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Perceptual Differences in Age-Friendly City Dimensions Between Older Adults and Urban Managers: Evidence from Kerman, Iran

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Abstract

Background

Population aging and rapid urbanization have increased the importance of assessing age-friendly city indicators in urban planning. However, most studies in Iran have focused mainly on older adults' perspectives, with limited attention to urban managers. This study aimed to compare perceptions of older adults and urban managers regarding age-friendly city dimensions in Kerman, Iran.

Methods

This cross-sectional descriptive-analytical study was conducted in 2025. The study included 300 community-dwelling older adults aged ≥ 60 years and 186 urban managers from 15 organizations involved in aging and urban affairs. Data were collected from older adults through five comprehensive health centers and from managers through relevant organizations. The WHO Age-Friendly Cities Questionnaire (112 items, eight domains) was used. Scores were standardized to a 0–100 scale. Independent-samples t-tests and Cohen's d were used for comparisons and effect size estimation.

Results

Mean scores for all age-friendly domains were below 50 in both groups, indicating an overall unfavorable situation in Kerman. Among older adults, the lowest score was in transportation (40.35 ± 20.61), while among managers, the lowest was in respect and social inclusion (37.08 ± 17.17). Significant differences were observed in four domains: managers rated higher in outdoor spaces and buildings ($p = 0.002$) and transportation ($p = 0.007$), while older adults rated higher in housing ($p = 0.009$) and information and communication ($p < 0.001$). Effect sizes were small to moderate (Cohen's $d = 0.24–0.36$).

Conclusion

Kerman shows an overall low level of age-friendliness. There are notable perceptual differences between older adults and urban managers across several domains. The findings highlight the need for greater inclusion of older adults in urban planning and a more integrated approach to age-friendly city development.

Introduction

Population aging is one of the most significant demographic transformations of the twenty-first century. According to United Nations estimates, the global population aged 60 years and older is increasing at a faster rate than any other age group and is projected to exceed two billion by 2050(1, 2). Iran is also

experiencing a rapid demographic transition, with the proportion of older adults surpassing 10% of the total population according to the 2021 national census(3).

Alongside population aging, urbanization has continued to accelerate worldwide, resulting in a growing concentration of older adults in urban environments(2) .This demographic shift has heightened the need to ensure that urban settings are responsive to the needs and capabilities of aging populations. In Kerman Province alone, more than 250,000 residents are aged 60 years and above (4), underscoring the increasing importance of urban planning strategies that support healthy and active aging. In response to these global trends, the World Health Organization (WHO) introduced the Age-Friendly Cities (AFC) framework in 2007 to promote urban environments that enable older adults to maintain independence, social participation, and well-being. The framework encompasses eight key domains: outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community support and health services (5).

A growing body of research has examined age-friendliness across different Iranian cities, including Tehran (6), Tabriz (7), Kermanshah (8), and Sari (9). However, most of these studies have focused exclusively on the perceptions of older adults. In contrast, urban planning, policy development, and resource allocation related to aging are primarily undertaken by urban managers and policymakers. This divergence in perspectives may create a cognitive gap between the needs and experiences perceived by older adults and the assumptions guiding managerial decision-making, potentially reducing the effectiveness of urban interventions and age-friendly initiatives.

The ecological theory of aging proposed by Lawton and Nahemow (1973) provides a useful theoretical framework for understanding this discrepancy. According to this theory, aging outcomes are shaped by the interaction between an individual's competencies and the environmental demands or pressures they encounter(10). Within this framework, urban managers often evaluate the urban environment through formal indicators, administrative reports, and infrastructural achievements, whereas older adults assess environmental quality based on their daily lived experiences and the extent to which the environment accommodates their physical, social, and functional needs. Consequently, the same urban environment may be perceived quite differently by these two groups. In Kerman, factors such as the hot and arid climate, the spatial distribution of urban services, the condition of pedestrian infrastructure, and access to public transportation may represent important environmental pressures that influence older adults' experiences of the city.

Previous studies have provided evidence supporting the existence of such perceptual disparities. For example, Ilali et al. (2018) reported significant differences between older adults and urban managers in 13 out of 21 age-friendly city indicators in Sari (9). Similarly, Karami et al. (2023) identified significant discrepancies across five of the eight AFC domains in Kermanshah (8). Despite these findings, no study has simultaneously compared the perceptions of older adults and urban managers regarding age-friendliness in Kerman. Furthermore, the study conducted by Farrokhzadian et al. (2025) in Kerman

Province focused solely on older adults' perspectives and did not incorporate the views of urban managers into the analysis (4).

Therefore, the present study was conducted with two primary objectives: (1) to evaluate the status of the eight age-friendly city domains from the perspectives of both older adults and urban managers, and (2) to identify the domains exhibiting the greatest perceptual disparities between these groups. By addressing these objectives, the study seeks to provide evidence that can inform more participatory, responsive, and evidence-based urban policies for age-friendly city development.

Methods

Study Design and Setting

This cross-sectional descriptive-analytical study was conducted in 2025 in Kerman, the capital city of Kerman Province in southeastern Iran. The study aimed to compare the perceptions of two independent groups older adults and urban managers regarding the age-friendliness of the city based on the World Health Organization (WHO) Age-Friendly Cities framework.

Participants and Sampling

Older Adults

The study population consisted of community-dwelling older adults aged 60 years and above residing in Kerman. Data were collected during April and May 2025 by trained members of the research team.

A multistage proportional sampling approach was employed. First, five of the ten comprehensive urban health centers in Kerman were randomly selected. The sample size allocated to each center was determined proportionally according to the number of registered older adults covered by that center. Eligible participants were then randomly selected from the SIB integrated health information system records maintained at each center. Following telephone contact to explain the study objectives and confirm eligibility, data collection was conducted based on participants' preferences and literacy status. Older adults with smartphones who were literate completed the questionnaire electronically via a web-based link, while those without smartphones or with limited literacy completed the questionnaire through face-to-face interviews conducted by trained research team members or community health workers at the health centers. For illiterate participants, the questionnaire items were read aloud by the interviewer and responses were recorded accordingly. Each interview took approximately 20 to 30 minutes to complete.

The inclusion criteria were: age 60 years or older, residence in Kerman for at least one year, ability to respond to the questionnaire, provision of informed consent, and absence of severe reported cognitive impairment. A total of 300 completed questionnaires were included in the final analysis.

Urban Managers

The second study population comprised senior managers, middle-level managers, and responsible experts working in organizations related to aging and urban management in Kerman. A purposive census sampling strategy was employed between July and October 2025 across 15 key organizations.

Organizations were selected based on their direct or indirect involvement in urban planning, service provision, social support, transportation, healthcare, social participation, and quality-of-life initiatives targeting older adults. Following receipt of an official introduction letter from the Vice-Chancellor for Health of Kerman University of Medical Sciences, the lead researcher visited each organization in person to introduce the study and obtain cooperation. Questionnaires were distributed to eligible managers and experts and collected within an agreed timeframe. In organizations with administrative restrictions, a designated liaison officer facilitated distribution and collection. Given the limited number of eligible managers and experts within these organizations, all qualified individuals were invited to participate. In total, 186 participants completed the questionnaire and were included in the analysis.

The participating organizations represented a broad range of administrative, service, and executive sectors associated with urban governance and aging-related affairs. Given the cross-sectional nature of the study and the relative stability of urban conditions during the study period, the interval between data collection phases for the two groups was not expected to have a meaningful impact on the findings.

Data collection instrument

The data collection instrument consisted of two sections. The first section was a demographic characteristics questionnaire designed to gather information on participants' demographic and socioeconomic characteristics, including age, sex, marital status, educational attainment, employment or retirement status, housing ownership status, and monthly income. The second section was the standardized WHO Age-Friendly City Questionnaire, which was used to assess age-friendliness across eight domains: Outdoor Spaces and Buildings (17 items), Transportation (22 items), Housing (6 items), Social Participation (13 items), Respect and Social Inclusion (15 items), Civic Participation and Employment (8 items), Communication and Information (11 items), and Community Support and Health Services (20 items). The questionnaire comprises a total of 112 items, and responses were rated on a five-point Likert scale ranging from 1 ("very poor") to 5 ("very good"), with higher scores indicating a greater perceived level of age-friendliness

The content validity of the Persian version of the questionnaire had previously been established through expert evaluation in aging and public health research, and the validated Persian version was used in the present study(11). Internal consistency reliability was assessed separately for older adults and urban managers using Cronbach's alpha coefficients. Cronbach's alpha values exceeded 0.70 for all domains, indicating satisfactory to excellent internal consistency.

Data Processing and Score Standardization

To facilitate comparisons across domains, raw scores were transformed to a standardized scale ranging from 0 to 100 using a linear transformation based on the theoretical range of the instrument (Likert scale: 1–5). The minimum and maximum possible values for each item were used as reference points according to the following formula:

$$Xstd = \frac{Xraw - Xmin}{Xmax - Xmin} \times 100$$

This standardization procedure was based exclusively on the theoretical range of the questionnaire and did not rely on observed sample values.

For interpretative purposes, scores were categorized into three levels;

0–50: Poor,

50–75: Moderate status,

75–100: Favorable status.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participant characteristics and domain scores.

Given the sample sizes in both groups, normality was assumed based on the Central Limit Theorem. Independent-samples t-tests were used to compare mean scores across the eight age-friendly city domains between older adults and urban managers. Statistical significance was set at $p < 0.05$.

For illiterate participants, the informed consent form was read aloud by a member of the research team, and informed consent was obtained after a full explanation of the study procedures and participants' rights.

Results

Demographic Characteristics

A total of 300 older adults and 186 urban managers participated in the study. Among older adults, 56% were female and 44% were male. The majority (77.3%) were younger than 75 years, and 72% were married. Approximately 88.3% reported home ownership. Regarding educational level, 23.3% were illiterate, 26.3% had below high-school education, 28.7% held a diploma or associate degree, and 21.7% had a bachelor's degree or higher. More than half of the participants (55.3%) were retired (Table 1).

Table 1
Socio-demographic characteristics of older adults

Variable	Category	Frequency	Percentage
Gender	Male	132	44.0
	Female	168	56.0
Age group	< 75 years	232	77.3
	≥ 75 years	68	22.7
Housing status	Owner	265	88.3
	Non-owner	35	11.7
Marital status	Single	17	5.7
	Married	216	72.0
	Widowed/Divorced	67	22.3
Education	Illiterate	70	23.3
	Below diploma	79	26.3
	Diploma/Associate	86	28.7
	Bachelor and above	65	21.7
Employment status	Unemployed	89	29.7
	Employed	45	15.0
	Retired	166	55.3
Income	< 10 million Toman	100	33.3
	10–15 million Toman	101	33.7
	≥ 15 million Toman	99	33.0

In the urban managers group, 53.8% were male and 46.2% were female. The largest age group was 40–50 years (43%). Most participants were married (83.2%) and 76.3% reported home ownership. In terms of education, 65.1% held a master's degree or higher. Nearly half of the managers (46.5%) reported a monthly income above 25 million Iranian Tomans (Table 2).

Table 2
Socio-demographic characteristics of urban managers

Variable	Category	Frequency	Percentage
Gender	Male	100	53.8
	Female	86	46.2
Age group	< 40 years	45	24.2
	40–50 years	80	43.0
	> 50 years	61	32.8
Housing status	Owner	142	76.3
	Non-owner	44	23.7
Marital status	Single	21	11.4
	Married	154	83.2
	Widowed/Divorced	10	5.4
Education	Bachelor	65	34.9
	Master and above	121	65.1
Income	< 20 million Toman	46	24.7
	20–25 million Toman	53	28.6
	≥ 25 million Toman	86	46.5

Comparison of Age-Friendly City Domains

Standardized mean scores of the eight WHO age-friendly city domains are presented in Table 3.

Overall, all domain scores were below 50 in both groups, indicating an unfavorable status of age-friendliness in Kerman.

Among older adults, the lowest score was observed in the transportation domain (40.35 ± 20.61), while the highest score was reported for communication and information (48.19 ± 25.15). Among urban managers, the lowest score was related to respect and social inclusion (37.08 ± 17.17), whereas the highest score was observed in community support and health services (47.76 ± 15.71).

Independent-samples t-tests revealed statistically significant differences between the two groups in four domains: outdoor spaces and buildings, transportation, housing, and communication and information ($p < 0.05$). Urban managers reported higher scores in outdoor spaces and transportation, whereas older adults reported higher scores in housing and communication and information.

Effect size analysis using Cohen's d indicated small to moderate differences across significant domains (d = 0.24–0.36). The largest mean difference was observed in the communication and information domain (mean difference = 8.15, 95% CI: 4.35 to 11.95).

Table 3
Comparison of standardized domain scores (0–100) between older adults and urban managers

Domain	Older Adults (Mean ± SD)	Managers (Mean ± SD)	Mean Difference	95% CI	Cohen's d	p-value
Outdoor spaces & buildings	41.70 ± 19.25	46.92 ± 16.91	-5.22	-8.48 to -1.96	0.28	0.002
Transportation	35.40 ± 20.61	41.17 ± 16.98	-5.77	-9.15 to -2.39	0.30	0.007
Housing	46.76 ± 21.96	41.86 ± 18.60	4.90	1.25 to 8.55	0.24	0.009
Social participation	37.65 ± 23.80	41.14 ± 20.85	-3.49	-7.25 to 0.54	0.15	0.091
Respect & social inclusion	37.55 ± 21.94	37.08 ± 17.17	0.47	-3.03 to 3.97	0.02	0.795
Civic participation & employment	39.96 ± 21.12	41.84 ± 23.62	-1.88	-6.03 to 2.27	0.09	0.363
Communication & information	48.19 ± 25.15	40.04 ± 17.51	8.15	4.35 to 11.95	0.36	< 0.001
Community support & health services	45.33 ± 18.58	47.76 ± 15.71	-2.43	-5.52 to 0.66	0.14	0.125

Values are presented as mean ± standard deviation.

Independent-samples t-test was applied.

Mean difference = Older adults − Managers.

Discussion

The present study aimed to compare the perceptions of older adults and urban managers regarding age-friendly city indicators in Kerman, Iran. The findings revealed that none of the eight WHO age-friendly domains reached a desirable level from the perspective of either group. In addition, statistically significant perceptual differences were observed in four domains, indicating the presence of a perceptual gap between service recipients and urban decision-makers.

Overall Poor Status of Age-Friendly City Domains

One of the key findings of this study was the consistently low mean scores across all eight age-friendly city domains in both groups. This suggests that Kerman remains far from the standards proposed by the World Health Organization for age-friendly urban environments. These results are consistent with previous studies conducted in Tehran, Tabriz, Kermanshah, Sari, and Varamin, which have similarly reported weak to moderate performance across most age-friendly indicators(6–9, 12).

The convergence of evidence across multiple Iranian cities suggests that the challenges associated with age-friendly urban development are structural in nature rather than context-specific. Rapid population aging, unbalanced urban infrastructure development, and insufficient planning tailored to the needs of older adults may collectively explain this situation.

Perceptual Gap in Physical and Infrastructural Domains

The results indicated that urban managers rated “outdoor spaces and buildings” and “transportation” more favorably than older adults. This discrepancy may be attributed to fundamental differences in how the two groups interact with and evaluate the urban environment.

Urban managers typically assess city performance based on administrative indicators, completed infrastructure projects, and institutional progress reports. In contrast, older adults evaluate environmental quality through daily lived experiences, including walking conditions, accessibility of pedestrian infrastructure, and real-world usability of public transportation systems. As a result, interventions that are perceived as successful from a managerial perspective may still fail to meet the practical needs of older residents.

This finding is consistent with Lawton and Nahemow’s ecological theory of aging, which posits that aging outcomes are determined by the interaction between individual competencies and environmental press(10). Within this framework, the same urban environment may be perceived differently depending on individuals’ physical abilities and functional limitations. Accordingly, an environment deemed adequate by planners may still pose significant barriers for older adults with mobility constraints.

These findings are in line with previous studies conducted in Sari and Kermanshah, which also reported significant perceptual differences between older adults and urban managers in infrastructural domains(8, 9).

Higher Ratings by Older Adults in Housing and Communication

In contrast, older adults reported higher scores than managers in the housing and communication and information domains.

Regarding housing, a substantial proportion of participants were homeowners (88.3%), which may contribute to a sense of stability, security, and satisfaction, thereby leading to more positive self-evaluations. In contrast, urban managers may assess housing conditions based on technical standards such as accessibility, safety, and age-friendly design principles, which typically involve more stringent criteria. This interpretation is consistent with a study of 374 older adults in Khuzestan province, Iran (2024), which found that older adults generally preferred aging in place with home modifications rather than relocating, and that social connections and safety features — rather than professional design standards — were the primary determinants of housing satisfaction(13). At the national level, Fallahi et al. (2024), in a systematic review of 34 Iranian cities, reported that housing was among the relatively better-performing domains, which may reflect high homeownership rates and residential attachment rather than objectively adequate housing quality(14).

In the communication and information domain, higher scores among older adults may reflect differences in expectations and reference standards. Many older adults rely on traditional information channels such as television, radio, and face-to-face communication, which they may perceive as sufficient. Conversely, urban managers — considering the requirements of smart city development and digital service delivery — may evaluate existing systems as inadequate. Ghanbari et al. (2025) in Tabriz similarly found that older adults rated communication-related indicators more favorably than urban managers, and attributed this gap to differences in digital expectations between the two groups, noting that older adults in informal settlements faced particularly pronounced barriers to digital access(7). These findings resonate with a 2025 review of digital literacy among older adults, which found that unfamiliarity with technology, cognitive barriers, and limited access to digital resources are major obstacles preventing older adults from benefiting from modern information services — factors that may contribute to their lower awareness of the gap between traditional and digital information access(15).

These findings suggest that perceived adequacy does not necessarily imply actual sufficiency. A reliance on traditional media may mask unmet needs in digital access, particularly as public services increasingly shift to online platforms. Therefore, improving digital literacy and expanding older adults' access to modern communication technologies should remain a key priority for urban policymakers.

Domains Without Significant Differences: Evidence of Shared Perception

No substantial perceptual differences were observed between the two groups in social participation, respect and social inclusion, civic participation and employment, and community support and health services. This suggests a relatively shared perception of these domains between older adults and urban managers in Kerman.

In other words, unlike physical and infrastructural dimensions where perceptual divergence was more pronounced, social and supportive domains appear to be evaluated more similarly by both groups. Nonetheless, the relatively higher mean scores reported by managers in social participation — alongside

small but non-negligible effect sizes in some of these domains — suggest that subtle divergences may exist that could be further explored using larger samples or qualitative approaches.

The very small effect sizes observed in respect and social inclusion, civic participation, and health and social services domains further support the limited practical significance of these differences. This convergence may reflect the more visible and directly experienced nature of these services, which are accessible to both older adults and managers through everyday observation and institutional engagement.

Previous research has also highlighted that social participation among older adults is closely linked to access to age-friendly environments, opportunities for interaction, and mobility, all of which contribute significantly to quality of life(16).

Transportation as the Most Critical Challenge

Transportation emerged as the lowest-rated domain among older adults. This finding is particularly important, as access to transportation is a key determinant of older adults' independence, social participation, and access to healthcare services(17, 18). Deficiencies in this domain may lead to reduced mobility, increased social isolation, and lower quality of life (5).

The results are consistent with studies conducted in Tehran, Kermanshah, and Borazjan, which have also identified transportation as one of the weakest components of age-friendly urban systems(8, 19, 20). Given the climatic conditions of Kerman and the spatial characteristics of the urban environment, improving public transportation accessibility, safety, and pedestrian infrastructure should be considered a key priority in urban planning.

Respect and Social Inclusion: The Weakest Domain from Managers' Perspective

Among urban managers, the lowest score was observed in the domain of respect and social inclusion. This finding indicates that even policymakers and administrators recognize the existence of cultural and social challenges related to aging.

Age-friendly cities extend beyond physical infrastructure and require positive societal attitudes toward older adults and their social inclusion. Emerging evidence suggests that inclusive social policies can enhance social participation, sense of belonging, interpersonal relationships, and overall well-being among older adults while reducing social isolation (21).

Although infrastructure development is essential, it is insufficient without parallel efforts to improve societal attitudes toward aging and strengthen intergenerational solidarity. Previous studies in Iran have similarly identified respect and social inclusion as one of the weakest dimensions of age-friendly cities (14, 18), highlighting the need for targeted educational, cultural, and media-based interventions.

Strengths and Limitations

This study has several strengths, including the simultaneous assessment of perceptions from both older adults and urban managers, the use of a standardized WHO instrument, and a relatively large sample size in both groups. The inclusion of participants from 15 relevant organizations also enhances the external validity of the findings. Moreover, proportional cluster sampling among older adults and the standardization of scores on a 0–100 scale allowed for robust cross-domain comparisons.

However, several limitations should be acknowledged. First, the cross-sectional nature of the study limits the ability to establish causal relationships between the variables. Second, the use of self-reported measures may have introduced response bias, including social desirability and recall biases.

Conclusion

The findings of this study demonstrate that Kerman has not yet achieved a desirable level of age-friendliness in any of the eight domains proposed by the World Health Organization. Significant perceptual differences were identified between older adults and urban managers in four domains: managers evaluated outdoor spaces, buildings, and transportation more favorably, whereas older adults reported higher satisfaction with housing and information and communication. These divergent assessments may reflect different frames of reference, with managerial evaluations often informed by administrative indicators and completed projects, whereas older adults' perceptions are more closely shaped by their daily lived experiences. Therefore, incorporating older adults' perspectives into the planning, implementation, and evaluation of urban policies is essential for developing more responsive age-friendly environments.

Achieving meaningful progress toward age-friendliness in Kerman requires a balanced approach that simultaneously addresses physical, social, and communication-related challenges. Particular attention should be given to improving transportation accessibility and pedestrian safety infrastructure, promoting positive societal attitudes toward aging and strengthening intergenerational respect and social inclusion, and establishing formal participatory mechanisms through which older adults can actively contribute to urban decision-making processes. Such measures may help reduce existing perceptual gaps and support the development of a more inclusive and age-friendly urban environment.

Declarations

Ethics approval and consent to participate

Maintaining the confidentiality of results from expert participants is essential. All participants who entered the study were informed about the research and were assured of the confidentiality of their information. The study was conducted after obtaining the ethical code to conduct the study and obtaining the necessary permissions, in compliance with ethical standards. The Ethics Committee of Kerman University of Medical Sciences approved the present study with the ethical code IR.KMU.REC.1404.360 and was conducted following the principles of the Declaration of Helsinki. Informed consent was obtained from the respondents.

Clinical trial number

Not applicable

Conflict of interest

The authors declare that they had no conflict of interest.

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Author Contribution

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Data Availability

The datasets collected and analyzed during the current study are available from the corresponding author on reasonable request.

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