



Assessment of Urban Public Spaces' Impact on Mental Health within the Framework of Women-Friendly City Criteria(Case Study:Ardabil City)¹

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Abstract

Background and Objective : Women's mental health, as one of the essential dimensions of public health, is influenced by various factors, including the quality and accessibility of urban public spaces. This study aimed to analyze the impact of urban public spaces on women's mental health in Ardabil within the framework of women-friendly city indicators.

Methodology: This applied research adopted a descriptive-analytical approach. The required data were collected through the distribution of 400 questionnaires among women residing in Ardabil, using a systematic random sampling method. The research tool included 58 items covering five main indicators (physical-spatial, socio-cultural, safety, accessibility, and mental health). Data were analyzed using the one-sample t-test in SPSS software and structural equation modeling (SEM) in AMOS software.

Findings and Conclusion: The results showed that the physical-spatial (mean = 3.17) and socio-cultural (mean = 3.05) indicators were in a relatively favorable condition. Moreover, based on the path analysis results, the physical-spatial indicator had the greatest role in enhancing women's mental health, with an impact coefficient of 0.89. Following this, the indicators of environmental security, socio-cultural, accessibility, and mental health ranked next in terms of influence. These findings emphasize the importance of designing public spaces with a focus on physical and environmental components to promote women's mental health and highlight the necessity for urban planners to pay attention to these dimensions. The innovation of this research lies in the simultaneous analysis of five key women-friendly city indicators using Structural Equation Modeling (SEM) and focusing on the city of Ardabil as a localized case, which has received less attention in previous studies.

Keywords: Women's quality of life, inclusive urban spaces, spatial justice, social interactions in the city, Ardabil city.

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Extended Abstract

Introduction:

he rapid urbanization in recent decades, in addition to physical and environmental challenges, has created significant psychological and social consequences (Nazari et al., 2021:120). Among these, mental health has gained particular importance as one of the main components of urban quality of life, especially for women, who are more exposed than other groups to environmental, social, and structural vulnerabilities. One of the factors affecting the improvement of women's mental health is safe, equitable, and meaningful access to urban public spaces. These spaces, including parks, squares, green areas, pedestrian pathways, and cultural–social venues, play a fundamental role in reducing anxiety, depression, and feelings of loneliness, as well as in enhancing social belonging (Kabisch et al., 2021; Jennings et al., 2019). Furthermore, international organizations have recognized these spaces as important indicators of sustainable urban development (Jowkar, 2017; Sasanpour et al., 2018). The increase in mental disorders is among the most serious consequences of life in urban environments; studies have identified the reduction of green spaces, noise pollution, insecurity, and poor urban design as factors contributing to increased stress and depression (Kowarik & Kleinschroth, 2020). Parks, as centers for social interaction and psychological relaxation, play a significant role in improving the quality of life (Yadav & Kumar, 2021:149; S. Park & Ko, 2023:3).

Despite this, many cities in Iran face challenges such as insecurity, male-oriented urban design, lack of women-specific facilities, and insufficient participation of women in decision-making, all of which have direct negative effects on mental health. The city of Ardabil is no exception. According to official reports, the per capita public green space in Ardabil is below the national standard, and the shortage of women-only parks, difficulties in accessing cultural services, and a high rate of perceived insecurity are among the city's most significant challenges. This situation highlights the necessity of a localized study in this area. Therefore, this research aims to evaluate the impact of urban public spaces on women's mental health within the framework of women-friendly city indicators, examining five main dimensions: physical–spatial, environmental security, socio-cultural, accessibility, and mental health in the city of Ardabil. The key research question is:

To what extent do Ardabil's public spaces align with women-friendly city indicators, and what impact do they have on the mental health of the city's female residents?

Methodology:

This research is applied in terms of purpose and descriptive–analytical in terms of nature and method. Data were collected using two methods: library and fieldwork. In the library section, domestic and international sources related to the topic were reviewed, and the theoretical framework and research indicators were extracted. In the fieldwork section, data were collected through a questionnaire with a five-point Likert scale (from “strongly disagree” to “strongly agree”) in the summer of 2024.

The statistical population included all women residing in Ardabil city, with a population of 292,997. Using Cochran's formula and a 5% error level, the sample size was determined to be 400 individuals. Sampling was conducted using a systematic random method.

In this research, five main indicators were selected due to their direct relevance to women's quality of life in the city and urban development indicators: 1) physical–spatial, 2) environmental security, 3) socio-cultural, 4) accessibility, 5) mental health. Accordingly, the questionnaire items were designed based on previous studies (Pourmohammadi et al., 2015; Fazeli & Ziachi, 2014; Rashid Cluver et al., 2020; Zarghani et al., 2020; Yadav & Kumari, 2021; Efe Güney et al., 2022; N. S. Park et al., 2024; Jiang, 2017). The items related to mental

health were inspired by standardized questionnaires and adjusted according to the local conditions of women in Ardabil.

The reliability of the questionnaire was calculated using Cronbach's alpha, which was 0.893 for the entire questionnaire and above 0.78 for all indicators, indicating satisfactory reliability of the instrument. Construct validity was also examined using Confirmatory Factor Analysis (CFA), and the fit indices were at a satisfactory level.

Results and Discussion:

This study was conducted to evaluate the role of urban public spaces on women's mental health in the city of Ardabil within the framework of women-friendly city indicators. The findings, based on the responses of 400 women with diverse social and family characteristics, showed that public spaces, especially parks and green areas, have a significant impact on reducing stress, increasing vitality, strengthening social interactions, and promoting women's mental health. Statistical analyses indicate that the physical-spatial indicator is the most influential dimension on mental health, with proper design, lighting, urban furniture, and green spaces playing a decisive role in creating a sense of calm and security. Following this, the security, socio-cultural, and accessibility indicators were ranked, indicating that women's mental health is shaped by a combination of physical, environmental, and social factors and cannot be attributed to a single dimension alone.

Conclusion

A comparison of the findings of this study with previous research shows that the results align with studies such as Memla and Maharaj (2018), Motahhari et al. (2021), and Salis et al. (2022), which emphasized the importance of security, lighting, mixed land use, and gender-sensitive design. However, the main distinction of the present study is its focus on women in Ardabil, a medium-sized Iranian city with specific cultural and social characteristics. Most previous studies have focused on large metropolitan areas, whereas this research examines the conditions of a medium-sized city, thereby addressing a gap in the scientific literature.

In terms of innovation, this study employs Structural Equation Modeling (SEM) and simultaneously examines five main indicators (physical-spatial, environmental security, socio-cultural, accessibility, and mental health), providing a multidimensional and comprehensive understanding of the impact of public spaces on women's mental health. This comprehensive approach has received less attention in domestic research and can serve as a basis for designing urban policies and localized planning to improve the quality of public spaces.

Overall, it can be concluded that the creation and development of human-centered, safe, equitable, and participatory urban public spaces not only enhance women's mental health but also improve urban quality of life and increase social capital. These findings highlight the necessity for urban management, policymakers, and designers to adopt a "women-friendly city" approach and demonstrate that paying attention to women's needs and lived experiences can contribute to the development of a more sustainable, equitable, and health-oriented urban environment.

Declarations

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- Conflict of Interest:** The authors declare no conflict of interest.

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