniture	1	S14
	Storage and case goods	1	S01
	Tables and desks	1	S01
Rural & Community	Settlement furniture system	1	S02
Workplace & Office	General furnishings	1	S06

Among the 28 studies, the spatial setting is a contextual factor affecting furniture demand and is not the focus of analysis. The evidence base covers service-oriented environments such as cafes, coffee shops, and restaurants. There are also contexts with limited seating and furniture, such as restaurants and public spaces. For example, S14 treats the design of restaurant chairs as an early task; S17 conducts research on furniture use in domestic and public environments (like cafes, schools, cultural places). This shows that "service space" is the main but not the only contextual category in this review. This finding is consistent with the recent service environment research literature, suggesting that service experts are increasingly seen as a multi-stakeholder and multi-context phenomenon, even though the term "servicescape" is not explicitly used in design research (Espitia et al., 2025; Kandampully et al., 2023). It is also in line with the comprehensive findings of hotel research, which show that physical environment research spans different types of places, often treating space as a situational determinant of experience outcomes rather than an independent design goal (Nanu et al., 2024).

Reviewed research views furniture as a design used in daily space. Seats are common furniture types, with categories such as task-oriented, cyclic, service-oriented, etc., rather than style-oriented. Defines furniture based on functions and human attributes: ergonomics, comfort, usability, maintainability, and whether the position is reasonable. Aesthetic attributes are recognized but are rarely the main ones. This model can explain

why aesthetics are still relevant, but it does not define the scope; visual problems are often one of the design constraints. Research shows that the association between furniture forms and aesthetic emotions is relatively limited, but there are associations with other design fields. Service environment research indicates that experiences and emotions can affect satisfaction, loyalty, and related outcomes. The influence of furniture attributes is not isolated, and it is necessary to operationalize them accurately at the furniture level (Chen, 2025; Wichitsathian and Suvittawat, 2025).

There is a mixed ecosystem of evidence in the corpus. The research is divided into two categories: one focuses on design engineering, using dimension/performance-based analysis; the other focuses on services, using perception-based data collection (e.g., problems, observations, experiments). The measurement methods used in the included papers are diverse, and the sampling strategies range from human perception evaluation to objective/environmental design parameters. This heterogeneity makes transparency and reproducibility in systematic reviews very important, especially in interdisciplinary fields such as furniture-space. Recent reporting guidelines emphasize the need to specify information sources, search strategies, etc., and support highlighting PRISMA and keeping the method section clear and explicit. The Guide to Literature and Science Mapping identifies structural description analysis as a layer of comparative evidence, especially when there are differences in research traditions and terms in the fields of design, hospitals, and healthcare (Donthu et al., 2021).

Corpora have different evidence bases. Design and engineering research use dimensional performance analysis; service-oriented research uses perception-based data collection. There are differences in the results of review papers, so sampling strategies vary from human-subject perception evaluation to target environment design parameter data sets. This diversity highlights the need for transparency and reproducibility of systematic reviews, especially in interdisciplinary fields such as furniture space. Recent reporting guidelines emphasize specifying information sources, search strategies, and method reporting, support PRISMA prioritization, and clarify the method section (Page et al., 2021; Rethlefsen et al., 2021). "Guidelines for Bibliometrics and Science Mapping" stated that structured descriptive analysis could be used as a supplementary evidence layer, especially when there are different research traditions and terminologies in fields such as design, hospitality, and medicine (Donthu et al., 2021).

Conclusion

This systematic review needs to integrate evidence from specific-environment examinations, using the server restriction strategy of deleting experiments as a reference. The review adopts 28 peer-reviewed studies, uses the consensus ID to ensure traceability, has a structured, comprehensive analysis, including the research location, future research gaps, the way evidence is generated, and the situation of cross-strategy patterns. First, the corpus shows that spatial context is often a condition for the design/use of furniture demand, not the main research object. Even if the research does not explicitly use the concept of servicescape, there is evidence that is consistent with the view that service experience is affected by physical environments of different groups/different categories (Espitia et al., 2025; Bitner, 1992). The final sample also includes adjacent environments such as public rest spaces and educational places, which are in line with the scope of "physical environment" research covering diverse places rather than a single industry (Nanu et al., 2024). Second, the focus of furniture design

lies in the seat. Often achieved through practicality, task adaptability, and layout logic, and style evaluation is not carried out separately. This is in line with the basic view: spatial cues and controllable atmospheric elements will affect experience behaviors, and specific components are difficult to clarify unless precisely defined at the element level (Bitner, 1992; Kotler, 1974). Reviewing relevant research, it can be found that furniture research mostly focuses on ergonomics and functional characteristics, and although aesthetic factors exist, they are less often used as a leading experience perspective. Third, there are different evidence-based methodologies. The included studies adopt a design/engineering approach focusing on performance/size analysis and a service/user-oriented approach relying on perceptual data (such as questionnaires, experiments or structured observations). This heterogeneity requires following PRISMA 2020 and PRISMA-S (Page et al., 2021; Rethlefsen et al., 2021) to conduct transparent and reproducible reviews and to clearly report the retrieval decisions, information sources, and exclusion criteria. Support structured description analysis and mapping, making interdisciplinary corpora comparable at the baseline (Donthu et al., 2021; Van Eck and Waltman, 2010).

Fourth, in cross-scene mapping, seats exhibit a wide distribution across scenes. Most other furniture types are clustered by scene. Most other furniture types are clustered by scene. In care-oriented environments, furniture other than seating is most widely distributed; in educational settings, seating is often paired with desks or tables. These patterns indicate that the furniture resources of the current spatial scenes are affected by specific scene environmental factors and operation requirements, which is consistent with the research results of the physical environment resources in the hotel industry. This research emphasizes strong place dependence and uneven traditions (Nanu et al., 2024). In the service and institutional environments, the results show that common research on furniture (such as seating and task-related settings) reflects that managers-designers intervene through controllable environmental components and layouts (Bitner, 1992; Kotler, 1974). For researchers, research results are more important than reporting furniture items and spatial contexts, more specifically, so as to help integration and reduce research ambiguity, which is in line with the call for stronger methodological transparency in evidence integration (Page et al., 2021; Rethlefsen et al., 2021). The main contribution lies in treating furniture as the analytical unit in spatial research, rather than the undifferentiated "physical environment" approach. A stable, unique identification is assigned to furniture, and its distribution, type, relevant dimensions, and methodological overview in the spatial collection are reported. This study provides a repeatable benchmark for interdisciplinary and cross-place comparisons. The scope and stakeholders of service scenario research have been expanded, but the empirical research is still limited within the discipline and there are differences in terms (Espitia et al., 2025; Nanu et al., 2024), so this study has certain value.

This revision is limited by search terms and database coverage. Prioritize environmental terms, and include relevant context if the furniture-space relationship is clear. Improve recall and reduce indexing bias through multi-database searches, but the limitation of cross-disciplinary/journal coverage cannot be overcome (Bramer et al., 2017). In addition, the methods and results of the study are diverse, which limits the aggregation of quantifiable effects; therefore, this revision is mainly descriptive and mapping-oriented. There are some suggestions for future studies. First, for research on furniture in public institution settings, such as service environments, a clearer operational definition of furniture attributes is needed to achieve more consistent

measurement across research results. Second, a closer connection needs to be established between performance-based and perception-based evidence, which may clarify when functional limitations translate into user feedback. This gap is also mentioned in more extensive comprehensive research on physical environments (Nanu et al., 2024). Third, with the expansion of service environment research towards broader experiences and stakeholder concerns, variables at the furniture level should be more clearly positioned in these models to ensure the integrity of the context and enhance interpretability (Espitia et al., 2025). Fourth, the servicescape question can be related to the design-led evidence Participatory & practice-led sets shows that furniture-space fit is usually shaped by co-design, prototyping & use sim (Dolah et al., 2018; Dolah, 2017), which also expands the scope of furniture-related environmental value assessment when aesthetic/emotional outcomes are not directly measured (Dolah et al., 2011).

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Conflict of interest

The authors confirm that there is no conflict of interest involved with any parties in this research study.

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