JCHR

Journal of Community Health Research 2025; 14(1): 205-221.

Architecture and Urban Design for Social Health: A Two-Decade Global Systematic Review

Mahdiye Barkhordari Firouzabadi [1,2], Sanaz Rahravi Poodeh [2,3] *, Seyedeh Marzieh Tabaeian[2,4], Seyed Alireza Afshani [5]

1. Department of Architecture, Institute of Society and Media, Isf.C., Islamic Azad University, Isfahan, Iran
2. Tourism, Architecture and Urban Research Center, Isf.C., Islamic Azad University, Isfahan, Iran
3. Department of Architecture, Institute of Society and Media, Isf.C., Islamic Azad University, Isfahan, Iran
4. Department of Architecture, Institute of Society and Media, Isf.C., Islamic Azad University, Isfahan, Iran
5. Sociology Department, Social Sciences Faculty, Yazd University, Yazd, Iran

ARTICLE INFO

Review Article

Received: 13 May 2025

Accepted: 18 Agu 2025

Corresponding Author:
Sanaz Rahravi Poodeh
s_rahravi@iau.ir

ABSTRACT

Background: Social health is a crucial yet underexplored dimension of human well-being, particularly in architecture and environmental design. While the links between design and physical or mental health have been widely studied, the social dimension remains insufficiently addressed. This review examines how architectural and urban design influence social health outcomes globally from 2002 to 2024.

Methods: This systematic review followed the PRISMA protocol. Peer-reviewed articles were retrieved from Scopus, Web of Science, PubMed, and Google Scholar using Boolean keywords (e.g., "design*" AND "social health"). After screening 16,402 initial records, 44 studies from 14 countries and 31 journals met the inclusion criteria. Eligible studies empirically assessed environmental design factors in relation to social health indicators in real-world settings.

Results: Key design features positively linked to social health include access to green and blue spaces, walkability, aesthetics, public safety, mixed land use, spatial layout, and third places. Common social outcomes were enhanced interaction, cohesion, trust, and sense of belonging. The majority of studies focused on outdoor spaces, with fewer addressing interior environments.

Conclusion: The built environment significantly shapes social well-being. However, notable research gaps persist, especially in non-Western and indoor contexts. Future studies should apply mixed methods, include diverse cultural settings, and develop standardized frameworks to evaluate the social impacts of design.

Keywords: Environmental design, social health, architecture, urban planning, social well-being, systematic review

How to cite this paper:
Barkhordari Firouzabadi M, Rahravi Poodeh S, Tabaeian SM, Afshani SA. Architecture and Urban Design for Social Health: A Two-Decade Global Systematic Review. J Community Health Research 2025; 14(1): 205-221.

[DOI: 10.18502/jchr.v14i24.19606]

Introduction

Health is universally acknowledged as a cornerstone of sustainable development, encompassing not only physical and mental well-being but also social dimensions that shape human quality of life. The World Health Organization defines health as a complete state of physical, mental, and social well-being, not merely the absence of disease or infirmity. Social health refers to the ability of individuals and communities to form satisfying interpersonal relationships, adapt comfortably to different social situations, and fulfill their roles within society, contributing to overall well-being and quality of life (1). Despite this inclusive definition, social health remains under-theorized and often overshadowed by its physical and mental counterparts in both policy frameworks and academic literature (2). Social health broadly refers to an individual's ability to form meaningful relationships, engage in collective life, and participate in community activities (3). It influences and is influenced by the environments in which people live, work, and interact. While physical and mental health outcomes have been widely studied in relation to built environments, the social dimension of health in the context of environmental design has received limited systematic attention. This gap is especially notable considering raising concerns over urban isolation, community disconnection, and declining civic engagement in contemporary cities (4). Emerging evidence suggests that architectural and urban design can significantly affect social well-being. Variables such as spatial layout, access to green and blue spaces, walkability, public safety, visual aesthetics, and availability of "third places" (e.g., cafes, libraries, parks) have been linked to stronger social networks, increased trust, social cohesion, and sense of belonging (5-7). These relationships are particularly vital for vulnerable populations such as the elderly, youth, and those living in high-density urban areas [6]. However, existing studies remain fragmented across disciplines such as public health, urban planning, architecture, and environmental psychology. They vary in scope, context, and methodology-limiting their generalizability. Furthermore, most studies are conducted in high-income Western contexts, overlooking cultural and spatial differences in non-Western or low-income regions (8). Another major gap is the underrepresentation of interior environments (e.g., residential buildings, office spaces, healthcare settings) in relation to social health outcomes (9). Given these challenges and the growing importance of designing for inclusive, health-promoting environments, a comprehensive synthesis of current knowledge is urgently needed. Therefore, this study aims to systematically review global peer-reviewed literature published between 2002 and 2024 to examine how environmental and architectural design-cross urban and interior settings-impacts social health. By identifying prevailing design factors, underexplored domains, and methodological patterns, this review seeks to inform future research and practice that prioritize human connectivity and social sustainability in the built environment.

Methods

Study design and protocol

This study employed a systematic review methodology in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The review protocol was designed to ensure transparency, replicability, and methodological rigor in identifying and synthesizing relevant literature concerning the relationship between environmental design and social health.

Search strategy

A comprehensive literature search was conducted for peer-reviewed articles published between January 2002 and December 2024. The following databases were systematically queried: Scopus, Web of Science, PubMed, and Google Scholar. In addition,

[DOI: 10.18502/jchr.v14i24.19606]

manual searches were performed on reference lists of included articles to capture potentially relevant studies not indexed in the primary databases.

Search terms included a combination of keywords and Boolean operators related to design and social health:
("design*" OR "architecture*" OR "urban planning" OR "built environment" OR "plan*") AND ("social health" OR "social well-being" OR "social cohesion" OR "community engagement").

Eligibility criteria

Studies were included based on the following criteria:

- Published in peer-reviewed journals between 2002 and 2024.
- Written in English or Persian.
- Empirically investigated the impact of architectural or urban design on social health outcomes.
- Focused on real-world environments (e.g., neighborhoods, parks, interior spaces).
- Employed qualitative, quantitative, or mixed methods.
- Studies were excluded if they:
- Focused solely on the development of design instruments or measurement tools without examining health outcomes.
- Addressed only physical or mental health, without explicit reference to social health.
- Were editorials, commentaries, or non-peer-reviewed sources.

Screening and selection process

After removing duplicates, titles and abstracts were screened independently by two reviewers. Full texts were retrieved for articles meeting the inclusion criteria or requiring further evaluation. Discrepancies were resolved through discussion or consultation with a third reviewer. The selection process is depicted in a PRISMA flow diagram.

Data extraction and synthesis

Data were extracted using a standardized form covering publication year, country, study design, sample characteristics, design variables, and measured social health outcomes. Both narrative synthesis and thematic categorization were employed to analyze patterns across studies, with particular attention paid to frequently cited design factors and the diversity of methodological approaches.

Results

Study identification and selection

Study selection

The initial search yielded 16,402 records. After removing duplicates and screening titles and abstracts for relevance to the topic of environmental design and social health, 116 articles were selected for full-text review. Of these, 44 studies met all inclusion criteria and were included in the final synthesis. The PRISMA flow diagram illustrates the systematic selection process. Search results and the selection procedure are summarized in flow diagram number 1.

[DOI: 10.18502/jchr.v14i24.19606]

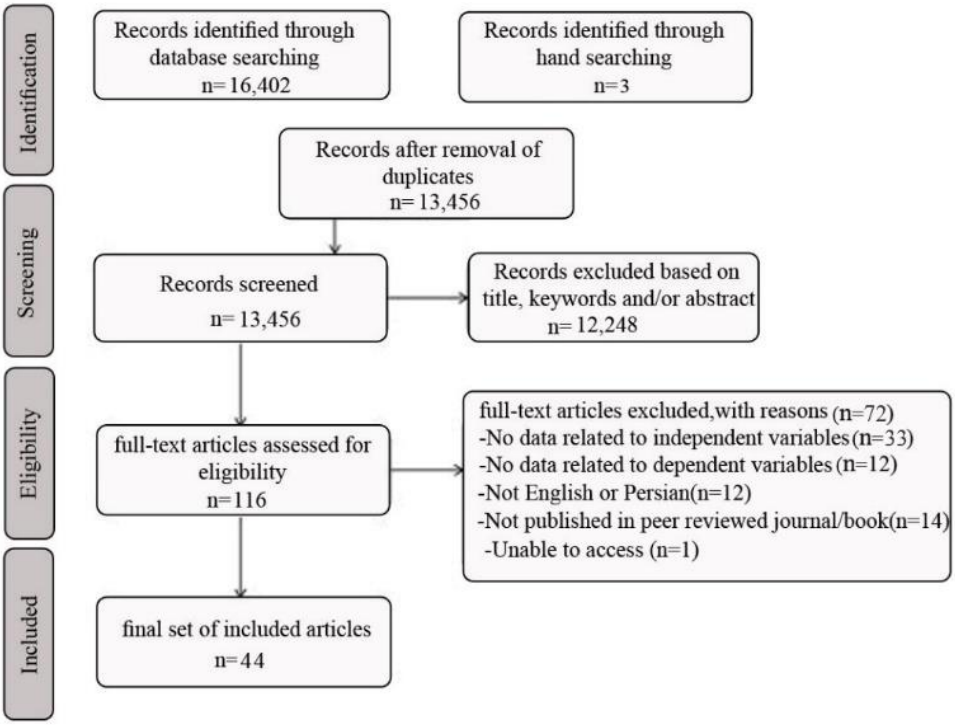

Diagram 1. Study selection

Geographic and disciplinary distribution

To assess the global reach and interdisciplinary nature of the field of design for social health, it is essential to examine the geographic distribution and disciplinary affiliations of the existing literature. The 44 included studies were published between 2002 and 2024 across 31 different peer-reviewed journals, reflecting the growing multidisciplinary interest in the intersection of design and social health. The distribution shows a noticeable increase in publications over the past decade, particularly after 2015, indicating a rising global awareness of the social implications of built environments. Journals spanned disciplines such as public health, architecture, urban planning, and environmental psychology, emphasizing the interdisciplinary nature of this research domain. The included studies represent contributions from 14 different countries. The United States and Australia each accounted for the highest share, comprising 14% of the total studies (n = 6 each). China, Iran, and the United Kingdom each contributed 9% (n = 4), while the Netherlands, Canada, and South Korea each accounted for 7% (n = 3). Norway and New Zealand followed with 5% (n = 2 each). The remaining contributions came from Denmark, Singapore, Spain, and South Africa, each representing 2% (n = 1). This geographic distribution indicates a strong dominance of high-income, Western countries, which may reflect disparities in research infrastructure, access to academic platforms, and funding opportunities. While the geographic spread is noteworthy, the literature remains heavily dominated by high-income Western countries. This overrepresentation may be attributed to disparities in research infrastructure, availability of funding, academic networking, and access to high-impact publication platforms. Such geographic bias can affect the generalizability of findings, as the social, cultural, and urban contexts of lower- and middle-

[DOI: 10.18502/jchr.v14i24.19606]

income countries are often underrepresented. To address this issue and enhance the inclusivity of future research, the authors recommend several strategies: fostering international collaboration, investing in capacity-building in underrepresented regions, encouraging open-access publishing models, and establishing research grants tailored to low-resource contexts. These efforts may help cultivate a more balanced and globally representative body of knowledge in the design and social health domain. Table 1 provides a categorized summary of the 44 included papers to further illustrate thematic patterns across different application areas.

Research designs and methodologies

Among the included studies, qualitative designs accounted for 34.1%, followed by literature reviews (29.5%), quantitative studies (27.3%), and mixed-methods approaches (9.1%). Data collection techniques included interviews, surveys, observational methods, and library-based document analyses. Participants varied across studies and often included vulnerable or aging populations, community residents, or urban dwellers of all age groups.

[DOI: 10.18502/jchr.v14i24.19606]

Table 1. Review characteristics

Publication	Methods	Country	Instruments	Participants	Design guidelines	Outcome
(Warner et al., 2024)	Literature review	Australia	Library Studies	37 studies	Spatial organization, privacy, distance from ground level, pathway, accessibility	The positive effect of the physical design of cohousing on social health
(Zutter and Stoltz, 2023)	Qualitative research study	Canada	Surveys, semi-structured interviews, open-ended questions	121 citizens 75 % females aged over 61	Community gardens and urban agriculture	Improvement of social health through gathering with members in a sheltered urban community garden within the city
(Zhu et al., 2023)	Quantitative research study	USA	Retrospective survey, closed questionnaire	446 residents 67 % females mean age: 70.7 vs. 43.9	Outdoor open spaces, pathway	Positive associations between neighborhood walking in outdoor spaces and social health
(Noe and Stolte, 2023)	qualitative research study	New Zealand	Interviews	21 residents	Urban green spaces, accessibility	Fostering positive social health by providing high-quality natural greenspaces within walking distance of residents' homes
(Lin et al., 2023)	qualitative research study	China	Questionnaire survey	1671 citizens 55.2 % females 42.8% aged 26-50	Type of park, number of parks, distance to urban parks and third places	Positive associations between the design of urban parks and social health
(Lak et al., 2023)	Quantitative research study	Iran	Closed questionnaire	420 citizens (62 % males) older adults	Outdoor open spaces, pathway wayfinding, safety, density, Place attachment, aesthetic, facilities, land use mix	Positive associations between place preference and elders' social health
(Finlay et al., 2023)	literature review	USA	Library studies	168 studies	Green and blue spaces, safety density, mixed land use, pathway, facilities, aesthetics	Positive associations between neighborhood environments and social health
(Carson et al., 2023)	Quantitative research study	USA	Questionnaire	1745 residents 51.7 % males aged 20–66	Pathway	Promotion of neighborhood social health through neighborhood walkability
(Arbuthnott,2013)	Literature review	Canada	Library studies	-	Actual and virtual green spaces	The positive influence of long-term nature exposure on social health

[DOI: 10.18502/jchr.v14i24.19606]

Publication	Methods	Country	Instruments	Participants	Design guidelines	Outcome
(Abdollahi et al., 2023)	literature review	Canada	Library studies	38 studies children aged under 18	transport pathway density accessibility	Positive relationships between the built environment and children's health including social health
(Rahnama and Shaddel, 2022)	mixed method research	Iran	Closed questionnaire and semi-structured interviews	670 Women aged 16 to 64	Safety, aesthetic facilities	Positive correlation between urban green spaces and the social health of women from Mashhad
(Yao and Yun, 2022)	Qualitative research study	China	Semi-structured questionnaire, observing, and in-depth interviewing	500 citizens Youths	Urban parks, natural blue spaces, accessibility, facility	Significant effect of urban green landscapes and waterscapes on youth's social health
(Lenstra et al., 2022)	Quantitative research study	USA	Questionnaire	535 older adults 87.5% female	Meeting spaces	Highlighting the value of having a space where people could meet and mingle with others
(Bhuyan and Yuen, 2022)	Qualitative research study	Singapore	Focus group discussions	80 adults aged 52 and older	Safety, amenities	Overlapping built environment factors with the Singaporean older adults' social health
(Zhang et al., 2021)	Quantitative research study	China	Questionnaire survey and physiological experiment	440 citizens 79% female	Friendly space atmosphere	Positive effects of natural environment on the social health of users in the community park
(Sturge et al., 2021)	Mixed method research	Netherlands	Questionnaire and in-depth interviews	7 older adults	Third places	Positive relationships between third places and social health in occasional activity spaces
(Reed and Bohr, 2021)	Quantitative research study	England UK	Mailed surveys	98 residents 69/38% female	Access to available transportation	The positive effect of the local built environment and transportation on social well-being
(Colenberg et al., 2021)	Literature review	Netherlands	Library studies	50 studies	Layout	Positive relationships between social well-being and small shared rooms
(Veitch et al., 2020)	Qualitative research study	Australia	Semi-structured interviews	30 Older adults 50% female aged 65 and older	Organized events, café, aesthetic, facilities	The positive influence of parks that are attractive, relaxing, and peaceful on the social health of older adults
(Rice and Drane, 2020)	Literature review	England UK	Library studies	105 studies	Green and blue spaces	Positive relationships between green and blue spaces with social health
(Lane et al., 2020)	Qualitative research study	Singapore	Survey	981 residents 53% female aged 55 and older	Third places	Positive of third places within neighborhood environments in supporting the social health elderly

[DOI: 10.18502/jchr.v14i24.19606]

Publication	Methods	Country	Instruments	Participants	Design guidelines	Outcome
(Colenberg et al., 2020)	Qualitative research study	Netherlands	Interviews (focus groups)	182 employees	Third places, proximity, territoriality, personalization, privacy, noise and crowding	Effective role of social needs, social behaviors, and design components of the work environment in promoting employees' social health
(Rahimi Fard and Zamani, 2019)	quantitative research study	Iran	Questionnaire	1671 citizens	Third place, security, density Meeting spaces amount of vegetation	Effective role of urban design on the social health of residents in the neighborhood
(Zhang et al., 2019)	quantitative research study	China	Questionnaire survey	1029 adults 50.15% male 61.32% aged 19-44	Natural green and blue spaces, security and safety, facilities, place attachment	Significant variations in health outcomes by neighborhoods, influenced by personal attributes and environment
(Weimann and Oni, 2019)	Literature review	Africa	library studies	18 studies	Noise, safety	Improvement across social health through housing
(Shanahan et al., 2019)	Qualitative research study	New Zealand	Questionnaires	19 experts	Natural green spaces, parks, and gardens, indoor plants, walking or bike paths, third places, outdoor gym equipment, outdoor exercise groups	Interventions on people's social health by the environment in which people live, work, learn, and recreate
(Mygind et al., 2019)	Literature review	Denmark	Library studies	133 studies Adults and children	Urban green space	Enhancement of social health through urban green space
(Kim and Yoo, 2019)	literature review	Korea	Library Studies	27 studies	Green and open spaces, accessibility, safety, aesthetic, facility, layout	Positive relationship between the environment and social health
(Hall and Andrews, 2019)	Literature review	Australia	Library studies	11 studies	Green space, third places, accessibility, safety, density, facilities	Significant role in the way a neighborhood is planned and designed to promote social health
(Bris and Bendito, 2019)	Mixed method research	Spain	Case studies	250 cases	Noise, facilities	Promotion of vulnerable groups' social health through the design of Japanese temporary housing
(Anthun et al., 2019)	Mixed method research	Norway	Library studies, questionnaire open-ended surveys, and structured interviews	n = 3,061 Mostly adults over 18	Third places, location, and availability of green spaces	Positive benefit of green spaces on social health
(Alidoust et al., 2019)	qualitative research study	Australia	Interviews	54 older people 61% female	Third places, green space, accessibility, noise, safety	Positive impacts of the urban environment on social health

[DOI: 10.18502/jchr.v14i24.19606]

Publication	Methods	Country	Instruments	Participants	Design guidelines	Outcome
(Mouratidis,2018)	Mixed method research	Norway	Questionnaire survey and 10 in-depth interviews	1389 residents & neighborhoods 53.40% female	Third places, accessibility, density, mixed land uses	Influence of compact-city residents on the social network of close relationships, and stronger social support
(Zhang et al., 2017)	Literature review	Denmark	Library studies	27 studies	Accessibility and use of green and nature, outdoor open space, pathway	Impact of nature-related activities on social health
(Cox et al., 2017)	Quantitative research study	England	Questionnaire	1000 respondents	Nature	Opportunities provided by green space for more social ties, leading to increased social cohesion
(Finlay et al., 2015)	Qualitative research study	USA	Interviews	161 participants aged 65–86	Green and blue spaces	Impact of nature and therapeutic landscapes on social health of older adults
(Alidoust and Bosman, 2015)	Qualitative research study	Australia	Face-to-face semi-structured interviews	19 elderly residents aged 65 and over	Third places, walkability, safety, density, accessibility, and places for social interaction, green spaces	The important role of neighborhood design on the social life of the elderly
(Rafi Far and Shukri, 2014)	Qualitative research study	Iran	semi-structured interviews	25 residents	Small social spaces, furniture, artificial or natural greenery	Residents' agreement with the creation of small social spaces in the building to increase interactions between the neighborhoods
(Kemperman and Timmermans, 2014)	quantitative research study	Netherlands	questionnaire	1501 people 59.1% female aged 60	Park, grass, trees	Influence of green spaces on social contact and social support among neighbors
(Alidoust et al., 2014)	Literature review	Australia	Library studies	38 studies elderly	Third space, green space, noise, accessibility, safety	Impact of urban environment on social health
(Lee et al., 2013)	Qualitative research study	Korea	Content analysis	120 caregivers	Spatial planning, furniture arrangement/outside view	The effect of spatial planning on social health
(Dinnie et al., 2013)	Qualitative research study	Scotland UK	Face-to-face, semi-structured interviews	10 participants 60% females aged 19-65	Urban green spaces	The positive influence of green space on social health
(Lee et al., 2010)	Mixed method research	Korea	Library studies and questionnaire	58% female	Spatial planning furniture arrangement/outside view	Residents' lobbies and shared open spaces supporting social health
(Irvine and Warber, 2002)	Literature review	USA	Library studies	-	Natural green spaces	Presence of nature enhances social health

[DOI: 10.18502/jchr.v14i24.19606]

Design variables and social health outcomes

Environmental design elements investigated in the reviewed literature were categorized into exterior and interior domains:

Exterior design: Frequently cited variables included access to green and blue spaces, walkability and pathways, third places, safety and security, aesthetics, mixed land use, density, and accessibility.

Interior design: Though less represented, studies identified the importance of layout, privacy, personalization, proximity, and communal meeting areas such as lobbies, libraries, and office social spaces.

The most commonly reported social health outcomes across studies were:

- Social interaction
- Social cohesion
- Social trust
- Social support
- Sense of belonging
- Social network expansion

Many studies reported statistically significant associations between specific design attributes—particularly green spaces, walkability, and third places—and improved social health outcomes such as reduced isolation, increased neighborhood trust, and enhanced communal participation. The analysis revealed that green spaces were the dominant design element referenced across studies, followed by amenities, pedestrian infrastructure, and perceived safety, highlighting a consistent emphasis on nature, usability, and accessibility in promoting social health.

Thematic synthesis

Recurring themes across the literature included:

- The importance of proximity to and accessibility of public and green spaces in fostering social connectedness.
- The role of walkable environments and safe pedestrian infrastructure in promoting casual social interactions.
- The value of "third places" (e.g., cafes, community centers, libraries) in enhancing social capital and inclusivity.
- The limited but growing recognition of interior spaces—especially in residential, institutional, and workplace settings—as significant arenas for social health promotion.

Third places

The concept of "third places," originally introduced by sociologist Ray Oldenburg, refers to informal public spaces such as cafés, libraries, parks, or community centers that serve as neutral grounds for social interaction. Unlike the "first place" (3) and "second place" (work), third places play a vital role in fostering community engagement, social cohesion, and a sense of belonging in urban environments (4). Third places within neighborhoods typically function as accessible social venues and have been shown in multiple studies to significantly support various aspects of social well-being (10). Researchers have broadly categorized third places into four types: natural and virtual green environments, natural blue environments, constructed outdoor spaces, and indoor built spaces. Notably, the benefits of third places extend beyond active use; simply knowing such spaces are available can improve individuals' perceived quality of life and community belonging.

Natural and virtual green spaces

Empirical studies highlight the multifaceted benefits of green spaces, ranging from small-scale elements like potted plants and green walls to large urban parks and forests, for social health. These spaces enable both visual and physical contact with nature, thereby facilitating social interaction and reinforcing communal ties (7). Community gardens are a salient example, fostering informal socialization and mutual support. Urban parks also serve as dynamic venues for walking and social encounters, further enriching social activity. Also, urban green spaces such as parks and gardens serve primarily as backgrounds for walking, and meeting new people and are used extensively for social activities (5, 11). According to Zhang et al. (2019), both the objective presence and subjective perception of neighborhood green space significantly influence health outcomes. Design factors such as park proximity, coverage ratio, and

[DOI: 10.18502/jchr.v14i24.19606]

spatial distribution play a crucial role. However, excessive green areas may hinder spatial cohesion and limit interaction. Overall, the impact of green spaces hinges on both their availability and their qualitative features. Participants often emphasized the importance of shared presence in these areas, and studies report that health benefits often stem from these shared experiences (12). Furthermore, the type and quantity of parks, their distance and proximity, as well as the coverage ratio and percentage of green space, were also found to be positively associated with social health (13). Nevertheless, an overabundance of green space in urban areas can disrupt spatial connectivity and would hurt social health (14). Overall, the factors mentioned above can be classified into two main groups including quantity and quality of green spaces. For most of the participants in this study, the presence of other people was an important part and a major use of their greenspace experience, and hence any health benefits derived from engagement (15, 16). Similarly, the results of studies indicate that the main reason for spending time in open green spaces is to maintain healthy behaviors. Shanahan et al. (2019) also affirm that visual access to greenery, even without physical presence, enhances social health. This finding extends to artificial greenery as well, reinforcing its role in supporting social well-being (17).

Natural blue spaces

Seven key studies examined the link between social health and natural blue spaces such as rivers, lakes, and coastal areas. The ability to access or view water bodies is positively associated with increased social engagement and community connection. For instance, Finlay et al. (2015) found that access to blue and green spaces enriched older adults' well-being by fostering interaction with peers and family (18). Similarly, Yao and Yun (2022) observed these effects among youth populations (11). Zhang et al. (2019) further correlated water quality perceptions with enhanced social health outcomes (12). Another study by Zhang et al. (2017) emphasized that even among people with mobility impairments, blue and green spaces facilitate contact and strengthen social bonds (16).

Man-made exterior spaces

Built environments such as plazas, streets, and playgrounds are frequently recognized as critical settings for everyday social health. These spaces often serve as neighborhood hubs that encourage cohesion and support (19, 20). For example, Zhu et al. (2023) emphasized how walkable outdoor areas promote stronger social ties (21). Activities like skiing and group exercises further demonstrate how outdoor recreation contributes to social well-being. Overall, the design of outdoor public spaces plays a vital role in enabling social interactions and promoting both physical and psychological health (17).

Man-made interior spaces

Indoor environments such as residential lobbies, corridors, cafes, and libraries (22, 23), also function as effective third places, especially for individuals with mobility limitations or cognitive impairments. These spaces allow for unplanned social encounters and help foster community cohesion. Studies reveal that for vulnerable populations, interior social spaces play a critical role in sustaining interpersonal relationships and reducing isolation (24). These venues support diverse activities, ranging from socializing to recreational pursuits—that collectively enhance social health.

Accessibility

Accessibility is a fundamental determinant of social participation. Physical or infrastructural barriers can deter individuals from engaging with their communities, thereby compromising their social health. While mobility refers to the actual movement of people, accessibility encompasses the ease of reaching essential places and services (25-27). Research has shown that neighborhoods with easily accessible third places tend to report higher levels of community engagement and well-being (11). The spatial visibility, central location, and convenience of these environments are key factors (17, 19). Studies found that individuals who had to travel longer distances to reach parks or communal areas reported lower levels of interaction (28, 29). Conversely, proximity to green spaces and effective

[DOI: 10.18502/jchr.v14i24.19606]

transport infrastructure, particularly for older adults, enhances opportunities for socialization (30, 31). Areas lacking in public transit and pedestrian-friendly design are often associated with diminished social, mental, and physical health (14). Therefore, positive associations between public transportation facilities and social health were reported.

Pathways and walkability

The presence of pedestrian pathways and walkable infrastructure significantly contributes to social health. Walkable routes support a wide range of social functions, from commuting to leisure which provide frequent opportunities for social engagement (6, 21, 32). People often report interacting with neighbors and friends while walking, reinforcing the link between walkability and community cohesion (33). In many cases, walking serves as the primary means of accessing green and blue spaces (34). Social zones connected via pedestrian pathways tend to exhibit higher levels of interaction and a more vibrant community life (35, 36).

Wayfinding and spatial friendliness

Wayfinding, the ability to navigate an environment has been positively correlated with social health. Well-designed, intuitive spaces reduce stress and encourage users to explore and interact. In parallel, environments perceived as welcoming or "friendly" enhance psychological comfort and social participation (20, 34).

Noise

Although less frequently addressed, noise pollution has a notable effect on social engagement, particularly among the elderly. Increased environmental noise can inhibit communication, especially for individuals with hearing impairments, thereby reducing social participation and overall quality of life (37).

Security and safety

Perceptions of safety strongly influence social behavior, and insecure environments can discourage outdoor activity and limit interactions (5, 35, 38). Deteriorated or poorly maintained buildings often lead to reduced trust and increased isolation. In contrast, safe and well-kept spaces encourage frequent use and enhance social opportunities (39). Studies emphasize that safety in green spaces and public environments significantly supports social contact and a sense of belonging (28)

Density

The relationship between urban density and social health is complex. Moderate density is often associated with increased opportunities for interaction, while extremely high or low density may hinder social engagement (20). Some research suggests that high-density neighborhoods foster social contact, whereas others indicate a decline in perceived network strength (36). Optimal planning for compact urban areas can promote walkability and social networks if balanced with considerations for privacy and comfort.

Mixed land use

Integrating various functions, residential, commercial, and recreational within a neighborhood can enhance opportunities for social interaction (4, 5). While some studies report weak associations between mixed land use and cohesion, others highlight its potential in fostering broader social networks. The effectiveness of mixed-use design appears to depend on the degree of usage and engagement with local amenities (28).

Place attachment

Place attachment, the emotional bond between individuals and their environment has been shown to significantly influence feelings of belonging and community engagement. This relationship reinforces the importance of spatial familiarity and identity in supporting social well-being.

Visual aesthetics

Aesthetically pleasing public spaces often encourage greater social use. Elements such as public art, colorful vegetation, and clean environments are positively associated with social participation (5, 12, 20, 32). These features not only enhance the visual experience but also contribute to a welcoming atmosphere that promotes interaction (14).

Facilities

Provision of public amenities such as seating,

[DOI: 10.18502/jchr.v14i24.19606]

shade, sports equipment, and restrooms plays a crucial role in fostering social activity (40). High-quality facilities make spaces more usable and inviting, thereby increasing community engagement, trust, and reciprocity (6,14). The overall quality of these amenities often has a stronger influence on social cohesion than their quantity or distribution.

Territoriality, personalization, privacy, proximity

In office environments and communal buildings, the ability to personalize spaces, maintain privacy, and ensure spatial proximity has been linked to better social relationships and health outcomes (41).

Layout

The physical layout of buildings—encompassing openness, connectivity, and designated social areas—affects how individuals engage with one another. For example, the inclusion of shared lobbies and common rooms in apartment complexes has been favorably received for fostering social interaction. Well-planned layouts can promote a sense of community while supporting both private and public engagement (9, 22). In sum, these findings underscore the profound influence of environmental design on diverse dimensions of social health. Summary of design factors related to social health based on the names of authors who worked in this field and the number of publications referring to design factors are shown respectively in Table 2.

Table 2. Summary of design guidelines related to social health

Design guidelines	Publication
Natural and virtual green spaces	(Zutter and Stoltz, 2023), (Noe and Stolte, 2023), (Lin et al., 2023), (Finlay et al., 2023), (Yao and Yun, 2022), (Rice and Drane, 2020), (Rahimi Fard and Zamani, 2019), (Zhang et al., 2019), (Shanahan et al., 2019), (Mygind et al., 2019), (Kim and Yoo, 2019), (Hall and Andrews, 2019), (Anthun et al., 2019), (Alidoust et al., 2019), (Zhang et al., 2017), (Cox et al., 2017), (Finlay et al., 2015), (Alidoust and Bosman, 2015), (Rafi Far and Shukri, 2014), (Kemperman and Timmermans, 2014), Alidoust et al., 2014), (Lee et al., 2013), (Dinnie et al., 2013), (Lee et al., 2010), (Irvine and Warber, 2002)
Natural blue spaces	(Finlay et al., 2023), (Yao and Yun, 2022), (Rice and Drane, 2020), (Zhang et al., 2019), (Finlay et al., 2015)
Man-made exterior spaces	(Zhu et al., 2023), (Lak et al., 2023), (Lane et al., 2020),(Rahimi Fard and Zamani, 2019), (Shanahan et al., 2019), (Hall and Andrews, 2019), (Anthun et al., 2019), (Alidoust et al., 2019), (Zhang et al., 2017), (Alidoust and Bosman, 2015), (Rafi Far and Shukri, 2014), (Alidoust et al., 2014)
Man-made interior spaces	(Lenstra et al., 2022), (Sturge et al., 2021), (Colenberg et al., 2020), (Veitch et al., 2020)
Accessibility	(Warner et al., 2024), (Noe and Stolte, 2023), (Abdollahi et al., 2023), (Yao and Yun, 2022), (Reed and Bohr, 2021), (Kim and Yoo, 2019), (Hall and Andrews, 2019), (Alidoust et al., 2019), (Mouratidis,2018), (Zhang et al., 2017), (Alidoust and Bosman, 2015), (Alidoust et al., 2014)
Pathway	(Warner et al., 2024), (Zhu et al., 2023), (Lak et al., 2023), (Finlay et al., 2023), (Carson et al., 2023), (Abdollahi et al., 2023), (Shanahan et al., 2019), (Zhang et al., 2017), (Alidoust and Bosman, 2015)
Way Finding	(Lak et al., 2023)
Noise	(Colenberg et al., 2020), (Weimann and Oni, 2019), (Bris and Bendito, 2019), (Alidoust et al., 2019), (Alidoust et al., 2014)
Security & safety	(Lak et al., 2023), (Finlay et al., 2023), (Rahnama and Shaddel, 2022), (Bhuyan and Yuen, 2022), (Rahimi Fard and Zamani, 2019), (Zhang et al., 2019) (Weimann and Oni, 2019), (Kim and Yoo, 2019), (Hall and Andrews, 2019), (Alidoust et al., 2019), (Alidoust and Bosman, 2015), (Alidoust et al., 2014)
Density	(Lak et al., 2023), (Finlay et al., 2023), (Abdollahi et al., 2023), (Rahimi Fard and Zamani, 2019), (Hall and Andrews, 2019), (Mouratidis,2018), (Alidoust and Bosman, 2015)
Friendly Spaces	(Zhang et al., 2021)
Layout	(Colenberg et al., 2021), (Kim and Yoo, 2019), (Lee et al., 2013), (Lee et al., 2010)
Visual Aesthetics	(Lak et al., 2023), (Finlay et al., 2023),(Rahnama and Shaddel, 2022), (Veitch et al., 2020), (Kim and Yoo, 2019)
Privacy, Proximit, etc	(Colenberg et al., 2020)
Facilities	(Lak et al., 2023), (Finlay et al., 2023), (Rahnama and Shaddel, 2022), (Yao and Yun, 2022), (Bhuyan and Yuen, 2022), (Veitch et al., 2020), (Zhang et al., 2019), (Shanahan et al., 2019), (Kim and Yoo, 2019), (Hall and Andrews, 2019), (Bris and Bendito, 2019), (Rafi Far and Shukri, 2014), (Lee et al., 2013), (Lee et al., 2010)
Place attachment	(Lak et al., 2023), (Zhang et al., 2019)
Mixed land use	(Lak et al., 2023), (Finlay et al., 2023), (Mouratidis,2018)

[DOI: 10.18502/jchr.v14i24.19606]

Discussion

This systematic review synthesizes global research from 2002 to 2024 on the relationship between environmental design and social health. The findings affirm that architectural and urban planning elements, particularly access to green and blue spaces, walkability, aesthetics, safety, spatial configuration, and third places are consistently associated with enhanced social interaction, trust, cohesion, and sense of belonging. These results support existing literature emphasizing the psychosocial benefits of nature, accessible amenities, and inclusive public spaces. For example, studies by Finlay et al. (2023) and Cox et al. (2017) highlighted the social advantages of green infrastructure and third places for older adults and community members. The recurring prominence of green spaces and walkable environments suggests that everyday encounters facilitated by design can play a significant role in combating social isolation and fostering communal ties. Furthermore, aesthetic and sensory elements-such as visual appeal, noise control, and lighting-may serve as subtle but meaningful contributors to perceived comfort and openness in social environments. Importantly, this review reveals a significant underrepresentation of interior environments such as offices, healthcare settings, and residential buildings, as contexts for social health. While a few studies explored communal areas like lobbies, shared kitchens, or workplace lounges, the majority of literature focused on urban exteriors. This indicates a critical gap in understanding how internal spatial arrangements influence social connectedness, especially in settings where people spend most of their daily lives. Future research should explore how layout, personalization, privacy, and visibility in interior spaces affect social outcomes. Another major observation is the dominance of high-income, Western countries in the reviewed literature. While countries such as Iran, China, and Singapore were represented, low-and middle-income regions remain largely absent. This imbalance limits the generalizability of findings, especially given cultural variations in spatial perception, community norms, and urban structure. Culturally adaptive research frameworks and participatory approaches are essential for developing inclusive design strategies in diverse global contexts. Methodologically, most included studies were qualitative or literature-based. Greater use of mixed methods, spatial analytics, and longitudinal data could improve causal inference and support evidence-based design interventions. Overall, the review reinforces that physical environments act as agents shaping social well-being, not merely as passive settings. These findings also carry practical implications for policy-makers and urban planners, particularly in low-and middle-income countries. In such contexts, prioritizing affordable and scalable interventions, such as access to green areas, safe pedestrian routes, and multipurpose public spaces—can significantly enhance social cohesion. Moreover, engaging local communities in participatory design processes can ensure that interventions are culturally relevant and tailored to specific spatial conditions and social dynamics, thereby enhancing the inclusivity and long-term impact of design interventions.

Conclusion

The evidence synthesized in this review demonstrates that environmental and architectural design substantially influences social health across diverse settings. The synthesis of 44 studies from 14 countries demonstrates that key design features such as green and blue spaces, walkability, safety, aesthetics, and third places-consistently contribute to improved social interaction, trust, cohesion, and a sense of belonging. For practitioners and urban policymakers, particularly in low- and middle-income regions, these findings emphasize the value of prioritizing socially responsive design. Even low-cost interventions such as shaded seating, safe pedestrian networks, and accessible green areas can significantly enhance community engagement and collective well-being. From a theoretical standpoint, the review highlights the need for a more coherent and interdisciplinary framework for understanding social health in the built environment. Current literature remains fragmented, with limited integration of cultural, psychological, and spatial dimensions. Moreover,

[DOI: 10.18502/jchr.v14i24.19606]

research gaps persist in underrepresented geographies and interior environments, such as residential and healthcare settings. Future research should adopt mixed-method and longitudinal designs, and promote participatory approaches to capture contextual nuances. As societies face increasing urbanization and social disconnection, embedding social health principles into planning and design is not merely beneficial—it is essential. Built environments should be recognized as active agents in shaping human connection, inclusion, and long-term resilience.

Acknowledgments

This article is derived from the first author's doctoral dissertation entitled "The Impact of Spatial Zoning on Employees' Social Health in Office Spaces (Case Studies: Yazd Shahid Sadoughi University of Medical Sciences and Yazd University)", conducted under the supervision of the second and third authors and with academic consultation from the fourth author at the Faculty of Architecture and Urban Planning, Islamic Azad University, Isfahan (Khorasgan Branch).

Conflict of Interest

The authors declared no conflicts of interest.

Ethical considerations

This systematic review was conducted using data from previously published studies. All included studies adhered to the ethical standards of their respective institutions. No new data were collected from human participants in this review.

Code of ethics

IR.SSU.REC.1403.165

Funding

No external funding was received for this study.

Authors' Contributions

M.BF, engaged in conceptualization, literature review, data analysis, and drafting; S.RP, was involved in concept development, supervision, critical review, and editing; SM.T, did data synthesis, methodological support, and review; SA.A, conducted supervision, validation, and editing, and did the final manuscript approval.

Open access policy

JCHR does not charge readers and their institutions for access to its papers. Full text download of all new and archived papers is free of charge.

References

1. World Health Organization. Promoting mental health: concepts, emerging evidence, practice: summary report/a report from the World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne, in Promoting mental health: concepts, emerging evidence, practice: summary report/a report from the World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne; 2004.
2. Zahedi Asl M, Pilevar A. A meta-analysis of social health studies. Welfare planning and social development. 2014; 5(19): 71-107 [Persian].
3. Sajjadi H, Sadralsadat C. Social health indicators. Journal of political-economic information. 2004; 19(304): 235-44. [Persian].
4. Mouratidis K. Built environment and social well-being: How does urban form affect social life and personal relationships?. Cities. 2018; 74: 7-20.
5. Finlay J, Westrick AC, Guzman V, Meltzer G. Neighborhood built environments and health in later life: A literature review. Journal of aging and health. 2025; 37(1-2): 3-17.
6. Alidoust S, Bosman C, Holden G. Planning for healthy ageing: How the use of third places contributes to the social health of older populations. Ageing & society. 2019; 39(7): 1459-84.
7. Cox DT, Shanahan DF, Hudson HL, et al. Doses of nearby nature simultaneously associated with multiple health benefits. International journal of environmental research and public health. 2017; 14(2): 172.
8. Weimann A, Oni T. A systematised review of the health impact of urban informal settlements and implications for

[DOI: 10.18502/jchr.v14i24.19606]

upgrading interventions in South Africa, a rapidly urbanising middle-income country. International journal of environmental research and public health. 2019; 16(19): 3608.
9. Colenberg S, Jylhä T, Arkesteijn M. The relationship between interior office space and employee health and well-being–a literature review. Building Research & Information. 2021; 49(3): 352-66.
10. Lane AP, Hou Y, Wong CH, et al. Cross-sectional associations of neighborhood third places with social health among community-dwelling older adults. Social science & medicine. 2020; 258: 113057.
11. Yao W, Yun J, Zhang Y, et al. Usage behavior and health benefit perception of youth in urban parks: A case study from Qingdao, China. Frontiers in Public Health. 2022; 10: 923671.
12. Zhang L, Zhou S, Kwan MP. A comparative analysis of the impacts of objective versus subjective neighborhood environment on physical, mental, and social health. Health & place. 2019; 59: 102170.
13. Lin D, Sun Y, Yang Y, et al. Urban park use and self-reported physical, mental, and social health during the COVID-19 pandemic: An on-site survey in Beijing, China. Urban Forestry & Urban Greening. 2023; 79: 127804.
14. Kim DH, Yoo S. How does the built environment in compact metropolitan cities affect health? A systematic review of Korean studies. International journal of environmental research and public health. 2019; 16(16): 2921.
15. Dinnie E, Brown KM, Morris S. Reprint of "Community, cooperation and conflict: Negotiating the social well-being benefits of urban greenspace experiences". Landscape and urban planning. 2013; 118: 103-11.
16. Zhang G, Poulsen DV, Lygum VL, et al. Health-promoting nature access for people with mobility impairments: A systematic review. International journal of environmental research and public health. 2017; 14(7): 703.
17. Shanahan DF, Astell–Burt T, Barber EA, et al. Nature–based interventions for improving health and wellbeing: The purpose, the people and the outcomes. Sports. 2019; 7(6): 141.
18. Finlay J, Franke T, McKay H, et al. Therapeutic landscapes and wellbeing in later life: Impacts of blue and green spaces for older adults. Health & place. 2015; 34: 97-106.
19. Anthun KS, Maass RE, Hope S, et al. Addressing inequity: evaluation of an intervention to improve accessibility and quality of a green space. International journal of environmental research and public health. 2019; 16(24): 5015.
20. Lak A, Khodakarim S, Myint PK, et al. The influencing factors of elder-friendly public open spaces promoting older adults' health in deprived urban neighborhoods: Partial Least Square Structural Equation Modeling approach. Frontiers in public health. 2023; 11: 1-10.
21. Zhu X, Yu CY, Lee C, et al. From walkable communities to active lifestyles: Exploring causal pathways through a case study in Austin, Texas. Journal of Planning Education and Research. 2023; 43(3): 538-49.
22. Lee Y, Kim K, Lee S. Study on building plan for enhancing the social health of public apartments. Building and environment. 2010; 45(7): 1551-64.
23. Lenstra N, Oguz F, D'arpa C, et al. Exercising at the library: Small and rural public libraries in the lives of older adults. The Library Quarterly. 2022; 92(1): 5-23.
24. Sturge J, Klaassens M, Lager D, et al. Using the concept of activity space to understand the social health of older adults living with memory problems and dementia at home. Social Science & Medicine. 2021; 288: 113208.
25. Litman T. Measuring transportation, traffic, mobility and accessibility. 2011; 1-15.
26. Schaie KW. Aging independently: Living arrangements and mobility. Springer Publishing Company; 2003.
27. Alidoust S, Bosman C. Planning for an ageing population: Links between social health, neighbourhood environment and the elderly. Australian planner. 2015; 52(3): 177-86.
28. Hall C, Andrews F. Designing high-density neighbourhoods to promote social health in Australia; 2019.
29. Noe EE, Stolte O. Dwelling in the city: A qualitative exploration of the human-nature relationship in three types of urban greenspace. Landscape and Urban Planning. 2023; 230: 104633.
30. Reed S, Bohr J. The influence of local built environments on social wellbeing: A community's experience with social isolation, social loneliness, and social belonging. International Journal of Community Well-Being. 2021; 4(3): 393-413.
31. Banister D, Bowling A. Quality of life for the elderly: the transport dimension. Transport policy. 2004; 11(2): 105-15.
32. Veitch J, Flowers E, Ball K, et al. Designing parks for older adults: A qualitative study using walk-along interviews. Urban Forestry & Urban Greening. 2020; 54: 126768.
33. Carson JR, Conway TL, Perez LG, et al. Neighborhood walkability, neighborhood social health, and self-selection

[DOI: 10.18502/jchr.v14i24.19606]

among US adults. Health & place. 2023; 82: 103036.
34. Zhang L, Liu S, Liu S. Mechanisms underlying the effects of landscape features of urban community parks on health-related feelings of users. International journal of environmental research and public health. 2021; 18(15): 7888.
35. Raman S. Designing a liveable compact city: Physical forms of city and social life in urban neighbourhoods. Built environment. 2010; 36(1): 63-80.
36. Abdollahi S, Waygood EO, Aliyas Z, et al. An overview of how the built environment relates to children's health. Current environmental health reports. 2023; 10(3): 264-77.
37. Alidoust S, Holden G, Bosman C. Urban environment and social health of the elderly: A critical discussion on physical, social and policy environments. Athens journal of health. 2014; 1(3): 169-80.
38. Bhuyan MR, Yuen B. Older adults' views of the connections between neighbourhood built environment and health in Singapore. Journal of Population Ageing. 2022; 15(1): 279-99.
39. Kemperman A, Timmermans H. Green spaces in the direct living environment and social contacts of the aging population. Landscape and urban planning. 2014; 129: 44-54.
40. Rahnama MR, Shaddel L. Assessment of Spatial Relationship between Social Health in Women of Mashhad and Urban Green Spaces: What Factors Affect Their Presence in Urban Green spaces?. Human Geography Research. 2022; 54(1): 45-65. [Persian].
41. Colenberg S, Appel-Meulenbroek R, Romero Herrera N, et al. Conceptualizing social well-being in activity-based offices. Journal of Managerial Psychology. 2021; 36(4):327-43.
42. Arbuthnott KD. Nature exposure and social health: Prosocial behavior, social cohesion, and effect pathways. Journal of Environmental Psychology. 2023; 90: 102109.
43. Bris P, Bendito F. Impact of Japanese post-disaster temporary housing areas'(THAs) design on mental and social health. International journal of environmental research and public health. 2019; 16(23): 4757.
44. Dreyer BC, Coulombe S, Whitney S, et al. Beyond exposure to outdoor nature: exploration of the benefits of a green building's indoor environment on wellbeing. Frontiers in psychology. 2018; 9: 1583.
45. Huang W, Lin G. The relationship between urban green space and social health of individuals: A scoping review. Urban forestry & urban greening. 2023; 85: 127969.
46. Irvine KN, Warber SL. Greening healthcare: Practicing as if the natural environment really mattered. Alternative Therapies in Health and Medicine. 2002; 8(5): 76.
47. Lee Y, Hwang J, Lim S, et al. Identifying characteristics of design guidelines for elderly care environments from the holistic health perspective. Indoor and built environment. 2013; 22(1):242-59.
48. Li H, Luo W, Hou Y, et al. Factors affecting perceived health benefits and use behaviors in urban green spaces during the COVID-19 pandemic in Southern China megacities. Frontiers in public health. 2021; 9: 759444.
49. Liu W, Zheng S, Hu X, et al. Effects of spatial scale on the built environments of community life circles providing health functions and services. Building and Environment. 2022; 223: 109492.
50. Ma L, Shi W, Wu L. Mediating roles of perceptions and visiting behavior in the relationship between urban greenspace accessibility and personal health: Evidence from Lanzhou, China. Applied Geography. 2023; 159: 103085.
51. Rafi Far j, Shukri S. Sustainable architecture and social health (research case: Chaharsed Dazat neighborhood in Tehran). Sociological studies. 2014; 21(2): 31-42 [Persian].
52. Rahimi Fard F, Zamani B. Comparative comparison of the role of physical-environmental factors on the level of social health in two traditional and new neighborhoods (case study: Dardasht and Molla Sadrai neighborhoods of Isfahan). Urban Studies Quarterly. 2019; 8(29): 99-110 [Persian].
53. Rice L, Drane M. Indicators of healthy architecture—a systematic literature review. Journal of urban health. 2020; 97(6): 899-911.
54. Stuckey HL, Nobel J. The connection between art, healing, and public health: A review of current literature. American journal of public health. 2010; 100(2): 254-63.
55. Warner E, Sutton E, Andrews F. Cohousing as a model for social health: A scoping review. Cities & Health. 2024; 8(1): 107-19.
56. Zutter C, Stoltz A. Community gardens and urban agriculture: Healthy environment/healthy citizens. International journal of mental health nursing. 2023; 32(6): 1452-61.

[DOI: 10.18502/jchr.v14i24.19606]