

Safe and Inclusive Urban Public Spaces: A Gendered Perspective. The Case of Attica's Public Spaces During the COVID-19 Pandemic in Greece

Athina Mela*

Laboratory of Urban Planning and Architecture, Department of Civil Engineering, School of Engineering, University of West Attica, 250 Thivon & P.Ralli Str., 12241 Athens, Greece

Evgenia Tousi

Department of Civil Engineering, School of Engineering, University of West Attica, 250 Thivon & P.Ralli Str., 12241 Athens, Greece

*Corresponding author: amela@uniwa.gr

<https://doi.org/10.5755/j01.sace.33.2.33575>

The COVID-19 pandemic has caused significant disruptions in everyday life, including restrictions on social activities and physical separation. Urban public spaces have become popular places for people to relax and socialize while keeping physical distance. Gender and other social identities, on the other hand, have a major influence on people's perceptions of safety in these public places. The goal of this research was to look into the relationship between perceptions of safety, relaxation, and gender in urban public places during the pandemic. The study's findings revealed that women were more likely than men to report feeling unsafe in public places. This result indicates that gender identity influences women's perceptions of safety in public places. Furthermore, women's feelings of insecurity hampered their ability to relax and enjoy these spaces, possibly limiting their access to public spaces and the benefits they provide. There is an obvious interrelation between easily accessible open public spaces and safety. The study's findings outline the significance of inclusive design and planning for public spaces in order to guarantee safety and promote well-being.

Keywords: urban public space quality, safety, gender perspective, relaxation, urban space management, inclusivity.

The COVID-19 pandemic had a significant impact on global social cohesiveness and urban sustainability. Numerous studies have shown that urban public space engagement has a positive impact on citizens' health and social growth, leading to a renewed emphasis on public space and the importance of long-term management (Addas and Maghrabi, 2022; Mela and Varelidis, 2022). The importance of maintaining the safety of public spaces in urban areas cannot be overstated, as it has a direct impact on the well-being and security of both individuals and communities (Condon et al., 2007; Erkan and Topcu, 2021). Public spaces, which include parks, streets, and squares, serve as important venues for social interaction, physical activity, and economic pursuits. However, if these spaces are perceived as unsafe, people may refrain from using them or avoid them altogether,

JSACE 2/33

Safe and Inclusive Urban Public Spaces: A Gendered Perspective. The Case of Attica's Public Spaces During the COVID-19 Pandemic in Greece

Received
2023/03/08

Accepted after
revision
2023/04/11

Abstract

Introduction



Journal of Sustainable
Architecture and Civil Engineering
Vol. 2 / No. 33 / 2023
pp. 5-14
DOI 10.5755/j01.sace.33.2.33575

leading to negative consequences for both individuals and the community as a whole (World Health Organization, 2020). Moreover, ensuring safety in public spaces is crucial for promoting social inclusion and equity, as it ensures that everyone, regardless of gender, age, nationality, or disability, can access and enjoy public spaces without fear (United Nations Women, 2021). Maintaining safety in public spaces is a key factor for building thriving, livable communities.

Questions regarding issues of quality in public spaces focusing on safety have been addressed by researchers during the past decades. Particularly, the perception of safety in public spaces is influenced by people's ability to relax and enjoy their surroundings. This ability varies following gender and other social identities. The current study aims to contribute to the topic of urban safety by investigating the following: a) exploring the relationship between safety perceptions and relaxation in public spaces b) identifying factors that contribute to feelings of safety in public spaces and c) understanding the impact of gender identity on the perception of safety in public spaces.

Methods

Research comprises a literature review and fieldwork. To conduct the cross-sectional survey, the researchers selected Athens, Greece, during the second wave of restriction measures, from April 27 to June 27, 2021. To design this survey, authors have taken into account other similar surveys (Vatavali et al., 2020) in order not only to include frequently asked questions but also to introduce new crucial issues.

The sample consisted of 745 residents of Attica, Greece, aged over 18 years old, who voluntarily and consensually participated in the survey. The participants' responses were self-reported, and the researchers provided detailed information about the nature and scope of the research before collecting the responses. The researchers used convenient and snowball sampling techniques to recruit the participants. The participants were invited via personal e-mails and social media posts on Facebook and Instagram. Each participant received a separate questionnaire, and some participants forwarded the questionnaire to their friends and family.

The questionnaire collected socio-demographic information, including gender, ethnicity, age, place of residence, marital status, type of household, house size, educational status, occupation, and annual income. The questionnaire also included questions about the characteristics of public spaces, such as quantity, quality, safety during the day and night, maintenance, and mobility information. The participants answered the questions either through a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) or from close-ended questions of multiple choices (Mela and Varelidis, 2022). The research concludes with interesting findings regarding safety in public spaces of Attica that could be used for further consideration.

Theoretical Framework

Urban spaces are intentionally created by the spatial behaviors of various groups. However, understanding the multiple users who may be in conflict or create gendered patterns of exclusion is rarely the focus of planning, let alone policy actions (Williams et al., 2020). Particularly in Greece, there was no reference to urban planning policy in the National Action Plan on Gender Equality of 2016-2020. In addition, spatial planning in Greece lacks adequate pragmatic focus at various levels of administration authorities, leaving room for further improvement in bridging the gap between academic approaches and policy paths. According to the EU's Urban Compendium on the Greek Urban Planning Policies, a critique has been made that planning in Greece focuses purely on physical aspects. Thus, social aspects of planning are perceived as secondary issues in the realm of a general top-down policy. As far as EU-funded urban programs are concerned, the gender equality criterion was fulfilled in general terms as a part of a checklist of EU objectives, paying little attention to the complexity of gender issues in practice. Moreover, dispersed guidance in scattered policy documents for vulnerable population groups (ACCESS TO ALL Program) does not set a stable starting point, to begin with. Furthermore, the relatively new urban planning legislation

of July 2014, did not integrate gender insights or social inclusion. Sustainability rhetoric has been incorporated into pertinent legislation since the late 1990s (laws N2508/97 and 2742/99,) but never contextualized in practice. In this context, gender-mainstreaming strategies are only rare in Greek urban public spaces as also bottom-up initiatives.

Expanding the discussion beyond Greece, the fear of crime is a significant concern for many people, particularly those living in larger cities where crime rates may be higher. The fear of crime can be influenced by a variety of factors, including an individual's perception of their surroundings and their evaluation of their ability to stay safe in those surroundings (Erkan and Topcu, 2021). Researchers have discovered that people's perception of safety is closely related to the patterns of behavior within public spaces in numerous surveys, with those who perceive spaces as secure, being more likely to use them for social and recreational activities (Aguila et al., 2019). However, women's experiences and views of safety in public places frequently differ from men's. According to studies, women are more likely to face harassment and violence in public places, which can lead to feelings of dread and anxiety (Madriz, 1997). As a result, women may avoid certain public places or alter their behavior to reduce their chances of harassment and violence. Gender-specific design and management strategies can enhance the safety and quality of public spaces for all members of society. The research community also discovered that women were more likely to use managed and maintained public spaces, manned by security staff to offer a sense of safety.

Existing research highlights the importance of addressing security in public spaces from a gender viewpoint. Gender-sensitive planning and management strategies can enhance public space safety and quality for all members of society (Beebeejaun, 2017). The perception of safety is an important factor in how people use and enjoy public spaces. Given gender-specific factors such as harassment and violence, women are more likely than men to feel unsafe in public places. From this point of view, gender-specific design and management strategies can enhance the safety and quality of public spaces for all members of society.

Towards this direction, certain theoretical outlooks can facilitate the creation of frameworks for improving the quality of public space through the lens of inclusion. First and foremost, the New Urbanism movement outlines the significance of creating accessible mixed-use neighborhoods that encourage community participation and social interaction. By emphasizing the emotional and psychological connections that people make with their natural environment, the principles of New Urbanism can contribute to the design of public spaces that support gender inclusion and equality. Designers can create spaces that are meaningful and accessible to diverse groups by understanding how people form attachments to public spaces (Smith, 2007).

Furthermore, "Inclusive design" is a crucial aspect of building safe and welcoming public spaces for all individuals, especially those with disabilities and diverse gender identities. Gender-inclusive planning requires an interdisciplinary approach that considers the unique experiences of individuals from different social identities. By adopting inclusive design principles, planners and designers can promote social inclusion and well-being, leading to more equitable and sustainable cities (Patrick and McKinnon, 2022; Widegren and Sand, 2021). In addition, "gender mainstreaming" strategies may include improvements such as efficient artificial lighting during evening/night hours, visibility in public areas, the establishment of safe walking and cycling routes, and accessibility of public transportation. Last but not least, combating societal norms that contribute to gender-based violence and discrimination may also be included in the public space planning agenda (UN-Habitat, 2012).

SPSS, particularly PASW Statistics 18, was used for the statistical analysis. Both descriptive and inferential statistics were used in the study. The quantitative factors were described using descriptive statistics such as relative and absolute frequencies. There were two kinds of regression analyses used in inferential statistics: multivariable logistic regression and multiple linear regression.

The associations between the frequency of visits to free public spaces and their availability, quality, accessibility, maintenance, safety during the day, safety during the night, and feeling of relaxation, as well as age, gender, education level, employment status, and having children, were investigated using multivariable logistic regression.

The link between gender and safety during day/night and the feeling of relaxation in urban public spaces during the COVID-19 pandemic frequency was estimated using multiple linear regression. A stepwise approach was used to establish the independent variables in both regression models. Initially, all variables were included in each model, and then they were gradually removed until the model's predictive adequacy was achieved. The statistical significance level was set at $p < 0.05$, which means that a result was deemed statistically significant if the chance of obtaining it was less than 5%.

As presented in Fig.1 and 2 there is an evident differentiation in participants' opinions regarding safety during different times of the day. Based on their answers, urban public spaces of Athens might feel more secure during the daytime while less safe during the evening and night. In particular, only 13 women stated that they feel safe in their neighborhood's public spaces during the night while the rest of the women participants expressed the opposite opinion. As shown in the chart below, men participants as well, challenge the narrative of "safe public spaces" as they claim that they neither feel safe during the night (1 a total of 159 men participants).

Fig. 1

Participants' opinion on safety in urban public spaces of Athens during evening/night hours, authors' work

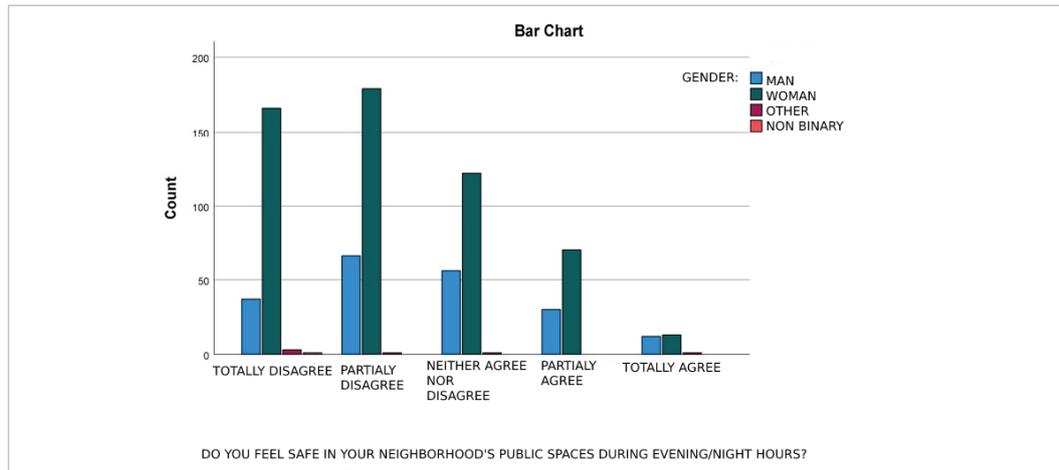
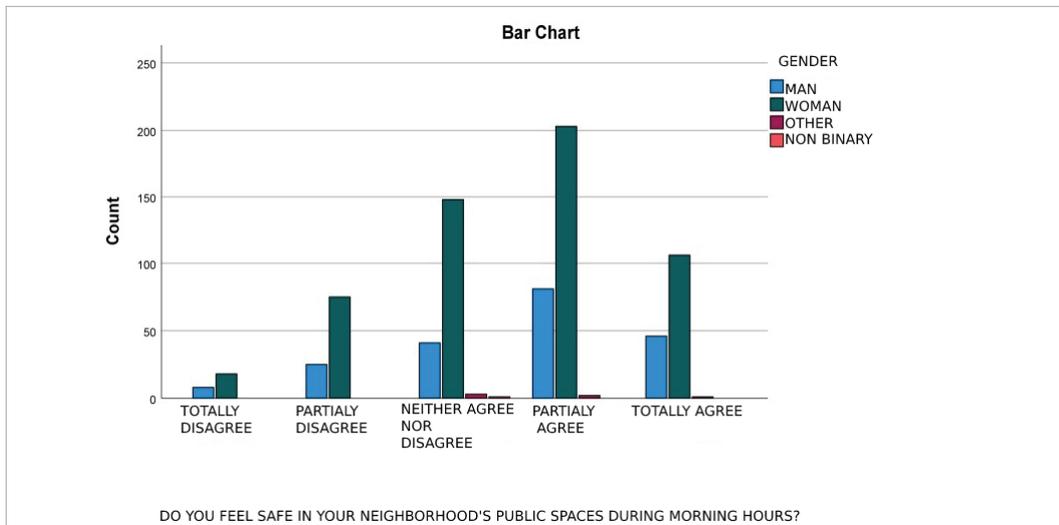


Fig. 2

Participants' opinion on safety in urban public spaces of Athens during morning hours, authors' work



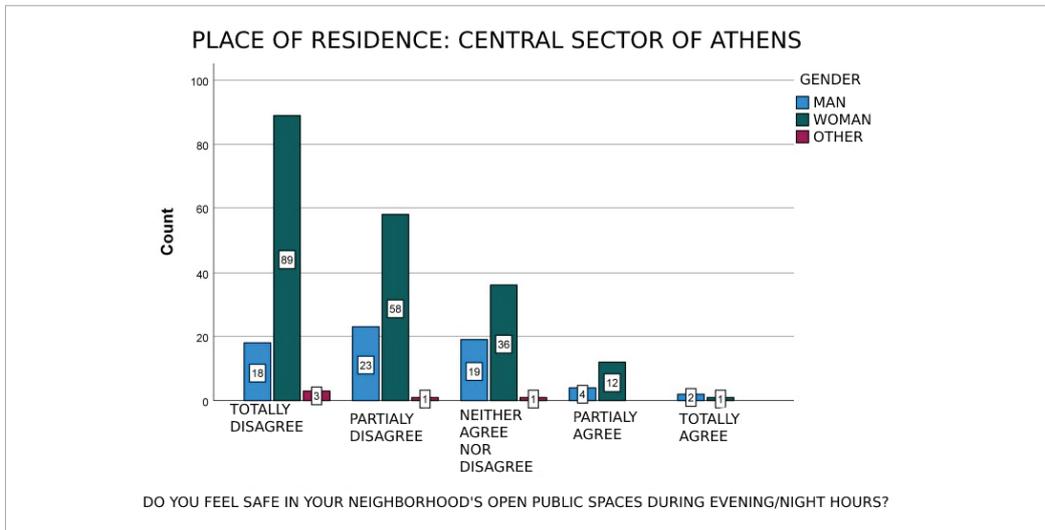


Fig. 3

Participants' opinion on safety in urban public spaces of the central sector of Athens during evening/night hours, authors' work

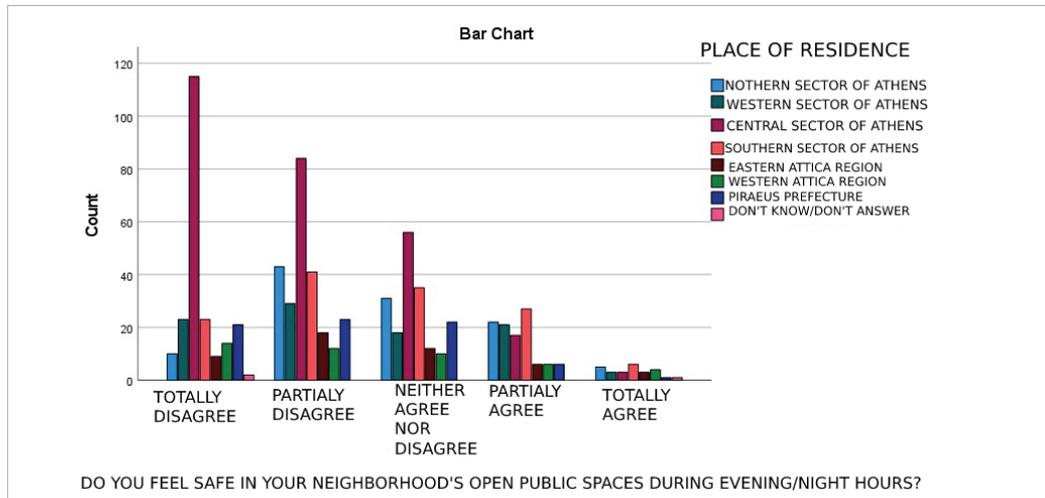


Fig. 4

Participants' opinion on safety in urban public spaces based on their place of residence during evening/night hours, authors' work

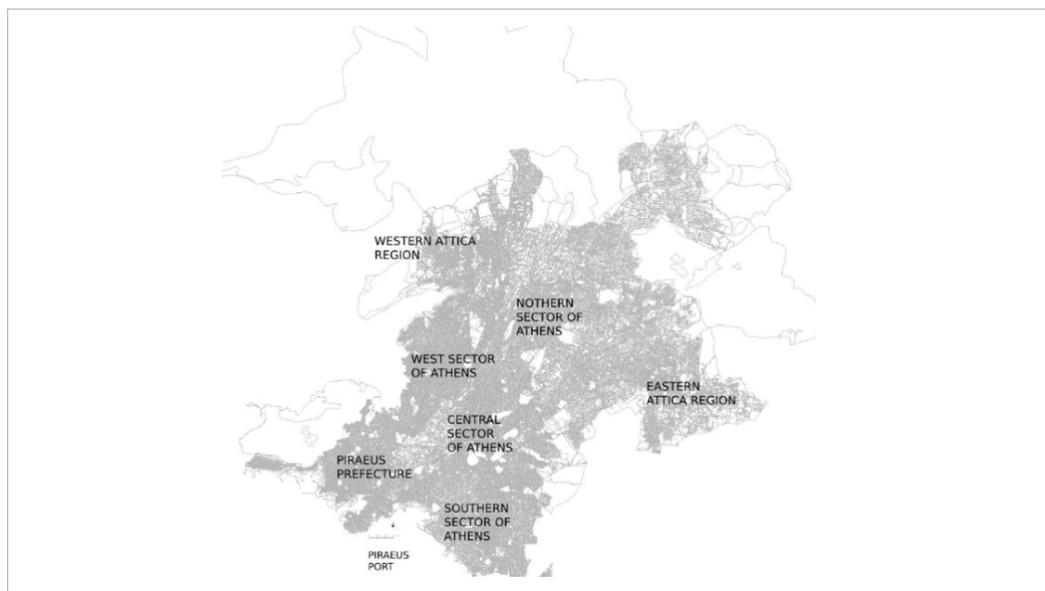


Fig. 5

Cartographic depiction of participants' place of residence, authors' work

Fig. 6

Participants' opinions on the factors that improve safety in public spaces, authors' work

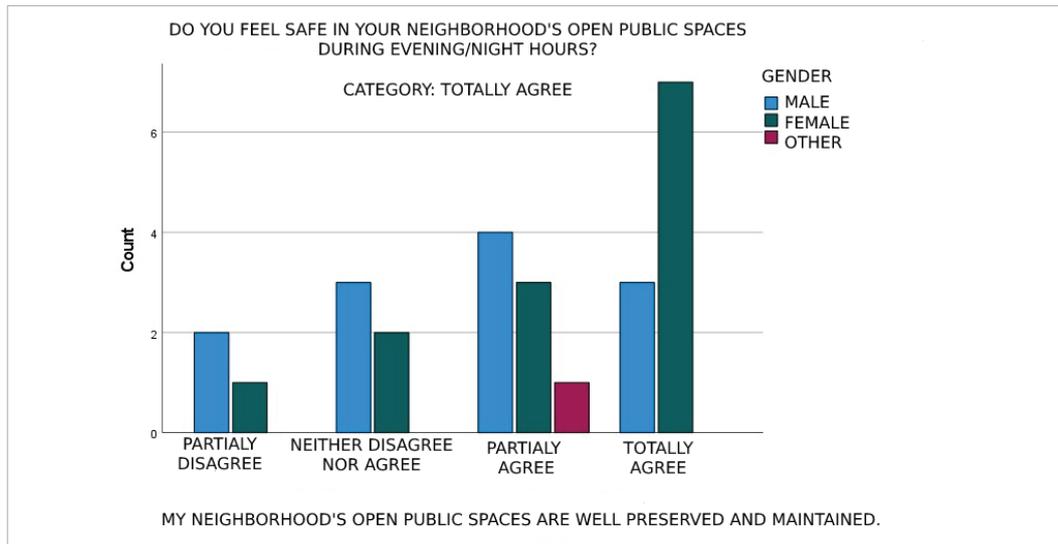


Fig. 7

Participants' opinion on relaxation and safety during evening/night hours in the open public spaces of Attica, authors' work

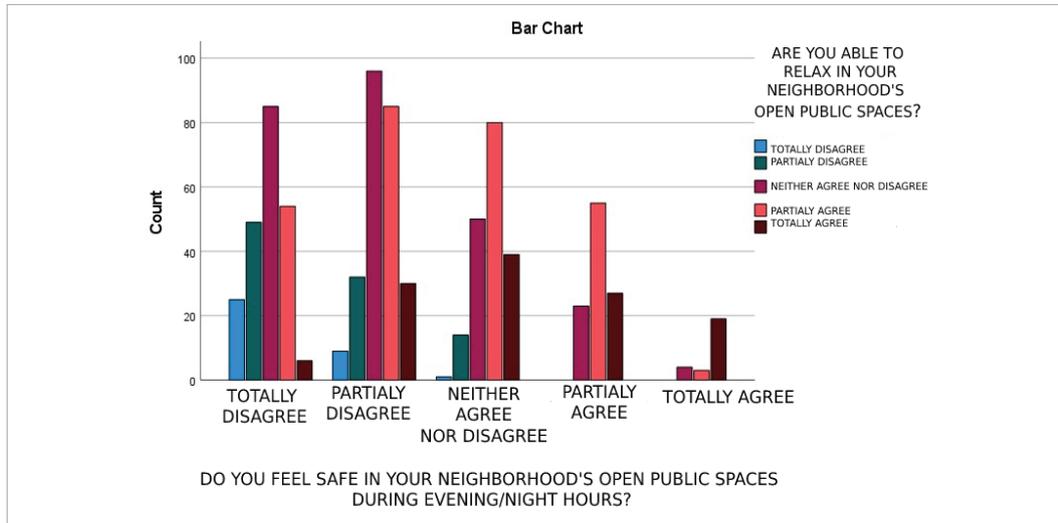
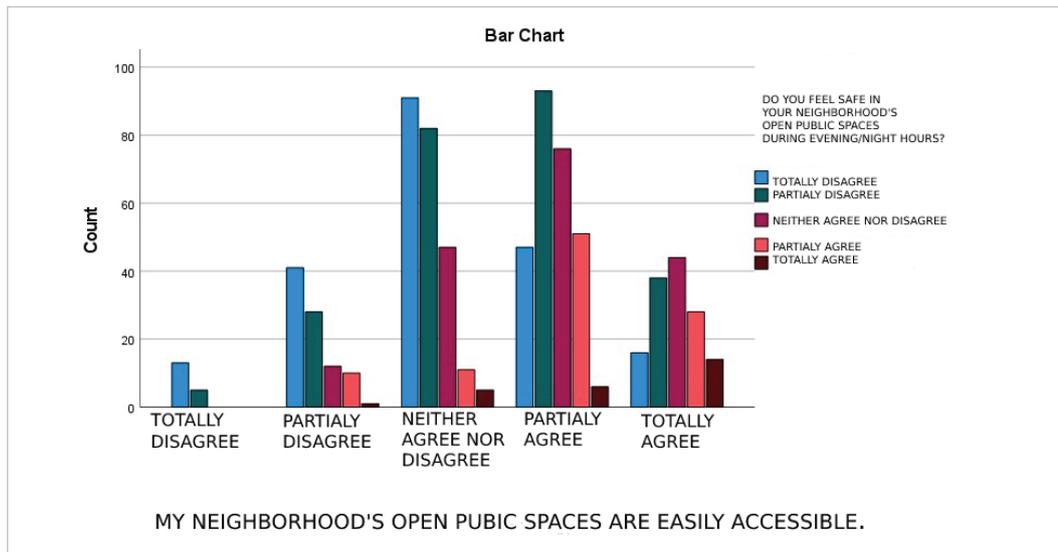


Fig. 8

Assessment of accessibility of public spaces following safety during evening/night hours, participants' opinions, all administrative areas of Attica, all genders, authors' work



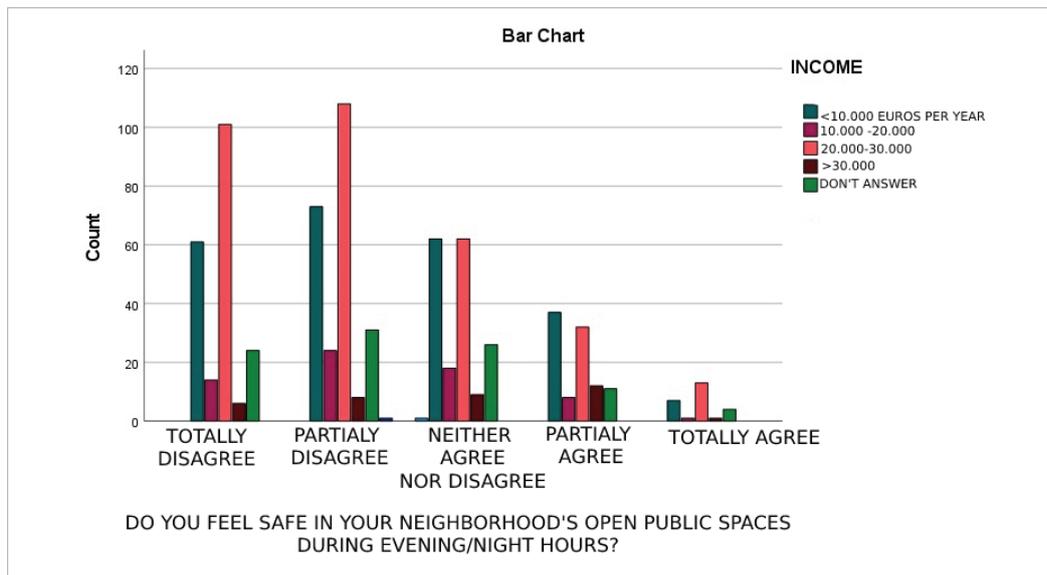


Fig. 9

Assessment of safety following the socio-economic attributes of the participants (annual income) in all administrative areas of Attica, all genders, authors' work

The majority of men, women, and non-binary participants living in the central sector of Athens stated that they consider the existing open public spaces as unsafe during evening/night hours (Fig.3). Compared to the rest of the Attica Region, presented in Fig.4, the central sector of Athens presents more safety issues during evening/night hours, according to the participants' opinion (all genders). As for the factors that improve the sense of safety in open public spaces, women and non-binary participants claimed a strong association between maintenance and safety. Based on their opinion, well-preserved and well-maintained outdoor spaces in all administrative regions of Attica, feel safer during evening and night hours, as presented in Fig. 6. Maintenance might include the condition of green areas, quality of urban infrastructure, and artificial lightning.

As indicated by research findings (see Fig.7) there is a strong connection between feelings of relaxation and safety in outdoor public spaces in all administrative regions of Attica. The safer the outdoor spaces are the more relaxed the users feel. This fact is more evident among women participants, according to the study's results. Moreover, there is an obvious interrelation between easily accessible open public spaces and safety. As presented in Fig.8, the easier access to the open public space, the safer it feels. A noteworthy observation is the fact that participants of all genders from all administrative regions of Attica converge on this idea. To characterize an open public space as "easily accessible" might include visibility of the space from immediate surroundings and from a distance, ease of movement in and around, and efficient connection to the means of public transport. Furthermore, elements of sustainable mobility such as pedestrian routes and bike trails might enhance safety in outdoor public spaces. It is also important to mention that regardless of the socio-economic background of the participants, they all tend to characterize their neighborhood's open public spaces as unsafe during evening/night hours, as depicted in Fig. 9.

The study's findings revealed that women felt less safe than men in urban public spaces during the pandemic, particularly in the evening and night hours. This finding is consistent with prior research that has found gender differences in public space safety perceptions (Kinsella and Hill, 2001; EU-Project 2009-2011, 2012; Warr, 1984) The research also discovered that public space maintenance was strongly related to perceptions of safety, with well-maintained and managed outdoor spaces viewed as safer during the evening and night hours. Furthermore, the findings of the research show a strong relationship between feelings of relaxation and safety in outdoor public spaces, especially among women. This finding is consistent with earlier research that has found that public spaces improve mental health and well-being (Kaplan and Kaplan, 1989; Sullivan

et al., 2004; Larson et al., 2021). The study's findings indicate that creating and maintaining safe, high-quality public spaces is critical to supporting public health and well-being, especially during emergencies like the COVID-19 pandemic. Several studies have documented similar results regarding the relationship between public space safety, maintenance, and accessibility. The studies that follow back up the idea that the physical characteristics of public places, such as their upkeep and accessibility, play a critical role in shaping people's perceptions of safety, regardless of the nation or region examined (Blöbaum and Hunecke, 2005; Cafuta, 2021; Hami and Maruthaveeran, 2018; Polko and Kimic, 2022). However, it is critical to acknowledge that cultural, social, and political contexts can all have an impact on people's perceptions of safety and comfort in public places (Madanipour, 2021; 2003). As a result, future research should focus on the interaction of physical characteristics and contextual factors in shaping people's perceptions of safety and comfort in public places. The results of this study and previous research, taken together, highlight the importance of keeping and designing public spaces that are accessible, secure, and comfortable for all community members, regardless of demographic characteristics. According to the results, well-maintained public spaces, especially those that are accessible and feel secure both during the day and at night, are more likely to foster feelings of relaxation in users. In this way, policymakers and urban planners can promote social inclusion and enhance the quality of life in cities.

To accomplish the aforementioned goals, decision-makers, and public space planners can follow several guidelines. The primary ones are as follows: improve visibility and lighting, increase the number of public places, design streets and sidewalks with safety in mind, provide safe and accessible public transportation, encourage community equality awareness, enhance women's participation in the design process, and substantial technological inclusion. The use of modern technological means can help to record incidents that add to women's feelings of insecurity in public spaces, allowing for more holistic and effective risk management (Crabtree and Geara, 2018; Najafi, 2017).

It is important to note, however, that the current research has several limitations. For starters, the study did not delve into the perspectives of the elderly or individuals with disabilities. This is a significant limitation because older people or people with disabilities frequently face unique safety concerns and may have differing views of safety in public places (Velasquez et al., 2021; Patrick and McKinnon, 2022; Almeida, 2017; Sobouti and Alavi, 2017). Furthermore, the study did not consider the special needs of people of various gender identities or immigrants. Because there were insufficient non-binary people and immigrants in the sample, more research is required to comprehend their experiences and perspectives. Additionally, the research relied on self-reported data, which may be skewed or inaccurate. To address this limitation, future studies may use alternative data collection techniques or a larger, more diverse sample to improve the results' generalizability. Despite these limitations, the current study provides valuable insights into public space safety views; however, it is critical to recognize these limitations and continue to build on them in future studies.

Conclusions

This research provides useful information about the sense of security that citizens have in public spaces and how this might be modified by urban space quality characteristics and gender. The current study was conducted during the pandemic when the importance of the existence and use of public spaces took on new significance for cities. The study employed statistical analysis to investigate the correlations between free public space visitation and a range of criteria including availability, quality, accessibility, maintenance, safety during the day and night, and a sense of relaxation, as well as demographic data. Regression analyses revealed significant gender differences in daytime and nighttime perceptions of safety in urban public spaces, with women feeling less safe than men. The study also discovered that perceived safety was closely tied to maintenance

and that the safer the outdoor places were, the more comfortable individuals felt. Moreover, there is an apparent connection between easily accessible open public spaces and safety. These findings emphasize the necessity of providing well-kept and safe public areas for all people in order to increase their well-being and safety. This study suggests future research on the role of technology in improving public space safety and quality, particularly from a gender perspective.

Acknowledgements

The publication of this article was financially supported by the Special Accounts for Research Grants, University of West Attica.

References

- Addas, Abdullah, and Ahmad Maghrabi. 2022. "How Did the COVID-19 Pandemic Impact Urban Green Spaces? A Multi-Scale Assessment of Jeddah Megacity (Saudi Arabia)." *Urban Forestry and Urban Greening* 69: 127493. <https://doi.org/10.1016/j.ufug.2022.127493>
- Aguila, Mark Del, Ensiyeh Ghavampour, and Brenda Vale. 2019. "Theory of Place in Public Space." *Urban Planning* 4 (2 Public Space in the New Urban Agenda Research into Implementation): 249-59. <https://doi.org/10.17645/up.v4i2.1978>
- Almeida, Mariana F. 2017. "Age-Friendly Walkable Urban Spaces: A Participatory Assessment Tool Age-Friendly Walkable Urban Spaces: A Participatory." *Journal of Housing For the Elderly* 30 (4): 396-411. <https://doi.org/10.1080/02763893.2016.1224791>
- Beebeejaun, Yasminah. 2017. "Gender, Urban Space, and the Right to Everyday Life." *Journal of Urban Affairs* 39 (3): 323-34. <https://doi.org/10.1080/07352166.2016.1255526>
- Blöbaum, Anke, and Marcel Hunecke. 2005. "Perceived Danger in Urban Public Space: The Impacts of Physical Features and Personal Factors." *Environment and Behavior* 37 (4): 465-86. <https://doi.org/10.1177/0013916504269643>
- Cafuta, Melita Rozman. 2021. "Sustainable City Lighting Impact and Evaluation Methodology of Lighting Quality from a User Perspective." *Sustainability (Switzerland)* 13 (6). <https://doi.org/10.3390/su13063409>
- Condon, Stéphanie, Marylène Lieber, and Florence Maillachon. 2007. "Feeling Unsafe in Public Places: Understanding Women's Fears." *Revue Française de Sociologie* 48 (SUPPL.): 101-28. <https://doi.org/10.3917/rfs.485.0101>
- Crabtree, Kristy, and Petronille Geara. 2018. "Safety Planning for Technology: Displaced Women and Girls' Interactions with Information and Communication Technology in Lebanon and Harm Reduction Considerations for Humanitarian Settings." *Journal of International Humanitarian Action* 3 (1). <https://doi.org/10.1186/s41018-018-0031-x>
- Erkan, Nilgun Colpan, and Beril Sevin Topcu. 2021. "Gender-Based Differences in Fear of Crime in Public Spaces: An Investigation of a Safe District in Istanbul." *Urbani Izziv* 32 (2): 87-97. <https://doi.org/10.5379/urbani-izziv-en-2021-32-02-02>
- EU-Project 2009-2011. 2012. "Gender-Based Violence, Stalking and Fear of Crime." www.gendercrime.eu
- Hami, Ahmad, and Sreetheran Maruthaveeran. 2018. "Public Perception and Perceived Landscape Function of Urban Park Trees in Tabriz, Iran." *Landscape Online* 62 (November 2017): 1-16. <https://doi.org/10.3097/LO.201862>
- Kaplan, R., & Kaplan, S. 1989. *The Experience of Nature: A Psychological Perspective*. Edited by Cambridge University Press.
- Kinsella, Clare, and Edge Hill. 2001. "Femininity, Masculinity and Fear of Crime within Heterosexual Relationships," no. 9: 1-21.
- Larson, Lincoln R., Zhenzhen Zhang, Jae In Oh, Will Beam, S. Scott Ogletree, Jason N. Bocarro, Kang Jae Jerry Lee, et al. 2021. "Urban Park Use During the COVID-19 Pandemic: Are Socially Vulnerable Communities Disproportionately Impacted?" *Frontiers in Sustainable Cities* 3 (September): 1-15. <https://doi.org/10.3389/frsc.2021.710243>
- Madanipour, Ali. 2003. "Public and Private Spaces of the City." *Public and Private Spaces of the City*, no. September 2003: 1-237. <https://doi.org/10.4324/9780203402856>
- Madanipour, Ali. 2021. "Whose Public Space? International Case Studies in Urban Design and Development." *Public Space Reader*, 436-43. <https://doi.org/10.4324/9781351202558-64>
- Madriz, Esther I. 1997. "Images of Criminals and Victims: A Study on Women's Fear and Social Control." *Gender and Society* 11 (3): 342-56. <https://doi.org/10.1177/089124397011003005>
- Mela, Athina, and George Varelidis. 2022. "Effects of the COVID-19 Pandemic on the Use and Attitudes Towards Urban Public Spaces." *Journal of Sustainable Architecture and Civil Engineering* 31 (2): 85-95. <https://doi.org/10.5755/j01.sace.31.2.31545>

- Najafi, Ladan. 2017. "Empowering Women's Safety in Public Space through Mobile Technology," 2017.
- Patrick, Mikaela, and Iain McKinnon. 2022. "Co-Creating Inclusive Public Spaces: Learnings from Four Global Case Studies on Inclusive Cities." *The Journal of Public Space* 7 (2): 93-116. <https://doi.org/10.32891/jps.v7i2.1500>
- Polko, Paulina, and Kinga Kimic. 2022. "Gender as a Factor Differentiating the Perceptions of Safety in Urban Parks." *Ain Shams Engineering Journal* 13 (3). <https://doi.org/10.1016/j.asej.2021.09.032>
- Smith, J. 2007. "New Urbanism and Gender: Planning and Designing with Women in Mind." *Journal of Urban Design* 12 (3): 325-45.
- Sobouti, Hooman, and Pari Alavi. 2017. "Evaluation of Quality Elderly of Public Open Spaces for the Case Study : (Sheet-e- Bazaar in Zanjan)" 7: 47-56.
- Sullivan, William C., Frances E. Kuo, and Stephen F. DePooter. 2004. "The Fruit of Urban Nature: Vital Neighborhood Spaces." *Environment and Behavior* 36 (5): 678-700 <https://doi.org/10.1177/0193841X04264945>
- UN-Habitat. 2012. "Gender Issue Guide: Urban Planning and Design," 72.
- United Nations Women. 2021. "Safe Cities and Safe Public Spaces: Global Results Report." <https://www.unwomen.org/en/digital-library/publications/2017/10/safe-cities-and-safe-public-spaces-global-results-report>.
- Velasquez, Alfredo J., Jason A. Douglas, Fangqi Guo, and Jennifer W. Robinette. 2021. "What Predicts How Safe People Feel in Their Neighborhoods and Does It Depend on Functional Status?" *SSM - Population Health* 16: 100927. <https://doi.org/10.1016/j.ssmph.2021.100927>
- Warr, Mark. 1984. *Fear of Crime in the United States: Avenues for Research and Policy*.
- Widgren, Kajsa, and Jimmy Sand. 2021. "Gender and Sustainability: An International Research Review," 1-40.
- Williams, Tim G., Tom M. Logan, Connie T. Zuo, Kevin D. Liberman, and Seth D. Guikema. 2020. "Parks and Safety: A Comparative Study of Green Space Access and Inequity in Five US Cities." *Landscape and Urban Planning* 201 (April): 103841. <https://doi.org/10.1016/j.landurbplan.2020.103841>
- World Health Organization. 2020. "Violence Prevention in the World Health Organization European Region: Health and Economic Benefits." https://www.euro.who.int/__data/assets/pdf_file/0006/433745/Violence-prevention-in-the-WHO-European-Region.pdf.

About the Authors

ATHINA MELA

Ph.D. candidate UNIWA, Civil Engineer (Msc)

Laboratory of Urban Planning and Architecture, School of Engineering, Department of Civil Engineering, University of West Attica

Main research area

Sustainable urban design, urban public spaces, urban green spaces, resilient built environment, urban adaptation, public space quality assessment

Address

University of West Attica, 250 Thivon & P.Ralli Str., 12241 Athens, Greece
E-mail: amela@uniwa.gr

EVGENIA TOUSI

Post-doctoral researcher

Department of Civil Engineering, School of Engineering, University of West Attica, 250 Thivon & P.Ralli Str., 12241 Athens, Greece

Main research area

Sustainable design of cities and buildings, Urban and regional planning

Address

University of West Attica, 250 Thivon & P.Ralli Str., 12241 Athens, Greece
E-mail: etousi@uniwa.gr

