

Spatial Organization of Privacy in Qajar Residential Architecture of Sanandaj: Analyzing the Influence of Kurdish Culture and Contemporary Regeneration Patterns

Mohammadmehdi Soroush*¹, Mahereh Karimi²

1-Associate professor, Department of Architecture, Ha.C., Islamic Azad University, Hamedan, Iran

2-Phd student, Department of Architecture, Ha.C., Islamic Azad University, Hamedan, Iran

*soroush@iau.ac.ir

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Detailed abstract

Introduction

The erosion of semantic depth in contemporary built environments has intensified concern about how architecture can move beyond functional accommodation to create places that are cognitively legible, emotionally resonant, and culturally meaningful. This concern is especially important in mosque architecture, where space is expected not only to support worship but also to embody sacred meanings, collective memory, cultural continuity, and social belonging. In Hamedan, one of Iran's oldest cities, traditional mosques have historically served as religious, cultural, and civic settings. In recent decades, however, uncritical imitation of historical forms and neglect of their underlying spiritual meanings have weakened the experiential character of some newly built mosques. The resulting gap between outward form and lived meaning raises a central question: through which architectural signs and perceptual qualities does a mosque become a meaningful place for its users?

This study addresses the question through semiotics and environmental psychology. Sense of place is understood as the ensemble of meanings, emotions, memories, symbols, and behavioral associations through which space becomes a distinctive place. It is not reducible to visual preference; it is a cognitive-affective relationship connecting people to physical settings, activities, cultural values, and social conventions. Semiotics complements this view by explaining how perceptible architectural signifiers acquire meaning through interpretation within religious, cultural, social, and personal contexts.

The conceptual framework classifies meaning-making signs into three domains. Formal quality includes building configuration - entrance, courtyard, minaret, dome, prayer hall, and mihrab - and architectural space formation through scale, openness, enclosure, and movement hierarchy. Sensory quality concerns materials and their visual, tactile, acoustic, and associative capacities. Associative quality encompasses light, color, water, and vegetation, whose meanings arise from cultural learning, religious belief, repetition, archetypal memory, and perceptual principles. The research asks whether these qualities influence sense of place, which is most influential, and whether age, gender, education, and mosque type correspond to differences in users' experience.

Materials and Methods

A comparative case-study strategy was combined with a cross-sectional survey. Five mosques in Hamedan were selected to represent traditional and innovative or contemporary tendencies: Jame, Sharif al-Molk, Shalabafan, Modarres, and Imam Khomeini mosques. In the article's classification, the first three are traditional examples, whereas Modarres and Imam Khomeini represent innovative examples. This comparison examined how architectural period and expression correspond to users' perception of meaning and place.

Questionnaires were administered to worshippers, producing 200 valid responses, with 40 respondents from each mosque. The instrument operationalized formal quality in two components: building configuration and architectural space formation. Configuration addressed the courtyard, entrance, minaret, dome, mihrab, and prayer hall; space formation covered size, openness and enclosure, and movement hierarchy. Sensory quality was assessed through materiality, and associative quality through light, color, water, and trees. Sense of place was measured through two complementary items: respondents' attachment to the mosque and their unwillingness to replace it with another building.

Reliability was assessed in a 30-questionnaire pilot distributed equally across the cases and again for the complete sample. Cronbach's alpha was 0.853 in the pilot and 0.899 for all responses, indicating high internal consistency. Participants included 116 men (58%) and 84 women (42%). Of the sample, 98 respondents had a high-school diploma or lower (49%), 47 had associate degrees (23.5%), 44 had bachelor's degrees (22%), and 11 had master's degrees or higher (5.5%). Age was examined in four categories from below 30 to 50 and above. Data were analyzed in SPSS using descriptive statistics and nonparametric Spearman correlation tests. Statistical significance was evaluated at 0.05.

Findings

The combined mean score for sense of place was 3.162. Jame Mosque achieved the highest score (3.662), substantially exceeding Sharif al-Molk (3.062), Shalabafan (3.051), Modarres (3.037), and Imam Khomeini (3.000). The latter four were relatively close, whereas Jame Mosque formed a distinctive upper tier. It also recorded the highest mean for attachment to the mosque (3.725) and unwillingness to replace it (3.600).

Across the meaning-making dimensions, overall means were 3.64 for formal building configuration, 3.54 for formal space formation, 3.69 for sensory quality, and 3.70 for associative quality. Associative quality therefore received the highest descriptive evaluation, closely followed by sensory quality, while formal space formation received the lowest. Jame Mosque obtained the strongest sensory score (3.87). Associative ratings were highest in Shalabafan Mosque (3.85) and reached 3.80 in both Modarres and Imam Khomeini mosques. Aggregate differences in meaning-making scores among the cases were modest.

The article reports statistically significant relationships between sense of place and all meaning-making domains. The presented Spearman coefficients were 0.000 for formal building configuration, 0.000 for formal space formation, 0.030 for sensory quality, and 0.014 for associative quality; reported significance levels were 0.000, 0.005, 0.000, and 0.000, respectively. Because the printed coefficients are extremely small, they should not be treated as evidence of strong association. Nevertheless, the

article identifies sensory quality as comparatively more influential and concludes that meaning-making signs collectively contribute to place experience. Significant differences were also reported in relation to gender, age, education, and mosque type, with significance values below 0.05.

Discussion and Conclusion

The findings indicate that a mosque becomes a place not through form alone but through the interaction of spatial organization, multisensory experience, symbolic association, memory, and culturally learned interpretation. Jame Mosque's markedly higher sense-of-place score may relate to its age, historical significance, cultural position in Hamedan, and accumulated collective memories. Its strong sensory rating also suggests that material presence and embodied perception are central to sacred-space experience. Traditional mosques generally appear to offer denser sensory and associative layers, connecting architectural elements with familiar rituals, inherited images, and shared narratives. Contemporary examples may reproduce recognizable mosque elements without generating an equally deep experiential sequence or semantic continuity.

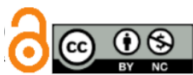
Associative quality achieved the highest descriptive mean, whereas sensory quality was identified by the article as the strongest contributor to sense of place. These observations can coexist: users may evaluate light, color, water, and vegetation as highly meaningful, while material and multisensory qualities relate more closely to attachment. However, the very small reported coefficients limit claims about effect magnitude. The evidence is therefore best interpreted as a pattern of reported statistical relationships, not proof of strong causal influence.

For practice, the results argue against superficial historicism. Contemporary mosque design should translate the operative meanings of tradition rather than merely copy domes, minarets, arches, or ornament. Entrance sequences, enclosure, spatial hierarchy, scale transitions, and progression toward the prayer hall and mihrab should be coordinated with materials, light, culturally meaningful color, water, and vegetation. Together, these elements can form a perceptual narrative supporting ritual, contemplation, and spiritual orientation. Acoustic, tactile, and visual properties of materials deserve particular attention because sensory congruence can strengthen authenticity and emotional engagement. Demographic differences further show that sense of place is not an inherent property of a building independent of users. Meaning emerges through interpretation, and different social experiences may produce different readings of the same signs. Conservation and new design should therefore include user-centered inquiry. The study is limited by its cross-sectional design, self-reported data, five cases in one city, and a two-item measure of sense of place. Association cannot establish causality, and the printed statistical values warrant verification. Future studies should combine surveys with interviews, observation, behavioral mapping, and objective assessment of light, sound, materials, and thermal conditions; comparisons across other cities and intervention studies could test transferability. Overall, formal, sensory, and associative signs provide a productive framework for understanding mosque placemaking as an outcome jointly shaped by physical configuration, embodied perception, cultural meaning, and user characteristics.

Declarations

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Keywords: Sense of place; semiotics; meaning-making signs; sensory quality; formal quality; associative quality; mosque architecture; placemaking; Hamedan.



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