


Article

Identification of Determinants That Reduce Women's Safety and Comfort in Urban Public Spaces (UPS)

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Abstract: Urban development and population growth present new challenges for developing urban public spaces (UPS) in cities. The significance of cities as centers of integration of different socio-cultural groups is growing. Taking into account the diversity of needs and expectations of sensory-sensitive groups (women) as residents and users of urban public spaces is a key task facing modern city managers. Women's public participation is relevant and important, because recognizing their needs and taking them into account in urban spatial policy contributes to creating cities tailored to the needs and expectations of residents and users, according to the principle of "everyone-important". This article has goals for the identification of factors that reduce the safety and comfort of women's activities and the most important architectural features UPS. The results of the research indicate that the determinants that reduce the friendliness of safety and comfort in UPS are a lack of lighting, lack of esthetics of space development, lack of benches and toilets, and street noise. A space tailored to women's needs and expectations should be well-lit with a level walking and sidewalk surface and include architectural infrastructure elements such as adequate municipal sanitation (toilets), benches and urban furniture, with landscaped green space (squares, flowerbeds, trees), which is in line with the principles of universal design. This study's results found that such factors can help create safe, egalitarian, and inclusive cities. They complete the research gap in the field of sustainable urban development and are key to developing gender-equitable urban planning and urban development policy practices.

Keywords: women; women-friendly cities; urban public space; urban women's well-being; urban women's quality of life



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1. Introduction

The successive growth of the urban population (from 34% in 1960 to 57% in 2023) (World Bank) and prognosis that more economically developed countries will see an increase in women as opposed to men [1], pose new challenges for spatial policy in urbanized areas [2,3]. The importance of cities as key centers of innovation and integration of different socio-cultural groups is growing. Module Public Spaces 2019, TARGET 11.7 indicates that by 2030 there should be universal access to safe, inclusive public spaces, especially for women, children, the elderly, and people with disabilities [4].

Rational management of urban public spaces (UPS) and, above all, the creation of friendly public spaces is key to efficiently and properly managed urban districts [5], creating egalitarian and inclusive cities. Taking into account the diversity of needs and expectations of residents and users of urban public spaces is becoming an important challenge facing modern city managers.

The development of urban spaces requires analysis and research among users of public spaces, which will form the basis for optimal strategies for sustainable urban development [6]. Urban development strategies and sustainable development goals (Figure 1) point to bridging social and spatial imbalances, forming the development of the city, regions or the country as a whole.



Figure 1. Sustainable Development Goals 3, 5, and 11. Source: own elaboration (photos from Branicki's garden, Białystok).

The indicated socio-economic determinants have a key influence on the shape of UPS [7]. UPS are a place for social interaction, activities, and expression, and therefore should be accessible to all, through the elimination of barriers and infrastructural adaptation to users, creating a friendly space that is tailored to the needs and expectations of users. A friendly UPS is characterized by multidirectionality encompassing the needs of different social groups, in which social well-being, health, and safety are placed above all else [6].

The determination to study this situation has to do with the fact that cities have historically been planned and designed by urban planners, who are 90% male [8]. Public spaces contain solutions designed by males and seen from the male perspective without considering the specific multisensorial needs and expectations, including women's sense of security [9,10]. The gender-insensitive design has led to widespread socio-spatial inequality, i.e., inadequate provision of sanitation and amenities, fear in public spaces [11], and some factors contributing to the inhibition of women's mobility worldwide [12–14].

Urban spaces should facilitate users to meet their needs regardless of their personal mental and physical capabilities, becoming a space conducive to recreation and social integration [15].

The article focuses on a topic that has been the subject of intense public debate recently. In the face of increasing environmental, climatic, and social challenges, such as exclusion and spatial inaccessibility for the elderly, people with disabilities, and women [16], it is important to understand how public spaces can be adapted to meet the diverse needs of all users. The research undertaken is key to developing appropriate spatial planning policies, mainly at the local level [17] with a gender perspective, which should be reflected in the assumptions of studies on the future of cities [18,19] and sustainable urban development strategies the Sustainable Development Goals (SDGs) and from the standard [20] (Sustainable cities and communities—Indicators for city services and quality of life).

Sensory-sensitive groups (women), as users of cities are characterized by heterogeneous adaptive abilities [21], which allow them to adapt to different degrees to a variety of situations and conditions in urban spaces. As a result, people with lower adaptive abilities participate to a lesser extent in activities that require moving in the multidimensional space of the city. In carrying out this article, an attempt was made to identify the determinants that reduce the safety and quality of life of sensory-sensitive groups (women) in UPS. The article aims to complete the research gap in the field of sustainable spatial urban development that will take into account social needs, through the active voice of women to the precise spatial planning of sensitive cities. The article sets the following goals:

Goal 1. Identify user activities in UPS.

Goal 2. Identify the determinants that reduce the safety and comfort of women in UPS.

Goal 3. Identify the most significant architectural features in UPS.

The following research questions were established to achieve the stated goals:

1. What activities do women undertake in UPS?
2. What are the determinants that degrade the friendliness of UPS for women?
3. What types of urban infrastructure elements contribute to lowering and improving comfort in the UPS according to women?

Urban spatial policies should be implemented based on the realization of the needs raised by various social groups, including women [14]. Therefore, the added value of the article is to expand the current state of knowledge in increasing the inclusiveness of urban space with particular attention to the specific needs and expectations of a sensory-sensitive social group (women) [22]. The results obtained will provide a broader perspective in the context of the relationship between urban planning and the needs and expectations of a sensory-sensitive social group (women).

2. Literature Review

An elementary part of the spatial structure of cities are spaces that are commonly considered accessible to residents and users, the quality of which is reflected in the well-being of the local population [23]. Looking through the perspective of social needs is necessary to create friendly cities, where the elements that make up the city, space and society, play a key role. According to [24–26], public space is a separate area of the city that is accessible, attractive, enabling confrontation with other users of the city, esthetically pleasing, where people want to meet, act and feel safe.

According to [27], a traditional public space is an area of the city in which there are central points along with a network of streets and squares, a collection of important buildings, monuments, and the presence of greenery. It is a space open to the most diverse forms of contact and daily and festive behavior. According to [28], public space is accessible to the entire community and outsiders, where the intense life of the city takes place, and at it are located the most important objects of social, service, and cultural importance.

From the point of view of [29], public space is an accessible space that is properly arranged, urbanized, and the location is conducive to the realization of direct contact between participants in social life and other social needs of the collectives using it. Ref. [30] points out the determinants that public space should meet are accessibility to anyone and everyone, openness, commonality, collectivity, and adequate infrastructure facilities.

Public space can be identified morphologically as a defined area, street, space; functionally as a space that enables pedestrian mobility, micromobility, meetings, entertainment, culture, and religious worship; and socially as a place that enables interpersonal contacts and social relations, which are considered in the context of the public domain, the public sphere [31]. On this basis, it is possible to indicate the nature of public space as social, which is created by users and participants in public space, and urban, which is created by infrastructure and anthropogenic and natural elements.

Cities should be designed to benefit all residents, take into consideration their needs, [11,12] providing health benefits, not restricting mobility, and influencing physical activity. Urban public spaces have a distinct identity, are characterized by specific spatial and landscape features, and are full of symbols (which evoke emotions and evoke the atmosphere of the place) [6]. There are different ways to categorize public spaces (Figure 2).

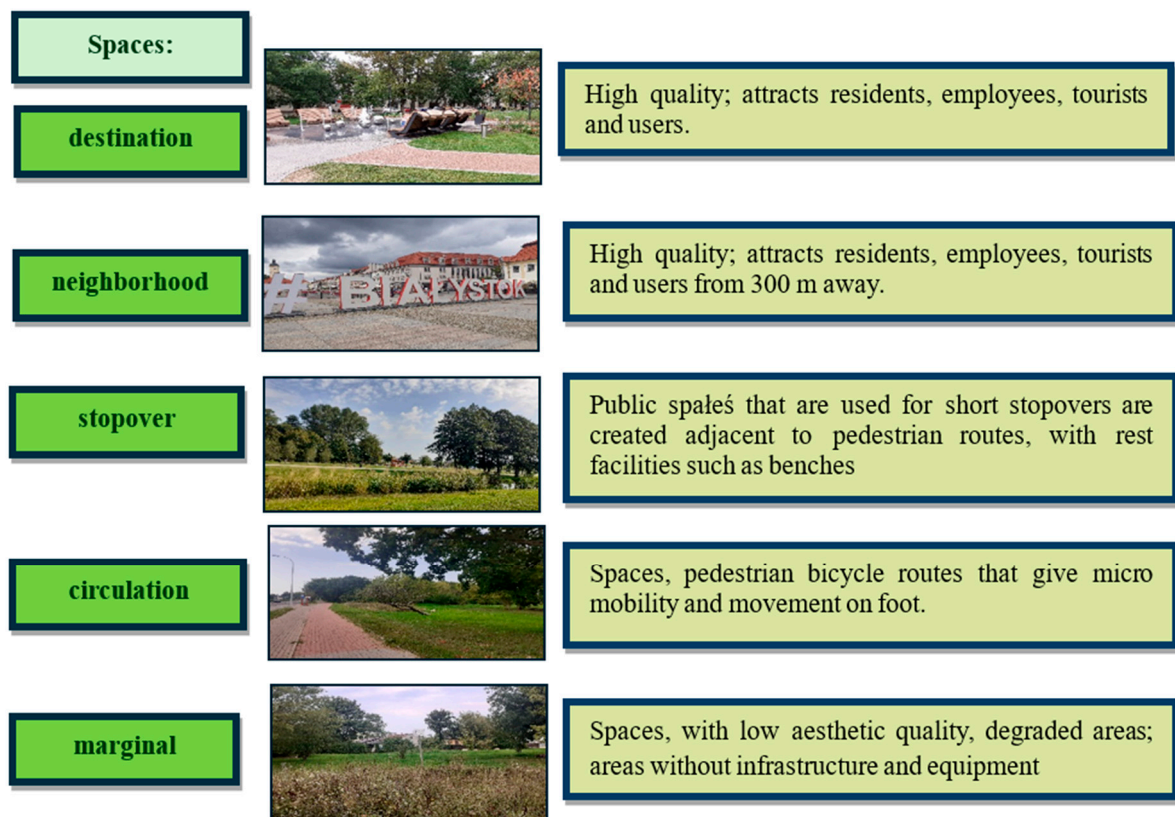


Figure 2. Segregation of public spaces in city. Source: own elaboration based on [32].

Social, economic, and technological changes have influenced the development of cities and the spatial-architectural policies implemented. This is closely related to public spaces, the variety, functions, and purposes of which have changed over the past decades. The quality of public space influences whether or not we willingly stay in it. A well-developed public space is characterized by, among other things, spatial-urban multidirectionality, interpersonal communication, and facilitation of contacts between people, accessible to all, and not restricted by any social group. Public space must also have a practical dimension resulting from the location of a given public space or transportation accessibility [33,34].

The quality of public space is influenced by commonly accepted functions [35]. A detailed characterization of the functions with examples and photographic documentation is presented in Table 1.

Table 1. Functions of public spaces.


Authors	Description	Function	Examples	Photo Documentation
Dymnicka [27]	Spaces and facilities that are a landmark of the city, including prestigious buildings and squares.	Representative	Market Square Avenue Office City Hall	

Table 1. Cont.









Authors	Description	Function	Examples	Photo Documentation
Mantey [35]	Spaces that allow active and passive recreation; outdoor sports and recreation or public facilities.	Recreational	Park Square Boulevard Recreational and sports facility	
Gehl [36]	Spaces that create and sustain human contact.	Integration	Square Park Church Community center Common room	
Mantey [35]	Spaces that allow you to meet your consumption and dining needs.	Commercial	Street Square Passage Shopping mall	
Lewicka [34]	Areas that are dedicated to religious worship and rituals.	Sacred	Square Church Chapel	
Carr [37]	Spaces and objects associated with events, historical figures of a given territorial unit.	Commemorative	Square Cemetery Memorial Historical museums Shrines	

Table 1. Cont.

Authors	Description	Function	Examples	Photo Documentation
Litwińska [38]	Spaces and facilities for spreading culture and np.	Cultural-creative	Square Park Amphitheater Museum Theater	
Carr [37]	Spaces to promote learning and community development.	Education	Square Park Garden Campus	
Litwińska [38]	A space that allows the movement of people, by land, sea, air; entrances and exits.	Transportation	Street Avenue Square Station Airport Port	

Source: own elaboration based on [39]; photo documentation—author.

In addition to the functions indicated, it is important to point out an important issue raised by [27] who clearly postulates about functional balance in public space. This means that no single function should be dominant in order for public space to meet social needs [40] and to be able to concentrate on a variety of user activities. The maintenance of proper infrastructure, leisure development elements, and the maintenance of consistency in the architectural and urban structure of an area are important in this field. The functions of public spaces are important from the perspective of urban planning and architecture and are crucial in the trend of inclusive and friendly cities, and through proper management and preservation, they can contribute to improving the quality of life of residents and users. In addition to the functions described above, based on a review of the literature, it is possible to identify the characteristics by which the public spaces in Figure 3 are identified.

In activities to improve public space, universal design is indicated, which can decisively improve the quality of life and social well-being of users. Universal design is the design of environments that can be used by all people, to the greatest extent possible, without the need for adaptation or specialized design [41]. The definition of universal design, which was supported by the seven principles of universal design, is the usability for people with different abilities, flexibility in use, simple and intuitive use, clear information, fault tolerance, comfortable use without effort, and size and space appropriate for access and use [42]. In this light, the main determinant is to make life easier for all users of public spaces regardless of age, disability, or gender so that the space is used by as many people as possible [43].

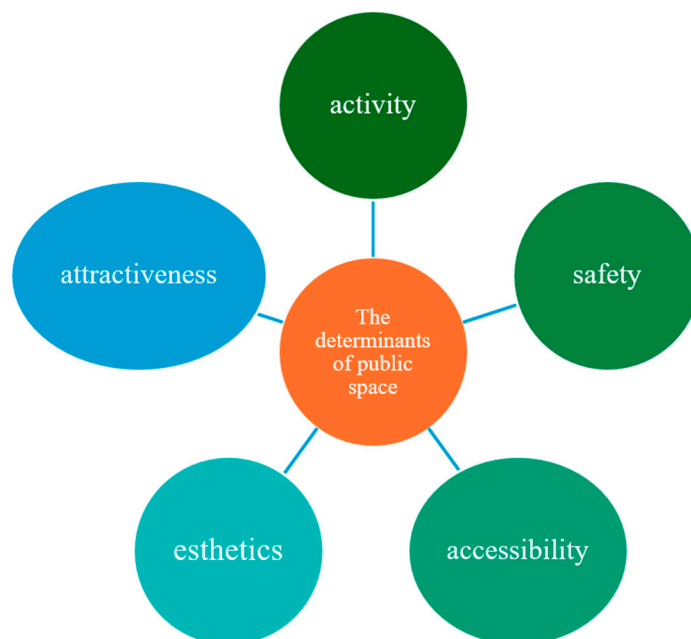


Figure 3. The determinants of public space. Source: own elaboration.

According to [20], it is necessary to combine social needs, desirable features of public space along with universal design, appropriate spatial infrastructure of the city in such a way that it is functional in the scale of the spatial layout, architectural detail, and color or elements of small architecture. This article fits into this concept by pointing out the important needs of women with relation to spatial infrastructure elements in cities.

According to [10], women are a sensitive social group that perceive through the senses to identify whether space is safe or not. The age of users, lifestyle, social class, and education affect the experience of using public space.

In a review of the literature, despite feminist progress toward gender equality, cities tend to be dominated by the default male. Gender insensitive design has led to widespread spatial inequality and contributed to inhibiting women's mobility around the world [14].

Public spaces should be open and welcoming to every social group and every user however it is common to ignore the needs of women in urban space planning [12]. Women's active participation in the urban planning process is important because it takes into account their perspectives and needs, thus leading to more tailored solutions that are tailored to the needs and expectations of women, creating egalitarian living conditions [8,44]. Among other things, gender mainstreaming is intended to increase the safety of users of public spaces, women in particular [45]. Despite the tremendous commitment of the global institutions of the UN, women, and the World Bank, this topic needs to be deepened, further analyzed, supplemented, and expanded to include the active voice of women in security strategies and incorporates gender in urban planning. The research gap in this area calls for research to be undertaken in this area, as it is important in terms of global climate goals including gender, mobility, and preference analysis and research, both at the macro and micro levels.

3. Research Methods and Materials

It is determined that the methodology will be based on international standards including innovation, interdisciplinarity, and universality. A mixed method will be used to carry out the tasks, with the aim of increasing reliability and obtaining reliable research results. The proposed mixed methodology will be implemented in multiple stages. In the first stage of the research, the author will use the historical and interpretive method, which will consist of a review of the literature in terms of the realized research objectives contained in the article. International cross-section of the literature on the particular functions and

qualities of public spaces will allow us to extract the scope of the necessary data for further research in line with [46], based on the literature review [47,48].

A key public participation framework will be implemented in the next stages. The participation framework emphasizes cooperation and involvement of participants, involving them as active co-creators of knowledge in the research process. In this regard, a survey will be conducted among female residents of a selected city in Poland. The data collected in accordance with White’s method will be the basis for achieving the set research objectives. Detailed stages of the research are presented in Figure 4.

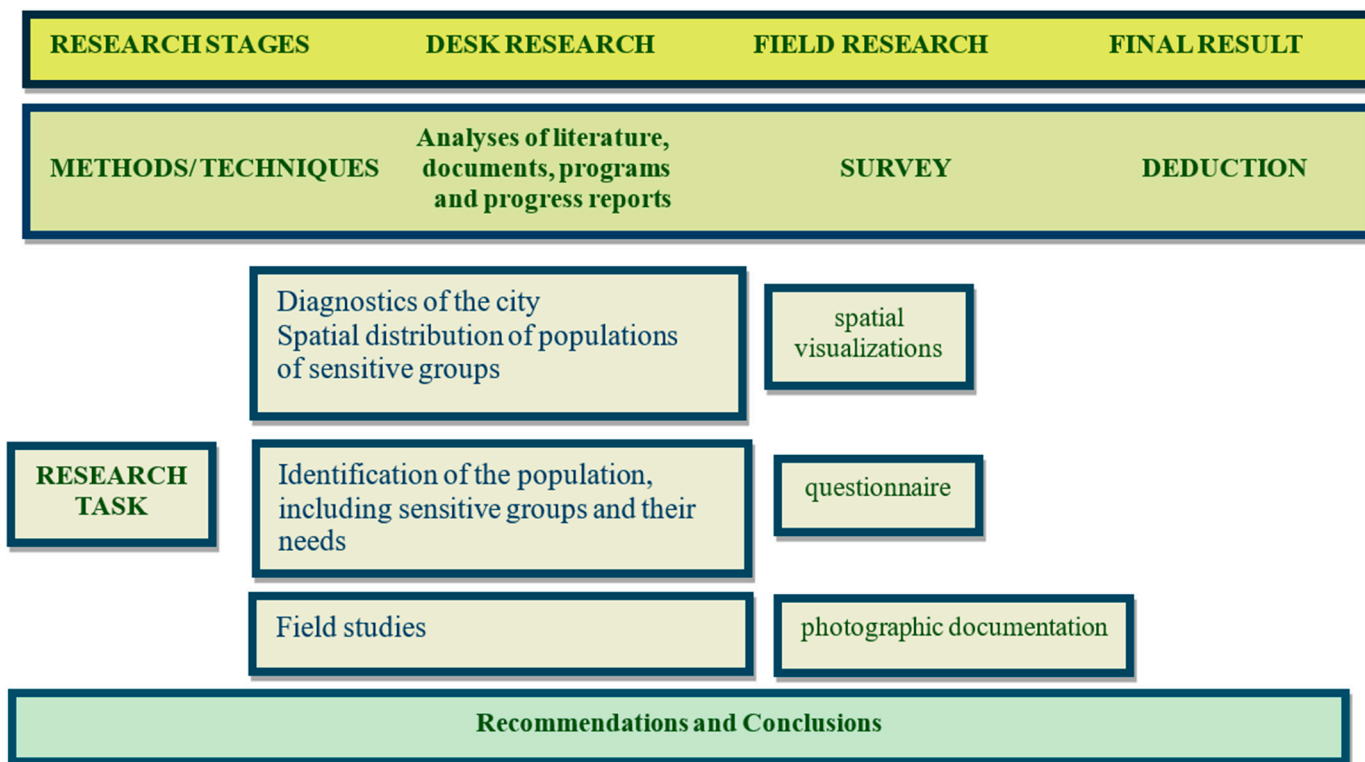


Figure 4. Stages of research. Source: own elaboration.

The subject of the study is Suwałki- the city in Podlasie Voivodeship, Poland- a country located in Central and Eastern Europe. The present study was conducted in the city of Suwałki (Figure 5).

Suwałki is the capital city of Suwałki county, and it is situated in North-eastern Poland in close proximity to the border with Lithuania, Russian Federation (Kaliningrad Region), and Belarus. Suwałki is intersected by international transit corridors linking Berlin with Warsaw and Saint Petersburg, and Warsaw with Helsinki (including via Baltica and the Rail Baltica network connecting the Baltic States with Western Europe). Suwałki lies in a region known as the *Green Lungs of Poland*. This region is characterized by unspoiled nature, and it is subject to strict environmental protection regulations. Demographic data for Suwałki and Poland are presented in Table 2.

This was not an accidental choice because Suwałki belongs to a category of small cities which play an important role in Poland’s settlement network [49]. The role of small cities is to concentrate on businesses operating on the local market. There are 712 such towns in Poland (out of the total number of 930 cities in 2018). The elimination of barriers to growth, the ability to tap into local potential, improvements in local living standards, and sustainable social and spatial development play an important role in the growth of local businesses [50].

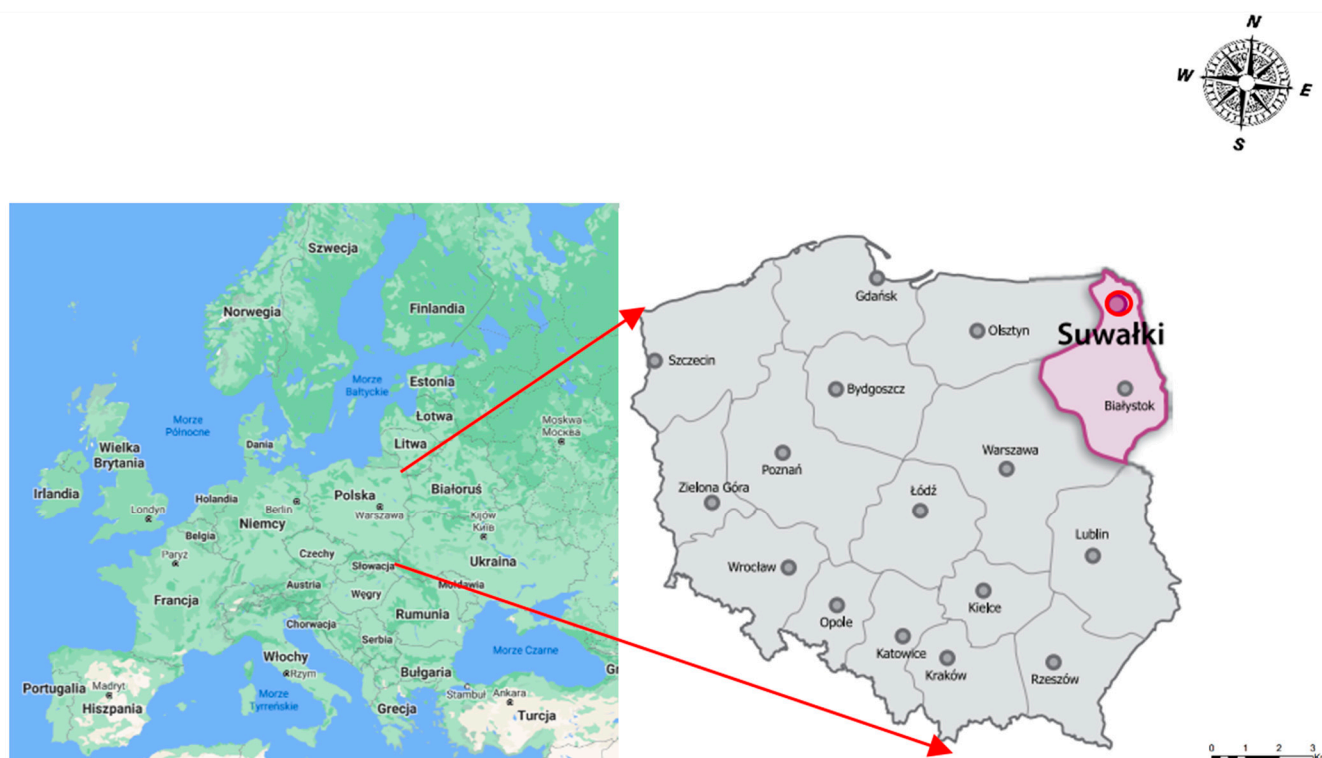


Figure 5. Location of city of Suwałki (marked in red). Source: own elaboration based on information obtained from Suwałki City Office (2024).

Table 2. Demographic data for Poland and Suwałki.

Population of Poland	37,698,294
Area of Poland	312,679
Population density in Poland (persons/km ²)	123
Percentage of Men	48.3%
Percentage of Women	51.7%
Working-age population	59.2%
Minors	18.2%
Retired	22.6%
Population of Suwałki	68,525
Area of Suwałki	65.5 km ²
Population density in Suwałki (persons/km ²)	1044.6
Percentage of Women	52.2%
Percentage of Men	47.8%
Working-age population	60.5%
Minors	19%
Retired	20.5%

Source: own elaboration based on [49].

4. Study Area

The city of Suwałki has a favorable demographic structure compared to other Polish cities, where more than 60% is the working population, the number of retirees is steadily increasing, but compared to other cities this growth is not high and remains at 20%. Women definitely dominate the gender distribution.

The city is part of the idea of the 15 min cities concept. The concept is centered around the basic principle of sustainable mobility and the reduced need to travel [51], by using walking and bicycle routes and minimizing the use of public or private transportation. Suwałki has more than 100 km of bicycle paths, which allow people to travel in every direction of the city using their own bicycle or a shared micromobility-city bike. An

additional advantage of the city is its scenic attractiveness, including a city water lagoon, parks and forest, and lakes in the neighborhood, which are undoubtedly assets of the city.

The city's above-mentioned attributes were positively evaluated by residents. Research conducted as part of [52] indicates that the most important determinants of inhabitants' satisfaction with daily life in the city are the state of the natural environment and air quality, the cleanliness and esthetics of the city, the state of roads, sidewalks and bike paths and the extent to which their network is expanded, and the safety of inhabitants (Figure 6).

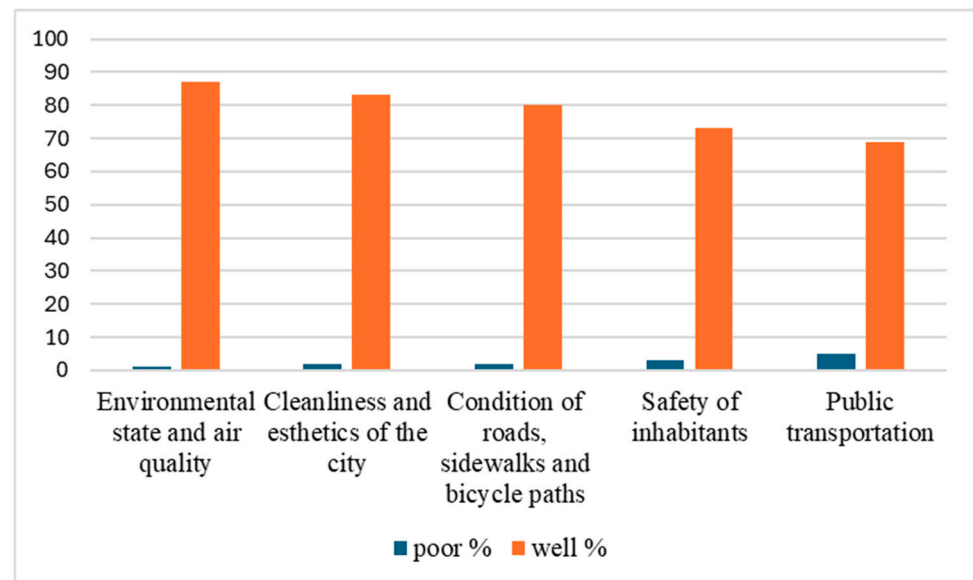


Figure 6. Satisfaction level of inhabitants in city of Suwałki. Source: own elaboration based on data from [53].

The city government identifies priority tasks in the social sphere that are expected to contribute to:

- (a) Improving the safety and friendliness of the city;
- (b) Activities aimed at the needs of the residents;
- (c) Counteracting social exclusion in order to increase safety and quality of life of the community.

The abovementioned tasks are in line with the activities indicated in urban development (sustainable development, which implies a sustainable improvement in the quality of life of today's and future generations) and New Urbanism (NU) policies, where accessibility and safety for all city residents are set at the forefront.

The city of Suwałki is an interesting area of study, as it currently provides a high standard of living for its inhabitants and at the same time seeks to eliminate obstacles. The city provides an introduction of innovative solutions to achieve a higher level of resident satisfaction.

5. Results

5.1. Identification of Sensitive Groups in City

Based on the demographic data collected from the Suwałki City Hall (registered permanent residents), the following were identified:

- (a) Division of the population of the city of Suwałki into men and women (Figure 7).
- (b) Division of the female population for individual age groups (Figure 8).

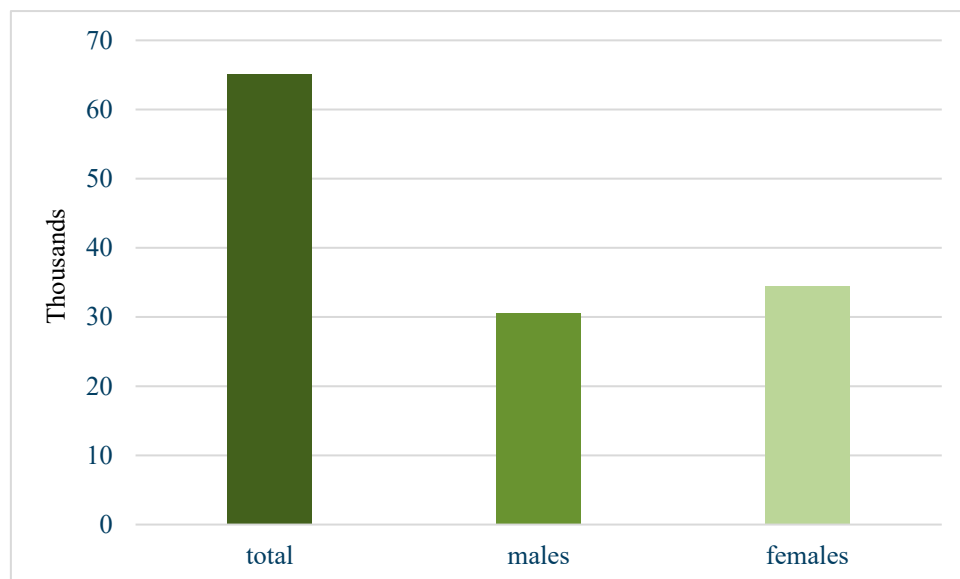


Figure 7. Division of the population of the city of Suwałki—males and females. Source: own elaboration.

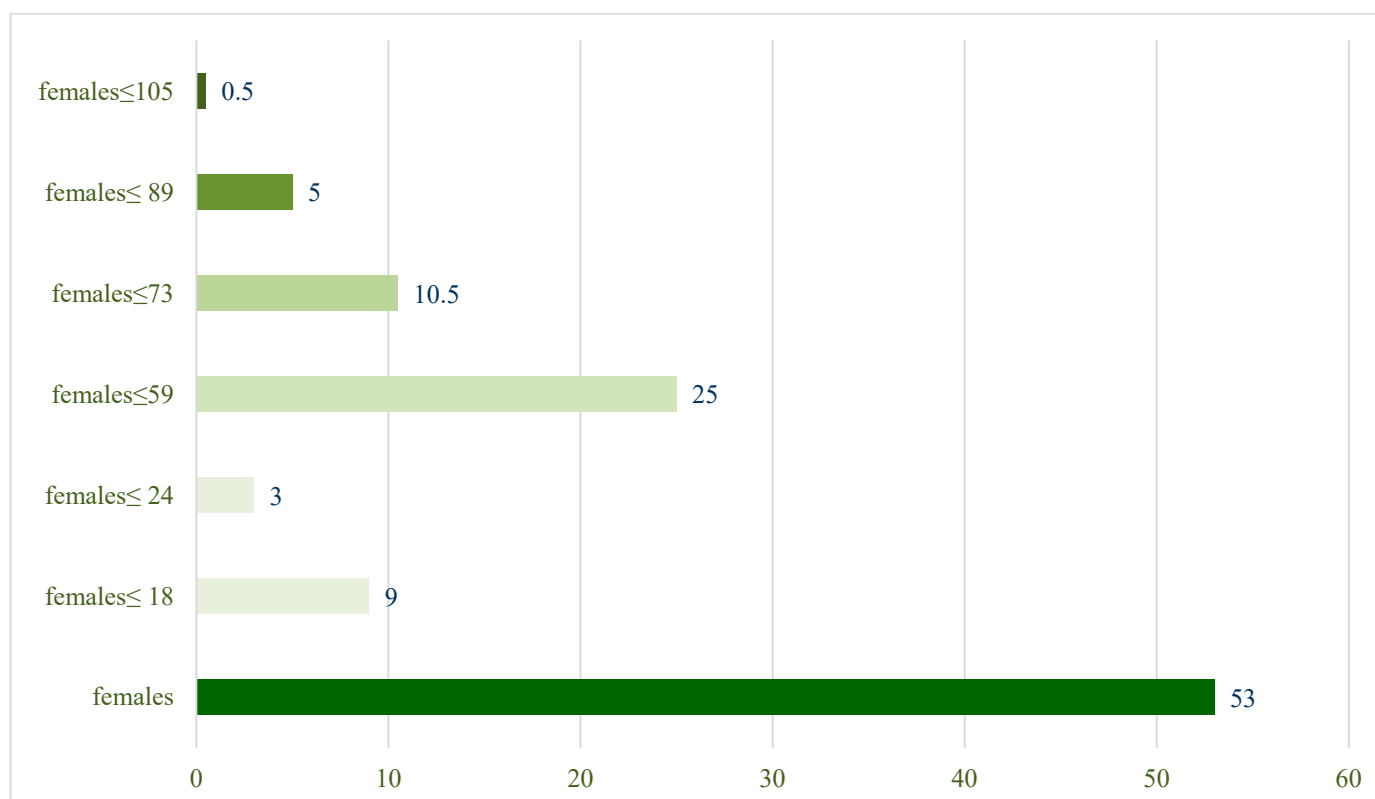


Figure 8. Distribution (%) of the female population by age category in Suwałki in 2024. Source: own elaboration.

In most age categories, women are the dominant group of the population. Only in the pre-production group up to the age of 18 are men dominant (Figure 8). The leading age group is women of working age from 25 to 59.

Districts and housing estates with the highest proportions of female residents were identified based on demographic data obtained from the Suwałki City Hall. Figure 9 shows in green that the housing estates with the highest women population were Osiedle

Północ (1), Centrum (5), Kolejowe estate (4), Osiedle klasztorna (6), Powstańców Wielkopolskich estate (7), and Staszica estate (3).

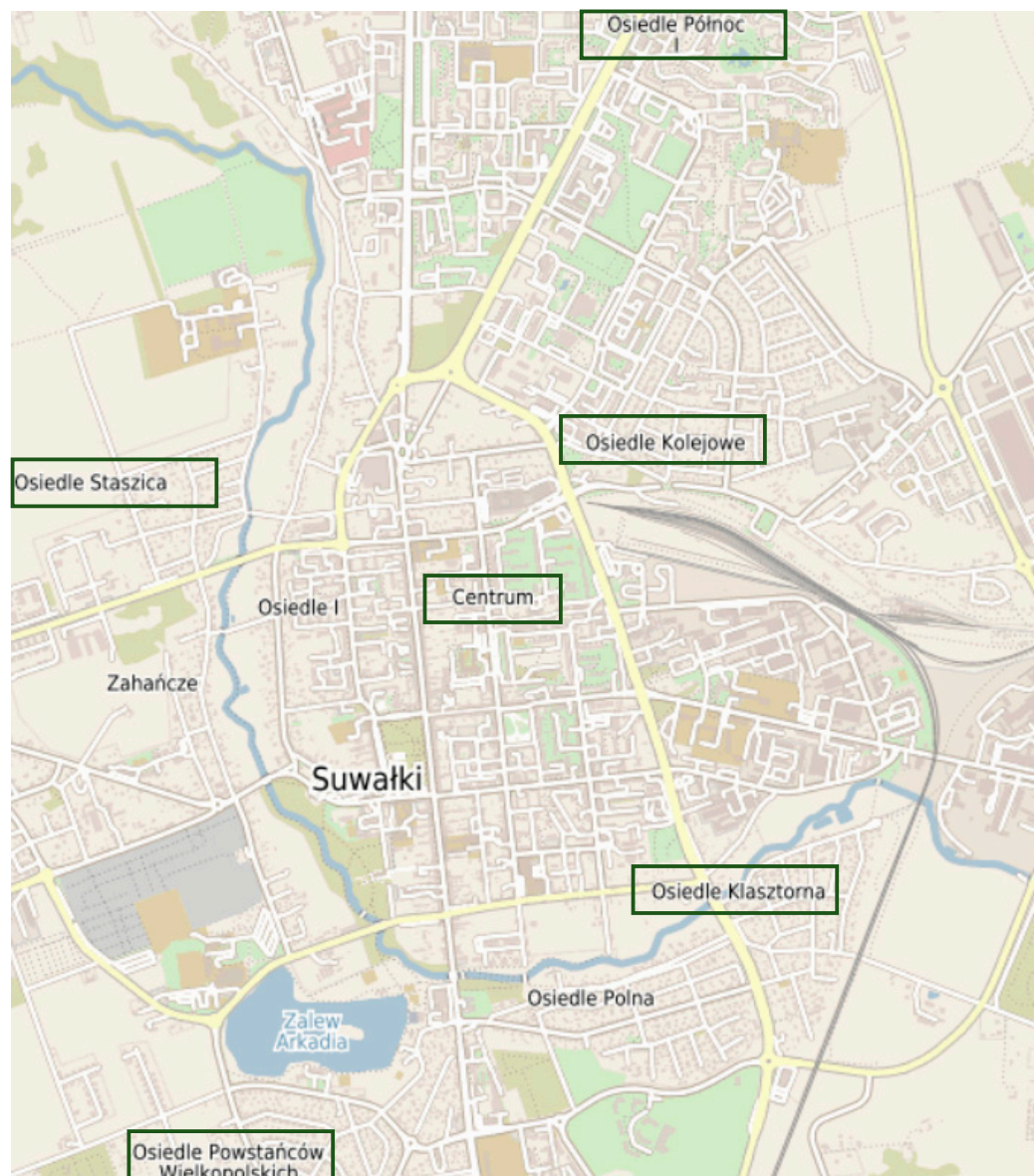


Figure 9. The division of the city of Suwałki into districts with the highest percentage of women (in green). Source: own elaboration [54].

5.2. Identification of Needs of Sensitive Groups

The questionnaire for women was designed based on a review of the literature [11,12,20,51,55]. The prepared survey form was consulted with experts from the Office of the Marshal of the Warmińsko-Mazurskie Voivodeship in Olsztyn and employees of the University of the Third Age in Poland. Based on the experts' opinions, the designed questionnaire was adapted to the needs and expectations of the surveyed population group. The questionnaire was distributed evenly within the administrative boundaries of Suwałki in housing estates inhabited by the female population. The questionnaire contained 10 open-ended and closed-ended questions. The survey was conducted between July and August 2024. The study was conducted on representative samples of groups of women living in Suwałki. The respondents were selected randomly, and the questionnaire was completed by a total of 125 women. The questions in the questionnaire were about women's activities in urban public space; the principal architectural elements and the most

inconveniences in public spaces; identification of determinants that reduce women’s safety and comfort in urban public spaces; the architectural elements that improve comfort in the urban public space; the determinants of satisfaction with life in the city; and distribution of analyzed public spaces in Suwałki.

The respondents were selected randomly, and the questionnaire was completed by a total of 125 women.

Data collected from the survey questionnaire shows that more than 94.5% of women use public spaces. To the question, “How do you use the space?”, the respondents answered that they overwhelmingly use public space by talking, walking, meeting, and sitting. They do not perform activities related to buying, eating, working, or creating in public spaces (Figure 10).

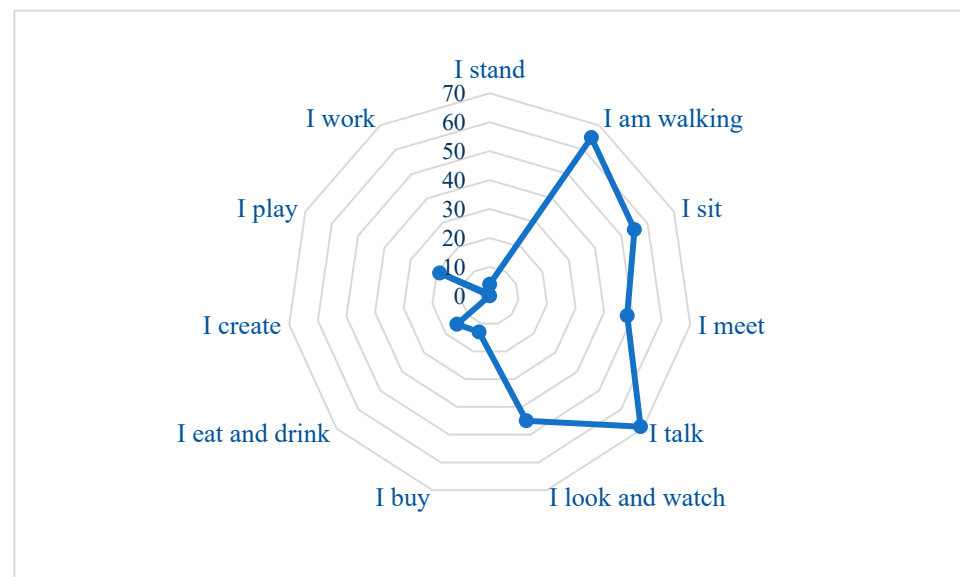


Figure 10. Actions carried out in public space. Source: own elaboration.

Among the greatest inconveniences that reduce the friendliness of public spaces are inadequate architectural infrastructure, low esthetic level of spaces, and noise. Next in importance were unpleasant odors and distance from public spaces (Figure 11).

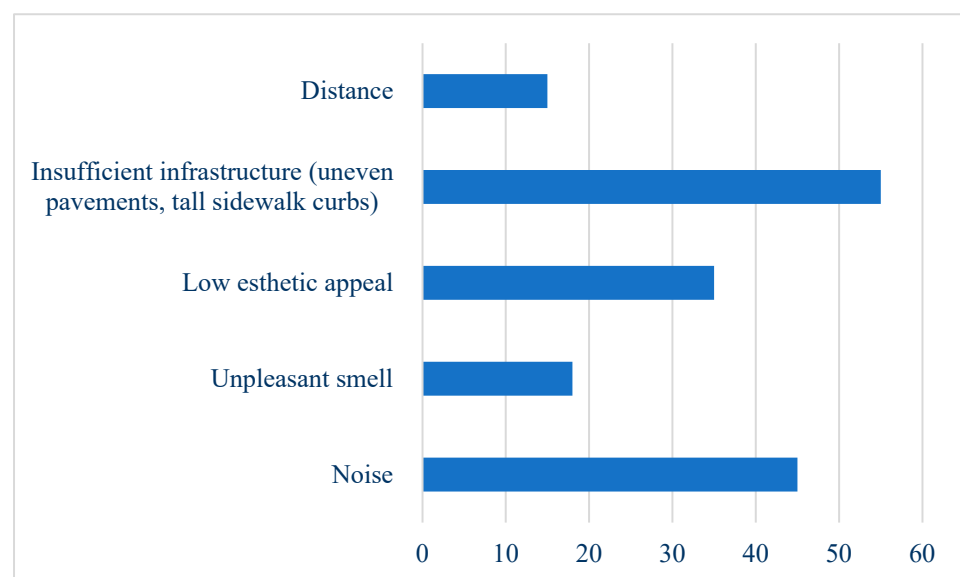


Figure 11. The greatest inconvenience in public spaces. Source: own elaboration.

The well-being of women in public spaces is adversely affected by the lack of street lighting and the low standard or absence of toilets, as well as inadequate landscaping through stairs, high sidewalk curbs, and an uneven sidewalk (Figure 12).

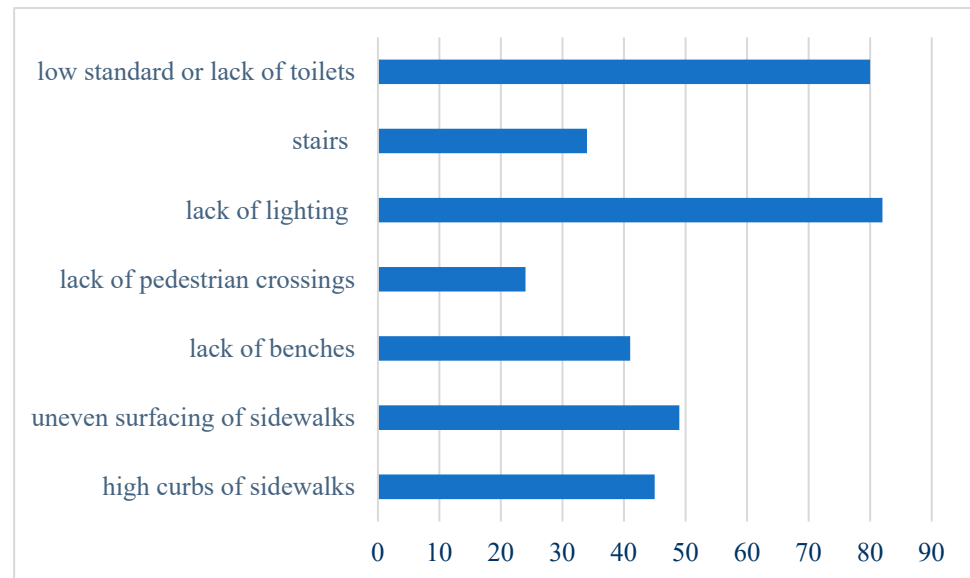


Figure 12. The principal architectural elements the most inconvenient in public spaces. Source: own elaboration.

Respondents were asked about the determinants that reduce the friendliness of safety and comfort in urban public spaces, which were categorized by ranks: scale of 0 to 5 points (0—don't know, 1—not important, 2—relatively unimportant, 3—relatively important, 4—important, 5—very important). The higher the score, the more important the evaluated component (Table 3).

Determinants that received a median score of the highest level of 4 have the greatest impact on feelings of safety and reduced comfort according to female respondents, namely a lack of lighting, vacant buildings, lack of benches, lack of esthetic landscaping, lack of toilets, alcoves between buildings, lack of monitoring, lack of green areas and recreational areas, unlit underpasses, and traffic noise.

As for the other options, the majority of responses were at 3, which would mean that the proposed measures could affect the sense of security and comfort to a medium degree. The following have the least impact with a median of 2: lack of canopies/pergolas, nightclubs, lack of trash cans, lack of directional signs, street signs, and liquor store. Such identification may be due to the fact that respondents do not feel threats from the above determinants. The respondents identified the most important architectural elements that contribute to a safe and comfortable stay in public spaces (Figure 13).

The respondents indicated that the most important determinants of satisfaction with life in the city are the state of the environment and air quality, the cleanliness and esthetics of the city, the state of roads, sidewalks and bicycle paths and the extent to which their network is expanded, and the safety of residents.

A space tailored to women's needs and expectations should be well-lit with a level walking and sidewalk surface and include architectural infrastructure elements such as benches and urban furniture, which is in line with the principles of universal design. Providing the above determinants for women will contribute to creating a friendly urban public space.

The respondents indicated the public space they most often use or move in on foot or by bicycle. The most indications were given to Konstytucja III Maja Square, Maria Konopnicka Square, the square by the plaza shopping center, and Korczaka, Grabowa, Reja, Pułaskiego, and Raczkowska streets. The spaces selected by the respondents were verified during a field

visit. In order to show examples of the way the spaces were developed and used, three spaces were selected as: *unsuitable, *requiring intervention, and *very friendly (Figure 14).

Table 3. Identification of determinants that reduce women’s safety and comfort in urban public spaces.

Determinants	0	1	2	3	4	5	Median
	Number of Responses						
Lack of Lighting	2	5	10	25	35	48	4
Vacant buildings (buildings)	2	4	14	19	38	48	4
Lack of benches	7	5	10	32	38	33	4
Liquor store	15	34	35	16	15	10	2
Degraded areas	10	16	20	25	32	22	3
Waste disposal sites wild garbage dumps	8	28	18	25	31	15	3
Lack of esthetics of space development	5	5	8	25	35	47	4
Lack of toilets	2	4	8	30	37	44	4
Gaps between buildings	1	4	14	21	48	37	4
Peripheral/desert areas	15	18	23	18	24	27	3
Lack of monitoring	6	6	10	34	32	37	4
Lack of green areas and recreational areas	8	10	10	16	44	37	4
Unattended parking lots	25	19	17	18	24	22	3
Unlit underpasses	8	7	11	25	35	39	4
Nightclubs	14	32	24	23	18	14	2
Lack of trash cans	15	22	30	24	18	16	2
Lack of directional signs, street markings	12	24	25	28	21	15	2
Street noise	2	8	14	25	39	37	4
Lack of bicycle parking, scooters	4	27	23	23	30	18	3
Lack of car and scooter parking	9	25	21	19	36	15	3
Inadequate pedestrian crossings	10	17	18	22	30	28	3
Lack of esthetically pleasing architecture	11	17	19	14	35	29	3
Lack of canopies/pergolas	24	23	21	18	24	15	2

Source: own elaboration.

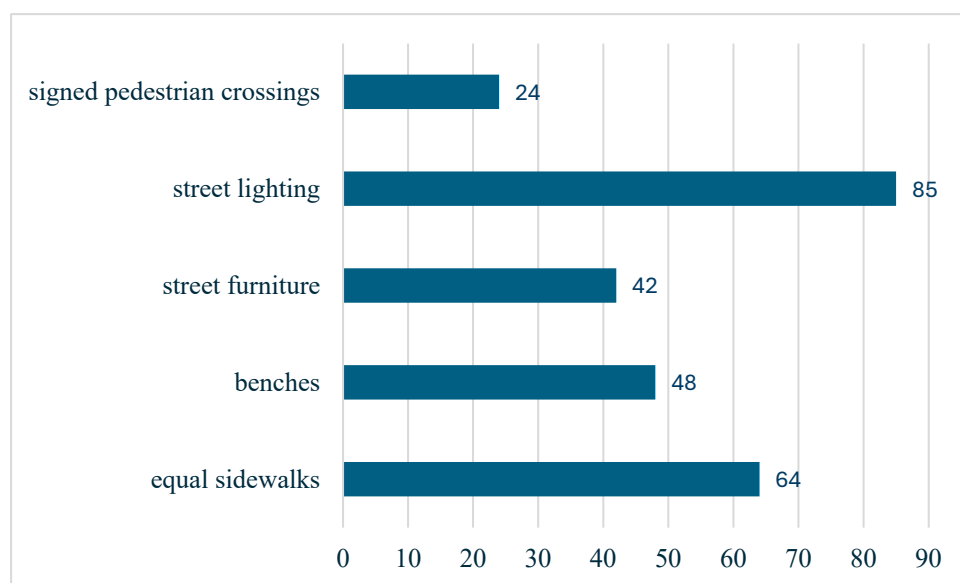


Figure 13. The architectural elements that improve the comfort in the urban public spaces. Source: own elaboration.

Figure 15 indicates a space that absolutely requires revitalization processes. This area is located in an attractive location but it is unfortunately not developed at all.

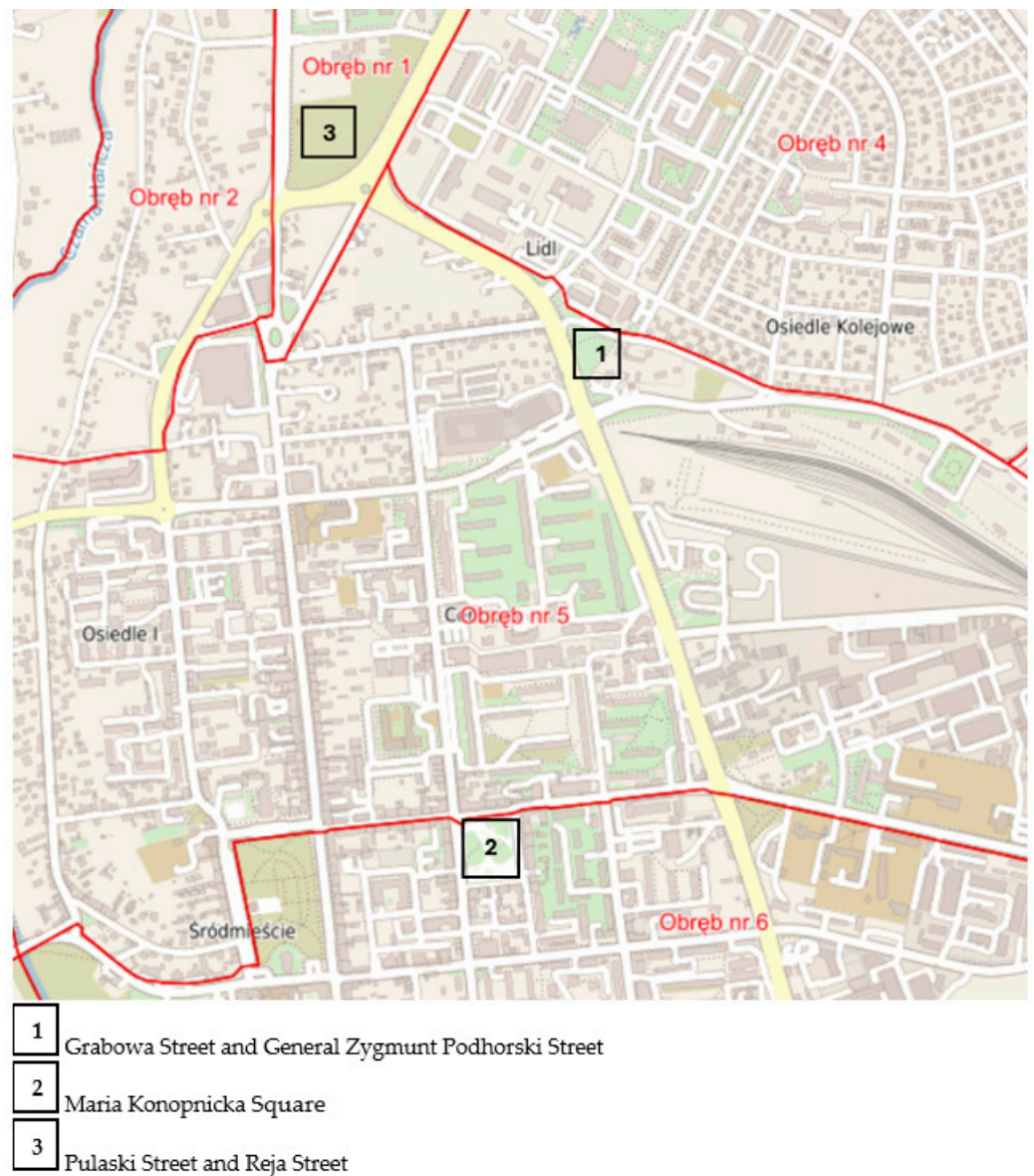


Figure 14. Distribution of analyzed urban public spaces. Source: own elaboration based on [49].



Figure 15. The space at the crossroads of Pulaski and Reja streets. Source: own photo documentation.

Another example is a space that requires the inclusion of modernization processes, among other things, the replacement of urban furniture (benches) (Figure 16).



Figure 16. The spaces at Grabowa Street and General Zygmunt Podhorski Street. Source: own photo documentation.

A very friendly space adapted to the needs of women and meeting the criterion of highest friendliness is Maria Konopnicka Square (Figure 17).



Figure 17. Space at Maria Konopnicka Square. Source: own photo documentation.

6. Discussion

Sustainable urban development should be based on the process of optimizing opportunities for health, participation and safety to improve the quality of life in local residents. UPS are spatial hubs for social interaction, activities, and expression. Women should have

easy access to urban public spaces where they can spend their free time, socialize with other community members, and participate in various outdoor activities. These spaces should be tailored to their needs, capabilities, and expectations.

UPS should be designed to be gender-equitable and safe, through appropriate architecture, landscaping, infrastructure, and be an urban, inclusive environment [56] (SDGs: panel 11—make cities and human settlements inclusive, safe, resilient and sustainable; 3—ensure healthy lives and promote well-being for all at all ages; and 5—gender equality). In order to be able to achieve the above goals and objectives, existing architectural barriers must be eliminated and the potential risks identified in Table 3 must be countered.

The completed research has its strengths and weaknesses, which were determined for each stage of the research (Table 4).

Table 4. Indication of strengths and weaknesses for each stage of research.

No.	Stages of the Study	The Discussion	
		The Strengths	The Weaknesses
1.	Diagnostics of the city	An important element in the city's development efforts, through careful analysis of available data, allows the identification of problem areas in need of modernization and revitalization.	Difficulties with standardization, reliability, and access to data.
2.	Identification of sensitive groups and their needs	Identification of the needs and expectations of sensory-sensitive groups in urban public spaces.	High cost of conducting social surveys.
3.	Identification of urban public spaces	Field vision, which allows direct spatial diagnosis of urban public spaces.	Difficulties in diagnosing and evaluating urban public space. Difficulties in finding specialists with expertise in spatial policy and urban planning and architecture.

Source: own elaboration.

The survey questionnaire identified the determinants most strongly impacting the sensory-sensitive groups: a lack of lighting, vacant buildings (buildings), lack of benches and toilets, lack of esthetics of space development, gaps between buildings, unlit underpasses, street noise; and to a lesser extent, nightclubs, lack of trash cans, lack of directional signs, street markings, and lack of canopies/pergolas, which reduce the friendliness of safety and comfort in UPS.

Respondents indicated that the greatest inconveniences that reduce the friendliness of public spaces are inadequate architectural infrastructure, low esthetic level of spaces, and noise. Next in importance were unpleasant odors and distance from public spaces.

The well-being of women in public spaces is adversely affected by the lack of street lighting and the low standard or absence of toilets, as well as inadequate landscaping through stairs, high sidewalk curbs, and uneven sidewalk. A space tailored to women needs and expectations should be well-lit with a level walking and sidewalk surface, and includes architectural infrastructure elements such as adequate municipal sanitation (toilets), benches and urban furniture, and landscaped green space (squares, flowerbeds, trees), which is in line with the principles of universal design.

A strength of the study was that it identified the needs of women that are universal, such as security, good infrastructure, and architectural facilities. These are important determinants for every woman regardless of language, culture, or ethnicity [15,52,57].

Among the strengths of the article is that the research undertaken adds to the knowledge and is key to developing appropriate spatial planning policy practices, mainly at the local level [58,59]. Consideration of women's needs in urban spatial policies rests with the managing entities for whom the conducted research can also inspire the inclusion of public participation in line with the policies in the global direction of sustainable development

(goals 5 and 11), sustainably improving the quality of life and accessibility to community needs based on the concept of placemaking and friendly cities [13].

The weakness of the study includes the fact that the survey was conducted in a single urban center. The city of Suwałki can be classified as an intimate but largely multicultural city due to its geographic location. In the future, similar surveys should be conducted in a city with a larger population.

The conducted research is part of the trend of New Urbanism (NU), which plays a key role in the functionality of cities and takes into account social initiatives [21–23] which is important to creating safe, egalitarian, and inclusive cities [60]. The results of the study can provide a basis for further research including the analysis and evaluation of the quality of urban public spaces in other cities around the world.

7. Conclusions

In order to build an attractive, accessible public space for women, it is necessary to implement multi-stage action through processes involving administrative entities, where the greatest responsibility lies with the local government. The actions of local city authorities should focus on social well-being, quality of life of residents and users of public spaces regardless of age, disability, or gender, creating a public space that is accessible to all [61].

The set goals in the article were achieved. The theoretical objective was to identify the needs, preferences, expectations, and problems of sensory-sensitive groups (women) in public spaces. This was implemented through a survey questionnaire.

The results of the research indicate that the determinants that reduce the friendliness of safety and comfort in UPS are a lack of lighting, lack of esthetics of space development, lack of benches and toilets, and street noise. A space tailored to women's needs and expectations should be well-lit with a level walking and sidewalk surface and include architectural infrastructure elements such as adequate municipal sanitation (toilets), benches and urban furniture, and landscaped green space (squares, flowerbeds, trees), which is in line with the principles of universal design.

The quality of public space is mainly influenced by the infrastructure and the way it is developed. When a space is not equipped according to women's needs, it ceases to be a space of interaction, and their stay in such a place is reduced to a minimum [22].

Public participation of sensory-sensitive groups [62] is relevant and important because the recognition of their needs and their consideration in the spatial policy of cities contributes to the creation of cities tailored to the needs and expectations of users, according to the principle of everyone-important.

In spaces that do not meet the above assumptions, revitalization measures should be implemented. The elimination of barriers and obstacles and the application of universal design in urban public spaces will contribute to the elimination of anti-social behavior and the creation of areas tailored to the needs of its users.

The identification of areas (neighborhoods) with the highest percentage of women in the city and then the identification of urban public spaces, should be decisive in terms of building cities adapted to the needs of the community based on the concept of a placemaking, friendly city [59].

The added value of the article is the author's proposal for the measuring and objectified evaluation of urban public spaces based on the active voice of women, which made it possible to isolate determinants that reduce safety and quality of life. Elimination of the identified determinant barriers in public spaces will contribute to the creation of gender-equal, friendly, safe, and equitable cities.

The developed research results can be adopted by institutions supporting urban spatial policies to minimize social alienation of women and equip them with the infrastructure and appropriate urban furniture to improve women's comfort and safety [14].

Local governments should include women's issues and perspectives in their public space development processes and encourage women to participate in all areas of urban life on an equal footing with men.

Future research should focus on fully automating the identification of urban public spaces, with relevant data enabling the prioritization of revitalization processes in areas that do not meet women’s expectations and needs.

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References

1. UnCTAD. What If Our Future Were Designed Equally by Women? Available online: <https://unctad.org/news/what-if-our-future-were-designed-equally-women> (accessed on 15 August 2024).
2. Talen, E. Pedestrian access as a measure of urban quality. *Plan. Pract. Res.* **2002**, *17*, 257–278. [CrossRef]
3. Talen, E. Affordability in new urbanist development: Principle, practice, and strategy. *J. Urban Aff.* **2010**, *32*, 489–510. [CrossRef]
4. Module Public Spaces. Available online: https://unhabitat.org/sites/default/files/2019/02/Indicator-11.7.1-Training-Module_Public-spaces_Jan_2019.pdf (accessed on 25 August 2024).
5. Tataruch, A.; Zysk, E.; Tuyet, M.D.T. Changes in the landscape of rural areas located close to city—case study of Olsztyn. *Acta Sci. Pol. Adm. Locorum* **2018**, *18*, 397–410. [CrossRef]
6. Stangel, M. *Kształtowanie Współczesnych Obszarów Miejskich w Kontekście Zrównoważonego Rozwoju*; Wydawnictwo Politechniki Śląskiej: Gliwice, Poland, 2013.
7. Rogowska, M. *Przestrzeń Publiczna w Mieście—Zagadnienia Wybrane/Urban Public Space—Chosen Aspects*; Polska Akademia Nauk Komitet Przestrzennego Zagospodarowania Kraju, Studia KPZK: Warsaw, Poland, 2016; No 170; ISSN 0079-3507.
8. Hxley, M. Govern mentality, gender, planning. In *Planning Future*, Philip Allmendinger and Mark Tewdwr-Jones; Routledge: London, UK, 2002.
9. Bagheri, N. Mapping women in Tehran’s public spaces: A geovisualization perspective. *Gend. Place Cult.* **2013**, *21*, 1285–1301. [CrossRef]
10. Fair Shared City-Vienna’s Gender Sensitive Planning Approach. Executive Group for Construction and Technology Competence Center Overall Gender Planning. Urban Planning, Smart City Strategy, Participation, Gender Planning. Available online: <https://www.wien.gv.at/stadtentwicklung/alltagundfrauen/> (accessed on 29 September 2024).
11. Mehta, V. Evaluating Public Space. *J. Urban Des.* **2014**, *19*, 53–88. [CrossRef]
12. Fenster, T. The right to the gendered city: Different formations of belonging in everyday life. *J. Gend. Stud.* **2005**, *14*, 217–231. [CrossRef]
13. Cresswell, T. Towards a politics of mobility. *Environ. Plan. D* **2010**, *28*, 17–31. [CrossRef]
14. Shaikly, A.; Mella Lira, B. Gender-bias in the built environment: How young women’s experiences in public space are understood and addressed in London. *J. Urban Des.* **2022**, *28*, 355–374. [CrossRef]
15. Osborne, T. Restorative and Afflicting Qualities of the Microspace Encounter: Psychophysiological Reactions to the Spaces of the City. *Ann. Am. Assoc. Geogr.* **2021**, *112*, 1461–1483. [CrossRef]
16. Żróbek, S.; Zysk, E.; Belej, M.; Lepkova, N. Do women affect the final decision on the housing market? A case study. *Sustainability* **2020**, *12*, 4652. [CrossRef]
17. UCLG Global Charter. Agenda for Human Rights in the City—The UCLG Committee on Social Inclusion, Participatory Democracy and Human Rights 2019. Available online: https://www.uclg-cisdg.org/sites/default/files/UCLG_Global_Charter_Agenda_HR_City_0.pdf (accessed on 9 February 2021).
18. UN Habitat. 2015 Transforming Our World: The 2030 Agenda for Sustainable Development. UE Sustainable Development Agenda, Resolution A/RES/70/1. Available online: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf (accessed on 1 July 2024).
19. UN Habitat. 2016 Urbanization and Development: Emerging Futures World Cities Report. Available online: <https://unhabitat.org/world-cities-report-2016> (accessed on 5 September 2024).
20. ISO 37120; 2018 Sustainable Cities and Communities—Indicators for City Services and Quality of Life. Available online: <https://www.iso.org/standard/68498.html> (accessed on 1 December 2021).

21. Sadeghi, A.R.; Jangjoo, S. Women's preferences and urban space: Relationship between built environment and women's presence in urban public spaces in Iran. *Cities* **2022**, *126*, 103694. [CrossRef]
22. Nitkiewicz, H. Kobiety (nie) widoczne w nazwach ulic—dysproporcje liczbowe między patronkami a patronami ulic w polskich miastach na prawach powiatu. *Pr. I Stud. Geogr.* **2023**, *68*, 41–57. [CrossRef]
23. Dines, N.; Cattell, V.; Gesler, W.M.; Curtis, S. *Public Spaces, Social Relations and Well-Being in East London*; Policy Press: Bristol, UK, 2006.
24. Bierwiazonek, K.; Nawrocki, T. Teoretyczne spojrzenie na przestrzeń publiczną. In *Rynki, Malle i Cmentarze. Przestrzeń Publiczna Miast Śląskich w Ujęciu Socjologicznym*; Bierwiazonek, K., Lewicka, B., Nawrocki, T., Eds.; Wydawnictwo Nomos: Kraków, Poland, 2012.
25. Bierwiazonek, K. *Spoleczne Znaczenie Miejskich Przestrzeni Publicznych*; Wydawnictwo Uniwersytetu Śląskiego: Katowice, Poland, 2016; Available online: https://sbc.org.pl/Content/390384/spoleczne_znaczenie_miejskich_przestrzeni.pdf (accessed on 5 September 2024).
26. Bierwiazonek, K. *Miejskie Przestrzenie Publiczne i ich Społeczne Znaczenia—Próba Systematyzacji*. Uniwersytet Śląski: Katowice, Poland, 2018; Available online: <http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-aebc5d5c-c394-4f7f-9158-4e6997ed81e3> (accessed on 29 September 2024).
27. Dymnicka, M. *Przestrzeń Publiczna a Przemiany Miasta*; Wydawnictwo Naukowe Scholar: Warszawa, Poland, 2013; ISBN 978-83-7383-629-7.
28. Wejchert, K. *Przestrzeń Wokół Nas*; Fibak Noma Press: Katowice, Poland, 1993.
29. Lorens, P. Definiowanie współczesnej przestrzeni publicznej. In *Wzorzec Miejskiej Przestrzeni Publicznej w Konfrontacji z Podmiejską Rzeczywistością. Przykład Podwarszawskich Suburbiiów*; Lorens, P., Mantey, D., Eds.; Wydawnictwa Uniwersytetu Warszawskiego: Warszawa, Poland, 2010.
30. Kociuba, D. Gra o przestrzeń publiczną miast. *Stud. Miej.* **2013**, *12*, 95–105. [CrossRef]
31. Piskorski, M.; Romasiuk, I.; Fikus-Wójcik, A.; Piszczek, A.; Rodziewicz, A.; Rościszewska, M.; Turzyński, M.; Walicka-Podolska, M. Studium Ogólnomiejskich Przestrzeni Publicznych—Struktura. *Biuro Rozw. Gdańska Gdańsk* **2013**, 1–36.
32. Parysek, J.J. University of British Columbia w Vancouver (Kanada) Jako Przestrzeń Publiczna Szczególnego Rodzaju. *Przestrzeń Publiczna Miast*, red. I. Jażdżewska, Wydawnictwo UŁ, Łódź. 2011. Available online: <http://hdl.handle.net/11089/42889> (accessed on 30 September 2024).
33. Kohon, J. Social inclusion in the sustainable neighborhood? Idealism of urban social sustainability theory complicated by realities of community planning practice. *City Cult. Soc.* **2018**, *15*, 14–22. [CrossRef]
34. Lewicka, B. Funkcje przestrzeni publicznych. In *Rynki, Malle i Cmentarze: Przestrzeń Publiczna Miast Śląskich w Ujęciu Socjologicznym*; Bierwiazonek, K., Lewicka, B., Nawrocki, T., Eds.; Wydawnictwo Nomos: Kraków, Poland, 2012.
35. Mantey, D. *Wzorzec Miejskiej Przestrzeni Publicznej w Konfrontacji z Podmiejską Rzeczywistością. Przykład Podwarszawskich Suburbiiów*; Wydawnictwa Uniwersytetu Warszawskiego: Warszawa, Poland, 2019.
36. Gehl, J. Życie między budynkami. In *Użytkowanie Przestrzeni Publicznych*; Wydawnictwo RAM: Kraków, Poland, 2009; ISBN 9788392861003.
37. Carr, S.; Francis, M.; Rivlin, L.G.; Stone, A.M. *Public Space*; Cambridge University Press: Cambridge, UK, 2009.
38. Litwińska, E. Czy można mówić o specyfice przestrzeni publicznych małego miasta? In *Przestrzeń Publiczna Małych Miast*; Heffner, K., Marszał, T., Eds.; Studia KPZK: Warszawa, Poland, 2012.
39. Kołata, J. *Kształtowanie Miejsc Publicznych Wobec Przemian Struktury Wiekowej Społeczności Miejskiej na Przykładzie Poznania*. Doctoral Dissertation, Wydział Architektury Politechnika Poznańska, Poznań, Poland, 2017.
40. Gutiérrez-Mora, D.; Oto-Peralías, D. Gendered cities: Studying urban gender bias through street names. *Environ. Plan. B* **2022**, *49*, 1792–1809. [CrossRef]
41. Błaszak, M.; Przybylski, Ł. *Rzeczy są dla ludzi*. In *Niepełnosprawność i Idea Uniwersalnego Projektowania*; Wydawnictwo Naukowe Scholar: Warszawa, Poland, 2010.
42. Connel, B.R.; Jones, M.; Mace, R.; Mueller, J.; Mullick, A.; Ostroff, E.; Sanford, J.; Steinfeld, E.; Story, M.; Vanderheide, G. *The Principles of Universal Design*, NC State University. 1997. Available online: <https://web.stanford.edu/class/engr110/2007/PUD.pdf> (accessed on 30 September 2021).
43. Wysocki, M. Standardy dostępności w przestrzeni publicznej. In *Poradnik RPO*; Biuro Rzecznika Praw Obywatelskich: Warszawa, Poland, 2015.
44. Pereira, A.; Rebelo, E.M. Women in public spaces: Perceptions and initiatives to promote gender equality. *Cities* **2024**, *154*, 105346. [CrossRef]
45. Tandon Mehrotra, S.; Khosla, P.; Travers, K. *A Handbook on Women's Safety Audits in Low-Income Urban Neighbourhoods: A Focus on Essential Services*; JAGORI: New Delhi, India, 2010.
46. WHO. Ageing and Health. 2018. Available online: <http://www.who.int/news-room/fact-sheets/detail/ageing-and-health> (accessed on 15 December 2018).
47. Andrews, M. *Lifetimes of Commitment: Aging, Politics, Psychology*; Cambridge University Press: Cambridge, UK, 1991.
48. van Hoof, J.; Kazak, J.; Perek-Białas, J.; Peek, S. The challenges of urban ageing: Making cities age-friendly in Europe. *Int. J. Environ. Res. Public Health* **2018**, *15*, 2473. [CrossRef]
49. Statistics Poland 2024. Available online: <http://www.polskawliczbach.pl> (accessed on 1 August 2024).
50. Szarek-Iwaniuk, P. Potencjały i bariery rozwoju małych i średnich miast na przykładzie polskiej krajowej sieci miast Cittaslow. *Zarządzanie Publiczne* **2019**, *45*, 1–18. [CrossRef]
51. ICLEI. Local Governments for Sustainability. 2020. Available online: <https://www.iclei.org> (accessed on 1 August 2024).

52. Okła, W. Psychospołeczne uwarunkowania jakości życia osób starszych w rodzinach własnych i domach opieki społecznej. In *Starzenie się a Satysfakcja z Życia*; Steuden, S., Marczuk, M., Eds.; Wyd KUL: Lublin, Poland, 2006.
53. Strategia Promocji Miasta Suwałki do roku 2027 z perspektywą do 2030r. Available online: https://um.suwalki.pl/storage/uzytkownicy/ezagorski@um.suwalki.pl/Strategia%20Promocji%20Suwa%C5%82ki_2027.pdf (accessed on 25 July 2024).
54. Available online: <https://suwalski.e-mapa.net/> (accessed on 29 August 2024).
55. WBGU. *Humanity on the Move: Unlocking the Transformative Power of Cities*; WBGU (German Advisory Council on Global Change): Berlin/Heidelberg, Germany, 2016.
56. SDGR 2018. Sustainable Development Goals Report 2018—Goal 15: Land Degradation. Available online: <https://unstats.un.org/sdgs/report/2018> (accessed on 10 April 2023).
57. Górny, K.; Górna, A.; Szczepański, J.; Sienica, A. Patriarchat nazewniczy—Zmaskulinizowany krajobraz symboliczny polskich mniejszych miast. *Pr. I Stud. Geogr.* **2022**, *67*, 25–44. [[CrossRef](#)]
58. Wysocki, M. Projektowanie otoczenia dla osób niewidomych. In *Pozawzrokowa Percepcja Przestrzeni*; Wydawnictwo Politechniki Gdańskiej: Gdańsk, Poland, 2010.
59. Zysk, E.; Zalewska, K. The voice of society in designing public recreational spaces (PRS) in an urban environment. *Econ. Environ.* **2024**, *88*, 715. [[CrossRef](#)]
60. Zysk, E.; Zalewska, K. The Methodology for Assessing the 15 Minute Age-Friendly Walkability (AFW) of Urban Public Spaces. *Sustainability* **2024**, *16*, 6406. [[CrossRef](#)]
61. Ruczyński, R. Tradycyjna urbanistyka a współczesne realizacje przestrzeni publicznych. In *Problemy Kształtowania Przestrzeni Publicznych*; Lorens, P., Martyniuk-Pęczek, J., Eds.; Wydawnictwo Urbanista: Gdańsk, Poland, 2010.
62. Gawroński, H. Efektywność partycypacyjnych instrumentów zarządzania miastem. *Ruch Praw. Ekon. I Socjol.* **2015**, *77*, 273–286. [[CrossRef](#)]

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