

The Effect of Urban Parks on the Presence of Housewives in Nature-based Physical Activities

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Abstract

In response to growing urbanization, increasing mental health concerns, and declining levels of physical activity among housewives, this study investigates the role of urban green spaces and housewives-only parks in promoting their psychological well-being and encouraging participation in nature-based physical activities. The research focuses on key factors, including sociability, mental well-being, park management, and environmental safety, to identify the conditions that influence housewives' presence in parks and their willingness to engage in physical activities. A quantitative survey was conducted in Tabriz, involving 210 housewives aged over 18 who were systematically selected from Shams Tabrizi and El Goli parks. Data were collected through a structured questionnaire consisting of demographic characteristics and measures related to park use and participation in physical activities. Statistical analyses were performed using SPSS, with Cronbach's alpha applied to assess reliability and Spearman's correlation coefficient used to examine relationships among variables. The findings indicate that sociability ($r=0.75$) and mental well-being ($r=0.807$) are the strongest factors associated with housewives' presence in urban parks. Additionally, park management quality ($r=0.528$) demonstrated a positive relationship with their engagement in physical activities. In housewives-specific parks, the characteristics of "supportiveness" (mean=4.23) and "freedom of action" (mean=4.15) were identified as important contributors to users' perceptions of safety, autonomy, and motivation for active participation. The findings suggest that reducing socio-cultural constraints and creating supportive environments can enhance housewives' park attendance, facilitate social interaction, increase self-confidence, and contribute to their overall health. Therefore, urban planners should prioritize gender-sensitive design strategies, strengthen social support systems, and improve the planning and management of recreational spaces to encourage both park presence and active lifestyles among housewives.

Keywords: Urban Green Landscapes, Women Parks, Physical Activity, Housewives, Urban Parks.

1. Introduction

Global demographic projections indicate that by 2050, approximately 70% of the world's population will reside in urban areas. This rapid transition toward urbanization has been particularly evident in developing countries, including Iran, Brazil, and China, where urban populations have experienced substantial growth. Currently, urban areas accommodate nearly 63% of the population in these countries, and this proportion is expected to increase to approximately 79% by 2050 (United Nations, 2014). Such demographic transformations have significant implications for residents' health, well-being, and quality of life (Lachowycz & Jones, 2013). Although urbanization can provide opportunities for economic and social development, rapid and unplanned urban growth has also been associated with several negative consequences, including increased obesity prevalence (Kirchengast & Hagmann, 2021), social isolation (Lai et al., 2021), mental health challenges (Vander Wal et al., 2021), and environmental degradation (Di Sabatino et al., 2018).

One of the major public health challenges associated with contemporary urban lifestyles is physical inactivity. Objective assessments using accelerometers have demonstrated that a large proportion of populations do not achieve recommended physical activity levels, with insufficient activity reported among 58% of children, 92% of adolescents, and 95% of adults in the United States (Derose et al., 2018). Inadequate physical activity participation is associated with increased risks of various health problems, including osteoporosis, sarcopenia, obesity, cardiovascular diseases, diabetes, and other chronic conditions (Pearce et al., 2022; Fong et al., 2018). Furthermore, although previous studies have identified positive relationships between physical activity and psychological outcomes, including reduced anxiety and depression symptoms, additional research is needed to better understand the mechanisms through which physical activity improves mental health (Veitch et al., 2016).

For women, engagement in physical activity provides benefits beyond physiological improvements. Previous research has demonstrated that women experience psychological and social advantages from active lifestyles, including stress reduction, increased energy, enhanced self-confidence, opportunities for social interaction, improved body image, greater autonomy, and positive effects on personal development (Veitch et al., 2016; Kang et al., 2023). Therefore, creating supportive environments that facilitate women's participation in recreational physical activities is an important consideration in public health promotion and gender-responsive urban planning.

Urban parks and green spaces represent important components of the built environment that can encourage active lifestyles by providing accessible locations for recreation, exercise, social interaction, and contact with nature. These spaces contribute to obesity prevention and improve public health by supporting opportunities for physical activity and social engagement (Derose et al., 2018; Samadi-Todar et al., 2025). Regular participation in physical activity within supportive environments is associated with improved quality of life, increased longevity, and reduced risks of cardiovascular diseases, diabetes, depression, certain cancers, and obesity (Fong et al., 2018; Lin et al., 2023).

Despite these benefits, women continue to demonstrate lower levels of park use and physical activity participation compared with men. Studies conducted across different contexts indicate that women of various age groups visit parks less frequently and engage in lower levels of physical activity within these spaces (Cohen et al., 2016; Cunningham-Myrie et al., 2019; Deroose et al., 2017; Knapp et al., 2019; Vaughan et al., 2018). Long-term patterns of insufficient physical activity among women have also been reported internationally (Troiano et al., 2008). These disparities suggest that aspects of park planning, design, accessibility, and management may not adequately address women's specific needs and experiences (Deroose et al., 2018).

Although gender equality has improved in many societies, women's participation in public recreational spaces continues to be influenced by social roles and responsibilities, particularly caregiving and household duties. These responsibilities may restrict women's available time, mobility, and opportunities for engaging in outdoor physical activities, contributing to persistent differences in activity levels between women and men (Samadi-Todar & Hami, 2026). In developing countries such as Iran, rapid urbanization has further intensified challenges related to residents' physical, psychological, and social well-being, emphasizing the need for urban environments that better support healthy lifestyles (United Nations, 2014).

In this study, physical activity refers to voluntary, leisure-based bodily movements requiring energy expenditure and performed for recreational, health-related, or social purposes. Within urban parks, this concept includes activities such as walking, jogging, stretching, group exercise, and other light-to-moderate recreational activities undertaken by housewives to improve physical health, psychological well-being, and social interaction.

Existing research highlights the essential role of urban parks and green spaces in promoting social interaction, improving quality of life, and supporting ecological sustainability. However, scholars have increasingly emphasized that public spaces are not experienced equally by all social groups. Historically, urban planning and design processes have often overlooked gender differences in mobility patterns, safety perceptions, social expectations, and everyday needs (Mushkani & Ono, 2021; Pereira & Rebelo, 2024). Consequently, women may experience barriers related to accessibility, comfort, safety, and freedom of use when engaging with public spaces.

Women represent more than half of Iran's population; however, their perspectives and everyday experiences have not always been sufficiently incorporated into urban park planning. Many green spaces are developed without fully considering women's complex daily routines, which may involve balancing household responsibilities, childcare, employment, and social obligations. As a result, some urban parks may fail to provide environments that encourage women's sustained participation and physical activity.

Despite increasing recognition of the relationship between green spaces, gender, and health, limited empirical evidence exists regarding how specific park characteristics influence women's participation in collective physical activities, particularly among housewives in developing urban contexts. Furthermore, the effectiveness of women's parks as supportive environments for promoting physical activity remains insufficiently explored. Addressing this

research gap is essential for developing more inclusive and gender-responsive approaches to urban park planning.

Therefore, this study aims to systematically examine the role of urban parks in promoting women's participation in physical activities and identifying environmental factors that influence their engagement. Specifically, the objectives of this research are:

1. To examine the influence of women parks in creating supportive environments for women's physical activity participation.
2. To evaluate the role of urban parks in encouraging women's participation in group and collective sports activities.

Accordingly, this study addresses the following two research questions:

- 1) How do urban parks influence women's participation in group and collective sports activities?
- 2) To what extent do women parks contribute to creating supportive environments that encourage women's physical activity participation?

2. Theoretical Foundations

Historically, urban environments have largely been designed through a gender-neutral perspective that, in practice, has frequently reflected male-oriented patterns of mobility, activity, and spatial preferences. Urban planning approaches have often assumed that men's experiences represent universal human needs, resulting in the underrepresentation of women's everyday requirements in the design and management of public spaces (Mushkani & Ono, 2021). Consequently, many urban environments have prioritized activities and behaviors traditionally associated with men, while women's specific experiences, concerns, and patterns of spatial use have received comparatively limited attention. In recent decades, feminist movements and gender-oriented research have challenged these inequalities by emphasizing the importance of incorporating women's perspectives into urban planning and design processes (Barnes & Cordova, 2016).

Gender-sensitive urban planning seeks to develop spatial frameworks that acknowledge differences in how individuals experience, access, and utilize public environments. This approach emphasizes not only women's physical presence in urban spaces but also their sense of inclusion, accessibility, safety, and freedom of participation (Pereira & Rebelo, 2024). Previous studies on gendered spatial practices demonstrate that women and men often interact with public environments differently due to variations in mobility patterns, social expectations, responsibilities, and perceptions of comfort and security (Ben-Lulu, 2022; Rampaul & Magidimisha-Chipungu, 2022). Although urban spaces are physically shared by all users, their meanings and experiences are socially constructed and influenced by gender relations (Pereira & Rebelo, 2024).

The failure to consider women's spatial needs may restrict their participation in public life and negatively influence their psychological well-being and social engagement (Ruíz & Nicolas,

2018). Gender roles, particularly those related to caregiving and household responsibilities, shape women's relationships with urban environments and influence the characteristics they value in public spaces. For example, women may place greater importance on accessible recreational facilities, playgrounds, shaded seating areas, drinking water facilities, attractive landscapes, and opportunities for relaxation and social interaction within green spaces (Pereira & Rebelo, 2024).

Research indicates that gender differences in the perception and use of public spaces are reflected across multiple dimensions. These include variations in travel behavior and trip purposes, as women often undertake more complex mobility patterns associated with household and caregiving responsibilities (Pereira & Rebelo, 2024). Furthermore, perceptions of safety represent a significant factor influencing women's willingness to access and remain in public spaces, with gender-based differences frequently observed in experiences of vulnerability and security (Pereira & Rebelo, 2024). Social norms and cultural expectations also shape women's behaviors and opportunities within urban environments by influencing acceptable forms of public participation (Krajter et al., 2017; Braçe et al., 2021).

Women's engagement in unpaid domestic labor and caregiving responsibilities further affects the timing, purpose, and frequency of their use of public spaces (Pereira & Rebelo, 2024). In addition, women often demonstrate distinct preferences regarding environmental aesthetics, including scenic quality, natural features, and visual attractiveness (Conedera et al., 2015; Sang et al., 2016). The availability of amenities such as recreational facilities, playgrounds, and comfortable gathering spaces may also influence women's perceptions of usability and accessibility (Braçe et al., 2021). Environmental characteristics, including vegetation, shade, water features, and opportunities for contact with nature, contribute to perceived comfort and encourage longer and more frequent visits (Pereira & Rebelo, 2024; Braçe et al., 2021). Similarly, infrastructure quality, lighting, cleanliness, and maintenance conditions influence women's perceptions of safety and satisfaction with urban parks (Krajter et al., 2017).

Urban parks represent important components of sustainable urban infrastructure because they provide opportunities for recreation, social interaction, physical activity, and contact with nature (Gupta et al., 2012). These green spaces range from large metropolitan parks to small neighborhood landscapes and serve as essential environments for improving urban residents' quality of life. Parks contribute to public health by supporting active lifestyles, improving environmental conditions, strengthening social cohesion, and reducing psychological stress (Blanck et al., 2012; Chawla, 2015; Roe et al., 2016; Root et al., 2017). Through activities such as walking, leisure, exercise, and social gatherings, parks provide direct recreational benefits and encourage healthier patterns of daily life (Cohen & Leuschner, 2019; Silbernagel et al., 2017).

Despite these benefits, women frequently demonstrate lower levels of park visitation and physical activity participation compared with men. Previous studies have reported that women across different age groups use parks less frequently and engage in lower levels of park-based physical activity (Cohen et al., 2016; Cunningham-Myrie et al., 2019; Derosé et al., 2017; Knapp et al., 2019; Vaughan et al., 2018). These disparities suggest that conventional

approaches to park planning and management may not sufficiently address women's needs regarding accessibility, safety, comfort, and social acceptance (Derose et al., 2018).

Urban parks provide an effective setting for promoting physical activity among diverse population groups; however, achieving equitable participation requires gender-responsive planning strategies. Designing environments that consider women's experiences and constraints can facilitate greater involvement in recreational activities and support healthier lifestyles (Derose et al., 2018). In densely populated cities, parks function as important community-based settings for physical activity by providing accessible locations for walking, exercise, and social interaction (Chen et al., 2022). As part of the wider public realm, urban parks contribute to neighborhood identity and social relationships while supporting opportunities for active living (Veitch et al., 2016; Koohsari et al., 2015). Regular engagement with park environments has been associated with improved physical health outcomes, reduced chronic disease risks, and enhanced psychological well-being (Anderson & Whaley, 2022; Tyler et al., 2020).

Within this theoretical perspective, gendered urban space theory provides the conceptual foundation for identifying the variables examined in this study. Previous research demonstrates that urban parks have often been developed according to generalized assumptions regarding public-space use, which may unintentionally reproduce male-centered patterns of mobility and activity. Therefore, women's experiences of parks are influenced by multiple factors, including perceptions of safety, social expectations, caregiving responsibilities, and environmental comfort.

Based on this theoretical framework, this study identifies several spatial, social, and psychological characteristics of urban parks as factors influencing housewives' participation in nature-based physical activities. The first dimension, sociability, is based on the understanding that parks are not merely physical settings but also social environments that facilitate communication, collective activities, social support, and community belonging. Previous research highlights that socially interactive green spaces can reduce loneliness and encourage repeated engagement with public environments (Park et al., 2020; Jamalishahni et al., 2023; Astell-Burt et al., 2022).

The second dimension, mental well-being, reflects the psychological benefits that women obtain from safe, relaxing, and emotionally supportive environments. Green spaces have been associated with stress reduction, improved mood, and enhanced psychological restoration, making mental comfort an important factor influencing women's willingness to participate in outdoor activities (Samadi-Todar & Hami, 2025; Guo et al., 2021; Arias-Fernández et al., 2023; White et al., 2020).

The third dimension, quality of park management, represents the physical and organizational characteristics that determine the usability and attractiveness of urban parks. This dimension includes cleanliness, maintenance, safety measures, availability of facilities, and responsiveness to users' needs. Effective management contributes to positive perceptions of park quality and encourages continued visitation and physical activity participation (Kaczynski et al., 2016; Niņa et al., 2018; Samadi-Todar et al., 2025).

Furthermore, the gender-sensitive planning perspective provides the foundation for examining women parks through two additional dimensions: park supportiveness and freedom of action. Park supportiveness refers to the extent to which these environments provide women with feelings of ownership, behavioral comfort, social support, and appropriate facilities that encourage participation. Freedom of action represents women's perceived autonomy and ability to engage in activities without social restrictions, judgment, or cultural barriers.

Accordingly, the independent variables of this study represent the spatial, social, and psychological qualities of urban parks, including sociability, mental well-being, quality of park management, park supportiveness, and freedom of action. The dependent variable, housewives' participation in physical activities, represents the behavioral outcome influenced by these environmental conditions. In this context, physical activity refers to voluntary recreational movements performed within park environments, including walking, jogging, stretching, group exercises, and other light-to-moderate activities that contribute to physical health, psychological well-being, and social interaction.

The theoretical framework therefore guided both questionnaire development and interpretation of empirical findings. The study examines whether urban parks characterized by stronger social opportunities, greater psychological comfort, effective management practices, and gender-responsive design features are associated with higher levels of participation among housewives. Consequently, the research considers urban parks not only as available physical spaces but also as social and cultural environments that can either reinforce or reduce gender inequalities in access to public life.

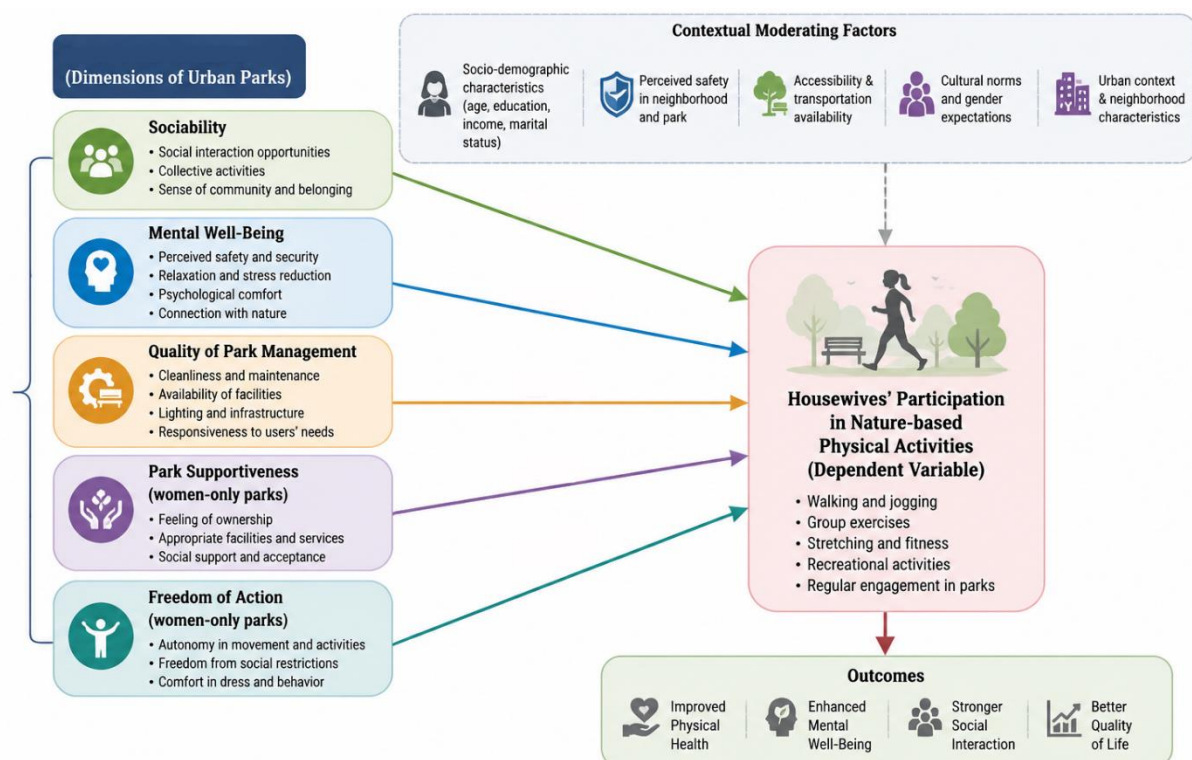


Figure 1. Theoretical Framework of the Study Illustrating the Relationship between Gender-sensitive Urban Park Dimensions and Housewives' Participation in Nature-based Physical Activities

3. Methods

3.1. Study Area

Tabriz, located in East Azerbaijan Province, Iran, is situated at 46°17'18" E longitude and 38°04'45" N latitude, with an elevation of approximately 1,340 m above sea level. The city is located about 624 km northwest of Tehran and is one of Iran's major urban centers. Officially recognized as a city in 1296 (Samadi-Todar et al., 2025; Hami et al., 2025a; 2025b), Tabriz had a population of 1,584,855 according to the 1395 national census (Samadi-Todar & Hami, 2025; Hami et al., 2024).

This study was conducted in two major urban parks in Tabriz: Shams Tabrizi Women's Park and El Goli Park. These parks were selected as case study locations because they represent two distinct types of urban recreational environments and provide an opportunity to examine how different spatial and social characteristics influence housewives' participation in nature-based physical activities.

Shams Tabrizi Women's Park is an exclusive women-only park designed to provide a secure and private environment where female users can participate in recreational and physical activities without social restrictions. This type of gender-specific space offers a unique context for examining how safety, comfort, social support, and perceived freedom influence women's engagement in outdoor activities.

In contrast, El Goli Park is a public urban park serving a diverse range of users. Although it is not specifically designed for women, it is frequently visited by housewives for walking, exercise, relaxation, and social activities. Therefore, it represents a conventional public park environment and provides a comparative context for investigating women's experiences in shared urban spaces. Accordingly, these two parks were considered suitable settings for exploring the relationship between urban park characteristics and housewives' participation in physical activities.

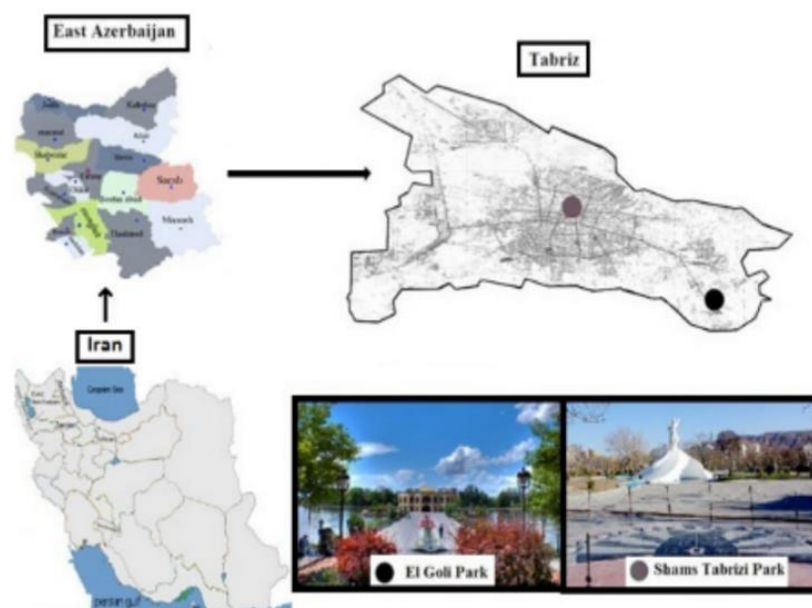


Figure 2. The Location of Tabriz City

3.2. Questionnaire Structure

Questionnaires are widely used to evaluate users' perceptions of urban environments; however, perception-based assessments may involve subjective interpretations influenced by individual experiences and personal preferences (Blaszczyk et al., 2020; Samadi-Todar et al., 2025). In this study, a structured questionnaire was developed to examine the relationship between urban park characteristics and housewives' engagement in physical activities.

The questionnaire consisted of two main sections. The first section collected socio-demographic information, including age, educational attainment, marital status, monthly income, and other relevant personal characteristics. These variables were included to examine whether individual attributes influence attitudes, behaviors, and patterns of park use.

The second section evaluated participants' perceptions regarding the role of urban parks in promoting physical activity. This section focused on two main aspects: (1) the influence of urban parks on housewives' participation in group and collective physical activities; and (2) the role of women parks in creating supportive environments that encourage physical activity. Responses were measured using a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). The questionnaire items were designed to identify the environmental, social, and psychological factors that either facilitate or limit housewives' participation in outdoor recreational activities.

3.3. Independent Indicators

Independent variables represent factors that potentially influence changes in the dependent variable (Samadi-Todar et al., 2025). Based on previous studies and the theoretical framework of this research, three primary independent variables were identified: park sociability, mental well-being, and park quality.

Park Sociability: Park sociability refers to the extent to which urban parks provide opportunities for social interaction, communication, collective activities, and community engagement. Previous research indicates that socially supportive environments can reduce loneliness, strengthen social relationships, and encourage repeated use of green spaces (Park et al., 2020; Jamalishahni et al., 2023; Astell-Burt et al., 2022).

Mental Well-being: Mental well-being reflects users' psychological experiences within park environments, including feelings of safety, relaxation, emotional comfort, and restoration. Parks that provide peaceful and secure environments may reduce psychological barriers and encourage women to spend more time outdoors and participate in physical activities (Samadi-Todar & Hami, 2025; Guo et al., 2021; Arias-Fernández et al., 2023; White et al., 2020).

Park Quality: Park quality includes physical, managerial, and environmental characteristics that influence users' experiences, such as cleanliness, maintenance, accessibility, availability of facilities, security, and responsiveness to users' needs. Effective management practices can improve satisfaction and create supportive conditions for regular physical activity participation (Kaczynski et al., 2016; Nița et al., 2018; Samadi-Todar et al., 2025).

Additionally, to examine the role of women parks, two further dimensions were considered:

Park Supportiveness: Park supportiveness represents the extent to which women parks provide a comfortable, inclusive, and supportive environment through appropriate facilities, social acceptance, and a sense of belonging.

Freedom of Action: Freedom of action refers to women's perceived ability to participate in activities independently and comfortably without social judgment, cultural limitations, or behavioral restrictions.

3.4. Dependent Indicator

The dependent variable represents the main outcome that researchers aim to explain or predict through the influence of independent variables (Sekaran & Bougie, 2016). In this study, the dependent variable is physical activity within urban parks.

Physical activity is defined as voluntary, leisure-based bodily movement performed within park environments for recreational, social, or health-related purposes. These activities include walking, jogging, stretching, group exercise, fitness activities, and other light-to-moderate recreational exercises commonly practiced by female park users.

The study focuses on everyday physical activities rather than professional sports. Specifically, it examines how characteristics of urban parks influence housewives' willingness and ability to participate in outdoor activities by creating environments that are socially supportive, psychologically comfortable, and physically accessible.

3.5. Survey Procedure

The target population for this study comprises housewives aged 18 years and older who frequent urban parks in Tabriz. Due to the lack of precise data regarding the number of visitors to the city's major parks, it was necessary to employ an appropriate sampling technique to ensure the generalizability of the findings. The participants of this study were housewives who regularly used urban parks and reported participation in physical activities. Therefore, the questionnaire was administered only to housewives who had experience engaging in physical activity within park environments. The sample size was calculated using the formula proposed by Mitra and Lankford (1999), which is specifically designed for situations where the exact population size is unknown. In this formula, 'e' represents the margin of error, 'n' denotes the sample size, and 'P' stands for the conditional probability (Eq 1). This method enhances the accuracy of results by minimizing sampling errors, improving confidence levels, and reducing non-sampling errors. Using a standard deviation of 3.45, the determined sample size was 210 individuals. Accordingly, 210 housewives who utilize urban parks in Tabriz were selected to participate in the study.

$$Eq\ 1 : e = \sqrt{[(P)(1-P)]/n} \rightarrow \%3.45 = \sqrt{[(\%50)(1-\%50)]/n} \rightarrow n = 210$$

In this study, systematic random sampling was employed as an effective method for sample selection. Characterized by its structured approach and high level of reliability, this technique facilitates the extraction of a sample that adequately represents the target population. The process involves randomly determining an initial starting point, followed by the selection of subsequent participants at fixed intervals—in this case, every 10th individual. Accordingly, participants received questionnaires if their assigned numbers were 1, 11, 21, 31, 41, and so

forth (Samadi-Todar et al., 2025). This sampling approach holds significance in two main respects: firstly, it minimizes potential biases and enhances the accuracy of generalizing findings; secondly, it offers a more straightforward implementation compared to simple random sampling.

According to Fink (2003), systematic sampling, characterized by its structured and orderly approach, effectively captures the overall characteristics of the target population. This method not only enhances the efficiency of sample selection but also reduces the required time and financial resources compared to alternative sampling techniques. During July and August ۲۰۲۴, a systematic random sampling procedure was employed to select 210 housewives aged 19 to 85 who utilized urban parks in Tabriz. These participants completed a questionnaire focused on variables related to physical activity and group sports. The questionnaire distribution occurred daily between 10:00 AM and 2:00 PM and again from 4:00 PM to 8:00 PM, aligning with the peak visiting hours of urban parks in Tabriz (Samadi-Todar et al., 2025). Respondents were requested to complete the survey within 15 minutes.

3.6. Statistical Analysis

Data analysis methodologies are fundamental to conducting rigorous scientific research. Scholars often emphasize the importance of standardized reporting protocols and methodological frameworks to ensure comprehensive and scalable investigations (Hair et al., 2017; Samadi-Todar et al., 2025). In the present study, statistical analyses were carried out utilizing the SPSS software.

The Statistical Package for the Social Sciences (SPSS) is a widely adopted tool for forecasting trends within datasets (Samadi-Todar and Hami, 2025). This software package facilitates data analysis and visualization (Meraj et al., 2022; Sinha et al., 2022; Samadi-Todar et al., 2025), and is extensively employed in the social and behavioral sciences. Specifically, SPSS version 25 was utilized to perform the data analysis. Initially, categorical variables such as marital status, age groups, education levels, and income brackets were examined through frequency analysis. Subsequently, indicators were clustered according to their internal similarities, particularly focusing on those that reflected analogous reasons for rejection. Descriptive statistics were then employed to calculate the mean values of the variables, enabling the interpretation of the highest and lowest degrees of agreement or disagreement across the surveyed items. To assess the internal consistency of the grouped indicators, reliability analysis was conducted. Finally, the Spearman correlation test was applied to evaluate the relationships between independent and dependent variables.

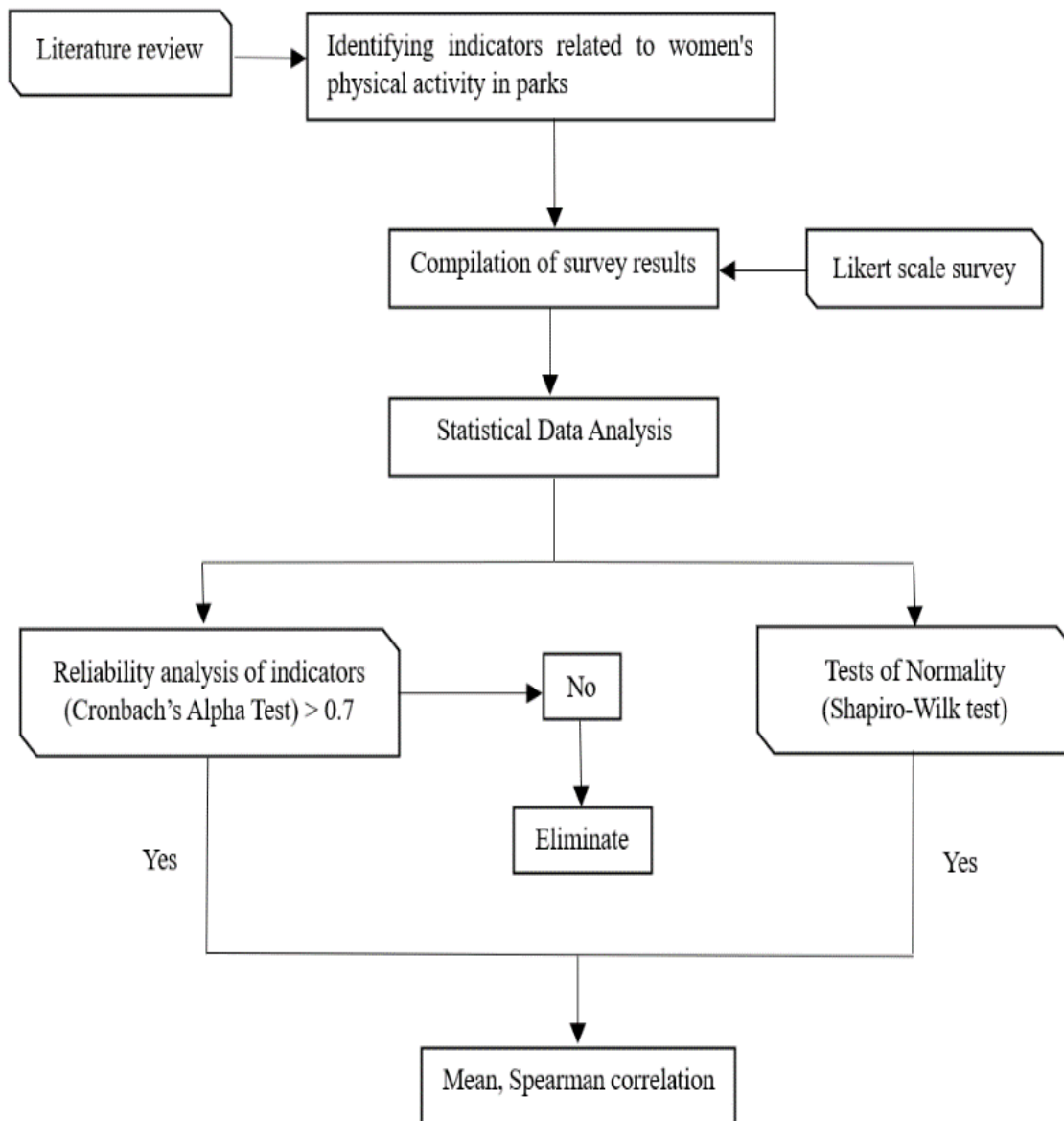


Figure 2. Statistical Analyses (Samadi-Todar et al., 2025)

4. Result

4.1. Participants' Social and Demographic Information

Table 1 presents the demographic characteristics of the 210 participants, including age, marital status, and educational attainment. The majority of participants (62.4%) were housewives between the ages of 18 and 29, representing the largest age group in the sample. In contrast, individuals aged over 60 accounted for only 1% of the participants, marking the smallest proportion. Regarding marital status, 63.3% of the participants were single, while 36.7% were married. In terms of educational background, the largest share—51.4%—consisted of undergraduate students.

Table 2. Descriptive Statistics (Age, Marital Status, and Education Level)

Individual-level variables	n	%
Age		
18-29	131	62.4

30-39	52	24.8
40-49	15	7.1
50-59	10	4.8
> 60	2	1.0
Total	210	100
Marital status		
Single	133	63.3
Married	77	36.7
Total	210	100
Education level		
Below diploma	10	4.8
Diploma	52	24.8
Associate Degree	23	11.0
Bachelor	108	51.4
Master	14	6.7
PhD or higher	3	1.4
Total	210	100

Table 3 presents the distribution of monthly income levels and the manner in which housewives visit the park. Among the 210 female participants from Tabriz who frequent El Goli Park and Shams Tabrizi Park, the majority (59%) reported a monthly income of less than \$80, while only a small proportion (8.6%) indicated earning more than \$200 per month. Furthermore, a considerable number of respondents (47.1%) expressed a preference for visiting parks alone, primarily for engaging in physical activity.

Table 3. Descriptive statistics (Monthly Income, Visiting the Park)

Individual-level variables	n	%
Monthly income		
< \$80	124	59.0
\$80 - \$120	39	18.6
\$120 - \$200	29	13.8
>\$200	18	8.6
Total	210	100
Visiting the park		
Individual	99	47.1
group	17	8.1
Individual - group	13	6.2
with friends	55	26.2
family	26	12.4
Total	210	100

4.2. Mean Analysis for the Effect of Parks on Housewives' Participation in Physical Activities

Table 4 presents the descriptive statistics, including mean values, standard deviations, and Cronbach's alpha coefficients, for the indicators influencing housewives' participation in group and recreational sports activities within park environments. The "park sociability" indicator reports a mean of 4.068 and a standard deviation of 0.734, reflecting a high level of social

interaction among housewives in parks, accompanied by relatively low variability in responses. The “mental well-being” indicator yields a slightly higher mean of 4.081 and a standard deviation of 0.710, suggesting that housewives generally experience a sense of calmness and enhanced psychological well-being during their time in the park. In contrast, the “quality of park” indicator, with a mean of 4.209 and a standard deviation of 0.635, is rated somewhat lower compared to the other dimensions, potentially pointing to perceived limitations in park administration. The dependent variable, “presence of housewives,” has a mean score of 4.125 and a standard deviation of 0.735, indicating a relatively high but variable level of female presence in parks. All Cronbach’s alpha coefficients exceed the 0.7 threshold, confirming the internal consistency and reliability of the measurement instruments. Overall, the data highlight that social interaction and mental well-being are the most influential factors in promoting housewives’ park attendance, while the quality of management plays a comparatively lesser role. This underscores the critical significance of social and psychological factors in enhancing housewives’ engagement with public recreational spaces.

Table 4. Mean Analysis for the Effect of Parks on Housewives’ Participation in Sports Activities

Physical activity	Mean	Std. deviation	Cronbach alpha
Park sociability	4.068	.734	.771
Mental well-being	4.081	.710	.801
Quality of park	4.209	.635	.743
Physical activity	4.125	.735	.823

4.3. The Relationship between Indicators and the Effect of Parks on Housewives’ Participation in Sports Activities

The findings of the Spearman correlation test, as outlined in Table 5, indicate a statistically significant and positive association between the independent variables—namely sociability, mental well-being, and the quality of park management—and the dependent variable, which is the presence of housewives in parks for physical activity. All correlation coefficients yielded a significance level of $p < 0.01$ (Sig = 0.000), confirming the robustness of these associations and minimizing the likelihood that they occurred by chance.

Among the examined indicators, mental well-being in the park demonstrated the strongest correlation with housewives’ presence, reflected by a coefficient of 0.807. This suggests that feelings of tranquility, safety, and psychological comfort within the park environment play a crucial role in encouraging housewives’ participation in outdoor activities. It underscores the necessity of designing serene, stress-free park environments with suitable facilities to promote greater usage by housewives (Table 5).

Table 5. The Relationship between Indicators and the Effect of Parks on Housewives’ Participation in Sports Activities

Spearman’s rho	Independent indicators		
	Park sociability	Mental well-being	Quality of park
Physical activity	.750 **	.807**	.628**
Sig. (2-tailed)	.000	.000	.000

Spearman correlation coefficient: < 0.3 negligible correlation, 0.3–0.5 weak correlation, 0.5–0.7 moderately strong correlation, 0.7–0.9 strong correlation, 0.9 < very strong correlation (Samadi-Todar et al., 2025).

Sociability also exhibited a strong correlation ($r = 0.750$) with housewives' park attendance. This indicates that parks providing opportunities for social interaction are more likely to attract housewives. Such socially supportive environments are characterized by features that encourage communication, collective activities, and a sense of belonging, including communal seating areas, group exercise spaces, shared recreational facilities, and opportunities for organized social programs or community events. In addition, a welcoming atmosphere where users feel comfortable interacting with others and developing social networks can strengthen attachment to the park and motivate repeated visits. These findings highlight the social dimension of park use and suggest that designing spaces that facilitate informal encounters, group activities, and social support can significantly enhance housewives' motivation to frequent urban parks (Table 5).

Park quality, with a correlation coefficient of 0.528, demonstrates a positive association with housewives' park attendance, indicating that effective park management contributes to increased usage. However, its influence is comparatively lower than that of the other two measured indicators. This suggests that while elements such as cleanliness, green space maintenance, safety, and service provision play a role, they exert a less direct impact on housewives' presence in parks than social interaction opportunities and mental well-being (Table 5).

4.4. The Impact of Women's Parks on Creating an Environment for Physical Activity

Table 6 explores the role of housewives-only parks in fostering a supportive environment for housewives to engage in physical activity, focusing on two primary indicators: *park support* and *freedom of action*. For each indicator, descriptive statistics—including the mean, standard deviation, and Cronbach's alpha—were calculated and analyzed. The indicators presented in this section were developed from the questionnaire responses and represent the aggregated dimensions measured through the survey.

Housewives' Park Support

The *park support* indicator assesses the extent to which environmental and social factors within housewives-only parks facilitate their presence and participation in physical activities. The Cronbach's alpha for this index was reported as 0.755, signifying an acceptable level of internal consistency and reliability for the measurement tool. The mean value for this indicator was 4.232, which is relatively high, suggesting that, overall, housewives perceive these parks as supportive environments (Table 6).

One key component contributing to this support is the *sense of ownership* among users. With a mean score of 4.19 and a standard deviation of 0.924, findings reveal that many housewives feel a strong attachment to these parks. This perceived ownership is likely to enhance feelings of safety and familiarity, which in turn encourages engagement in physical activity.

Another important element is *behavioral comfort*, which also recorded a mean of 4.19 and a standard deviation of 0.727. This result reflects the ability of housewives to behave naturally and freely in these spaces, without the fear of social judgment or cultural constraints. Such comfort not only promotes active use of the space but also contributes positively to psychological well-being and self-esteem (Table 6).

The availability of *appropriate facilities and amenities* tailored to housewives' physical, social, and cultural needs is another significant factor. This component yielded a mean of 4.36 and a standard deviation of 0.795, indicating that the infrastructure in these parks effectively supports housewives' participation in various activities (Table 6).

Lastly, the dimension of *social support*—which includes opportunities for social interaction, the development of social networks, and a sense of group identity—showed a mean of 4.19 and a standard deviation of 0.924. This suggests that housewives' parks also serve as spaces for meaningful social engagement, reinforcing their role in promoting regular physical activity among housewives (Table 6).

Table 6: The Effectiveness of the Existence of Housewives' Parks in Creating an Environment for Housewives to Perform Physical Activity

Indicator and Question	Mean	Std. deviation	Cronbach alpha
<i>Housewives' Park Support:</i>	4.232	.642	.755
Creating a greater sense of ownership in the housewives' park	4.19	.924	
More behavioral comfort in the housewives' park	4.19	.727	
More housewives-friendly uses	4.36	.795	
More social support	4.19	.924	
<i>Freedom of action:</i>	4.156	0.655	0.772
Being away from men	3.81	1.183	
More freedom of dress in housewives' parks	4.33	0.980	
No excuses and family restrictions	4.15	1.018	
Freely carrying out activities	4.33	0.945	

Freedom of Action

The "freedom of action" index assesses the extent to which housewives feel autonomous and unrestricted in their engagement with various activities within housewives-only parks. With a reported Cronbach's alpha of 0.772, the index demonstrates acceptable internal consistency, confirming the reliability of the measurement instrument. The overall mean score of 4.156 reflects a notably high perceived level of freedom among the housewives surveyed, suggesting that these parks offer a secure and accommodating environment conducive to both physical

and social activities. These spaces enable housewives to express themselves more freely, away from societal constraints and prevalent social judgments (Table 6).

Among the individual components of this index, the item “being away from men’s eyes” received the highest mean score (3.81), highlighting that the absence of male presence significantly contributes to housewives’ sense of safety and comfort. Although the standard deviation of 1.183 points to some variability in perception among respondents, the majority reported a positive experience regarding this aspect (Table 6).

Another key factor, “more freedom of clothing in housewives’ parks,” had a mean of 4.33 and a standard deviation of 0.980. This suggests that the opportunity to wear more comfortable and relaxed clothing, free from concerns of social scrutiny, is perceived as a major advantage. This factor is particularly relevant in promoting physical activity, as appropriate clothing contributes to greater comfort, reduced stress, and enhanced participation.

Additionally, the component “no excuses and family restrictions” yielded a mean of 4.15 with a standard deviation of 1.018. This indicates that housewives-only parks may serve to mitigate familial barriers that often limit housewives’ access to public recreational spaces, thus facilitating greater societal engagement for those who face such limitations (Table 6).

The “freedom to carry out activities” component, with a mean of 4.33 and a standard deviation of 0.945, further underscores the autonomy these spaces afford, allowing housewives to select and perform various activities with minimal constraints. However, it is important to note that certain cultural or social limitations may still persist (Table 6). The consistently high mean scores in both the “Housewives’ Park Support” and “freedom of action” indices demonstrate the significant role these spaces play in addressing housewives’ psychosocial needs and promoting their active participation in public life.

5. Discussion

Urban parks play a crucial role in fostering environments that support mental well-being. Findings from the present study on Tabrizi housewives indicate that greater mental well-being, facilitated by park visitation, is positively associated with increased participation in park-based physical activities. These findings align with prior research (Beute et al., 2023; Kabisch, 2019), which underscores the beneficial impact of parks on psychological health. Given that housewives typically spend a substantial portion of their time at home, their need to interact with natural environments becomes more pronounced. This connection with nature not only enhances their mental state but also motivates higher levels of physical engagement within park settings, thereby encouraging more frequent park visits.

Furthermore, as highlighted by the participants in this study, urban parks and green spaces significantly contribute to stress reduction, emotional upliftment, and a sense of connection with nature. Due to spatial and temporal limitations, housewives are particularly attentive to opportunities that improve their mental well-being and increase their park attendance. These findings corroborate previous studies (Markevych et al., 2017; Marselle, 2019), which emphasize the role of parks in alleviating stress, enhancing mood, and mitigating loneliness. For housewives, these psychological benefits serve as motivating factors for park engagement, which, in turn, fosters a greater likelihood of engaging in physical activity.

The sociability of parks emerged as a key factor influencing park attendance and participation in physical activities among housewives in Tabriz. Participants emphasized that the presence of social opportunities within parks motivates them to visit these spaces. This finding aligns with previous research (Park et al., 2020; Jamalishahni et al., 2023; Astel-Burt et al., 2022a, b; Samadi-Todar et al., 2024), which highlights the role of parks as social environments that foster community presence. For Tabrizi housewives, who often face household responsibilities and spend extended time at home, such social spaces are essential for alleviating feelings of isolation, fostering social connections, and enhancing psychological well-being, thereby encouraging greater engagement in physical activities within parks.

Furthermore, Tabrizi housewives identified park cleanliness, effective maintenance, and overall management quality as significant motivators for park use. This observation is consistent with findings from earlier studies (Polko & Kimic, 2022; Zhang et al., 2019; Bahriny & Bell, 2020), which suggest that park utilization is closely linked to perceptions of management quality. Given their domestic roles and heightened attention to cleanliness and order within the home, these housewives tend to value well-maintained public environments, which in turn facilitates their park attendance and increases the likelihood of participating in physical activity.

This study highlights the significant impact of housewives-only parks in enhancing the physical activity levels of housewives. High mean scores for the indicators of “*park support*” and “*freedom of action*” reflect the presence of safety, social support, a sense of belonging, and increased autonomy for housewives within these environments. Furthermore, factors such as appropriate infrastructure, freedom in dress, protection from the male gaze, and the absence of familial constraints demonstrate that these parks effectively reduce cultural and social barriers. Consequently, the expansion of such gender-specific public spaces can contribute to improved health, well-being, and social engagement among housewives, and holds considerable relevance for urban planning and policy development. In Iran, women’s participation in physical activities within public spaces is influenced by various cultural and social factors. Traditional gender norms, family responsibilities, time constraints associated with domestic duties, and concerns regarding social judgments or the presence of others in public spaces may limit women’s opportunities and motivation to use urban parks and engage in recreational physical activities. Furthermore, perceptions of safety, feelings of comfort when sharing public spaces with men, and the lack of suitable and inclusive environments for women are among the cultural and social barriers that can affect women’s presence and participation in physical activities in urban settings.

6. Conclusion

The findings of this study highlight the significant role of urban parks in enhancing housewives’ participation in physical, recreational, and social activities. These public spaces offer housewives a safe and supportive environment for engaging in physical exercise, thereby promoting not only their physical health but also their psychological and social well-being. Key determinants influencing housewives’ use of parks include the sociability of the space, mental health benefits, and the quality of park management. Parks function not only as venues for sports and recreation but also as vital spaces for fostering social connections, particularly

among housewives. Such interactions—facilitated through friendly conversations, group sports, and community events—serve to enhance motivation and cultivate a sense of belonging. The sociable nature of these environments emerges as a crucial factor in encouraging housewives' continued presence in them. Moreover, exposure to natural and social settings contributes substantially to housewives' mental health. The presence of green, open spaces has been shown to alleviate stress, promote relaxation, and increase the motivation for physical activity. Specifically, engaging in outdoor exercise within natural landscapes is associated with reduced levels of anxiety and depression. Therefore, designing park environments that support mental well-being and tranquility can directly influence housewives' willingness to participate in physical activities. Another critical element is the quality of park management, encompassing aspects such as safety, cleanliness, and overall environmental quality. Housewives who perceive parks as secure and welcoming are more likely to frequent them and stay for longer durations. The availability of essential amenities—such as hygienic restrooms, well-maintained exercise equipment, ample seating, and designated rest areas—further enhances the appeal of these spaces for female users. Thus, improved park management practices play a pivotal role in facilitating housewives' access to the physical, recreational, and social benefits that parks offer. Additionally, housewives-only parks contribute significantly to increasing housewives' engagement in sports by providing a secure and private setting. These dedicated spaces help eliminate sociocultural constraints, foster a sense of freedom and safety, and offer social support networks, thereby improving both mental and physical health outcomes. Organizing group exercise classes and recreational events within these parks enhances social cohesion and active participation. Furthermore, the provision of adequate sports infrastructure in such environments supports the prevention of non-communicable diseases and encourages healthier lifestyles. Ultimately, the development of housewives-exclusive parks can boost self-confidence and contribute meaningfully to housewives' overall well-being and quality of life. It is recommended that policymakers prioritize the expansion of these spaces in alignment with the specific needs of housewives.

7. Suggestions for Future Research

Based on the findings of this study, several practical and research-oriented recommendations can be proposed to enhance the quality of urban environments and promote the physical and mental well-being of housewives. From a practical standpoint, prioritizing the development of housewives-specific parks within urban planning frameworks is essential. These parks should be designed in alignment with housewives' cultural, social, and physical needs, ensuring a secure environment equipped with appropriate vegetation, diverse recreational and fitness facilities, and comprehensive welfare services. Enhancing the sense of freedom, ownership, and social support in these environments can foster more active female engagement in both physical and social activities. Furthermore, improving park management practices—including cleanliness, routine maintenance of green areas, the provision of safe and hygienic sports equipment, and the assurance of security—plays a critical role. Incorporating features that encourage social interaction, such as communal seating areas, small cafés, shared play spaces, and cultural programming, may also enhance housewives' sense of belonging and motivation to participate. In addition, organizing group-based activities like housewives-exclusive fitness classes can further contribute to physical health and social cohesion. In the research domain,

qualitative investigations into housewives lived experiences in urban green spaces—especially through in-depth interviews and focus group discussions—are recommended to gain a deeper understanding of the facilitators and barriers influencing their engagement. Comparative regional studies and longitudinal research exploring the long-term psychological and quality-of-life outcomes associated with green space use among housewives are also necessary. Furthermore, examining the influence of male perspectives and prevailing gender norms in the design of housewives-friendly environments can inform more inclusive and effective urban policies. Overall, adopting a gender-sensitive approach that integrates housewives' direct involvement in planning and decision-making processes, while reinforcing the social, spatial, and managerial dimensions of urban parks, offers a promising pathway for enhancing housewives' presence, safety, and social vitality in urban settings.

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Availability of data and material

The author confirms that the data supporting the findings of this study are available within the article and its supplementary material. Raw data that support the findings of this study are available from the corresponding author, upon reasonable request.

Declarations Ethics approval and consent to participate

The ethical approval ID of the research was “D/6914/13 on June 28th, 2023” in the Faculty of Agriculture at the University of Tabriz.

Consent for publication

The authors express their full consent for the publication of this article in this publication.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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