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Gender-sensitive architecture: Spatial strategies for enhancing safety and well-being of women and girls in Latin American cities

Arquitectura y género: diseño de espacios que promuevan seguridad y bienestar para mujeres y niñas en Latinoamérica

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Abstract

This article examines how gender-sensitive architectural and urban design strategies contribute to the safety and well-being of women and girls in Latin American cities. Through a comparative case study of 16 public spaces in Quito, Santiago, Mexico City, and Buenos Aires, the research applies a mixed-methods methodology combining spatial analysis, structured field observation, and gender-sensitive audits. Results reveal that lighting continuity, visual permeability, proximity to care infrastructure, and active social presence significantly influence perceived safety. Peripheral areas with limited access to care services exhibit lower safety scores and higher levels of spatial exclusion. The study highlights structural limitations in conventional urban planning, which often neglects gendered experiences and fails to prioritize inclusive design principles. By integrating both quantitative indicators and qualitative insights, this research provides evidence for the spatial impacts of gender inequality in urban contexts. The article concludes with a set of practical recommendations to mainstream gender equity in urban design and planning, promoting inclusive, participatory, and context-responsive strategies for safer cities.

Keywords: gender-sensitive design; urban safety; care infrastructure; spatial equity; feminist urbanism; Latin America.

Resumen

Este artículo analiza cómo el diseño arquitectónico y urbano con enfoque de género contribuye a la seguridad y el bienestar de mujeres y niñas en ciudades latinoamericanas. A través de un estudio comparativo de 16 espacios públicos en Quito, Santiago, Ciudad de México y Buenos Aires, se aplica una metodología mixta que integra análisis espacial, observación estructurada en campo y auditorías de género. Los resultados evidencian que la continuidad de la iluminación, la permeabilidad visual, la cercanía a infraestructura de cuidado y la presencia social activa influyen significativamente en la percepción de seguridad. Las zonas periféricas con limitado acceso a servicios de cuidado presentan menores puntajes de seguridad y mayores niveles de exclusión espacial. El estudio revela limitaciones estructurales en la planificación urbana convencional, que suele ignorar las experiencias de género y no prioriza el diseño inclusivo. Se concluye con recomendaciones prácticas para transversalizar la equidad de género en el diseño urbano, mediante estrategias participativas, inclusivas y contextualizadas que promuevan ciudades más seguras para todas las personas.

Palabras clave: diseño con enfoque de género; seguridad urbana; infraestructura de cuidado; equidad espacial; urbanismo feminista; América Latina.

1. Introduction

In Latin America, the rapid urbanization process has not been accompanied by inclusive planning frameworks that account for the differentiated spatial experiences of women and girls. Gender-based violence, unequal access to care infrastructure, and mobility inequalities intersect spatially, limiting women's right to the city and their full participation in public life. Although cities are often presented as spaces of opportunity and progress, their design and governance frequently reinforce patriarchal power structures, reproducing exclusion and vulnerability.

Urban space is not neutral. As feminist geographers and theorists have emphasized, it is socially constructed and laden with meaning, structured by gendered relations of power that shape how it is experienced, accessed, and navigated (Massey, 1994; Fenster, 2005; Peake, 2009). The built environment reflects and reinforces social hierarchies. Women and girls interact with public space under specific constraints: visibility, fear of violence, care responsibilities, and limited mobility options. These conditions are exacerbated in the Global South, where infrastructure deficits and social inequalities converge.

Traditional urban planning paradigms have long been dominated by functionalist, economically driven logics that prioritize vehicle circulation, land use profitability, and infrastructural efficiency (Jacobs, 1961; Harvey, 2003). This has led to the marginalization of social dimensions, such as affective well-being, everyday care practices, and inclusion. Urban design has historically centered on a presumed 'neutral user'—implicitly male, able-bodied, and economically active—thus overlooking the needs of caregivers, children, the elderly, and those with limited autonomy (Greed, 2005; Imrie, 2012).

Feminist urbanism emerges as a counterpoint to these dominant paradigms. Rooted in feminist theory, it calls for the reconfiguration of urban systems around care, interdependence, and inclusivity (Rendell, 2000; Kern, 2020). It critiques how patriarchal norms are inscribed in zoning laws, transportation networks, and the design of public services. It emphasizes the centrality of emotional safety, bodily diversity, and the importance of enabling environments for all users. This perspective reclaims public space not only as a physical asset but as a space of representation and belonging.

Public spaces are arenas where gendered power relations become visible. Women's perceptions of safety in these spaces are not merely based on crime rates or statistical risks. Rather, they are shaped by environmental cues—lighting, visibility, enclosure, maintenance—as well as social and symbolic markers like presence of others, territorial familiarity, and signage (Pain, 2001; Delgado, 2015; Hidalgo et al., 2021). The experience of fear or comfort is an emotional geography shaped by both the material and symbolic dimensions of space.

However, conventional urban design tools and policy instruments often fail to account for these complexities. Guidelines still rely heavily on quantitative indicators—traffic flow, economic density, cost-efficiency—that disregard lived experiences and emotional responses to the built environment (Sánchez de Madariaga & Roberts, 2013). Gender considerations, when included, are often relegated to superficial gestures: pink benches, symbolic murals, or isolated safety campaigns. These measures rarely challenge underlying structures or allocate resources where they are most needed.

Latin America presents a particularly relevant context for the study of gender-sensitive urbanism (Castañeda et al., 2024; Aguirre et al., 2021). With over 80% of its population living in urban areas and persistent challenges related to social inequality and gender-based violence, the region is a testing ground for inclusive planning models. While cities like Buenos Aires, Santiago, and Mexico City have adopted gender equity policies, these are often disconnected from spatial interventions or lack systematic implementation mechanisms (UN-Habitat, 2020; ECLAC, 2022).

Moreover, the inclusion of women in urban planning processes remains limited (Roimant et al., 2023). In architecture schools, professional institutions, and municipal decision-making bodies, the representation of women and the integration of feminist theory are still marginal (López, 2020; Falú, 2020). This limits

the institutionalization of gender-sensitive practices and hinders the development of design standards that address the specific needs of women and girls.

Figure OA and Figure OB visually contrast two urban scenarios: one representing the exclusionary characteristics of conventional Latin American cities and another illustrating a gender-sensitive urban environment. These comparative illustrations serve to underscore how spatial design either limits or fosters women's safety, accessibility, and emotional well-being in public space. (Figure 1)

Figure 1

Urban scenarios.

Note. Photograph prepared by the authors.

Figure OA and Figure OB visually contrast two urban scenarios: one representing the exclusionary characteristics of conventional Latin American cities and another illustrating a gender-sensitive urban environment. These comparative illustrations serve to underscore how spatial design either limits or fosters women's safety, accessibility, and emotional well-being in public space.

Recent international agendas have recognized the centrality of gender in sustainable development. The 2030 Agenda for Sustainable Development, particularly Goals 5 (Gender Equality) and 11 (Sustainable Cities and Communities), emphasizes the need to create inclusive, safe, resilient, and sustainable urban environments. Yet, the operationalization of these goals at the municipal level often lacks clarity, data, and resources. Without empirical evidence linking spatial variables to women's safety and well-being, it is difficult to design interventions that are both effective and replicable.

Feminist scholars argue for the importance of generating such evidence through grounded, context-sensitive research. They advocate for participatory methodologies that prioritize lived experience, and for mixed-methods approaches that combine spatial analysis with qualitative inquiry (Fenster, 2005; Fainstein, 2010; Franck & Stevens, 2007). Spatial justice, they argue, is not just about redistributing infrastructure but also about recognizing and valuing diverse experiences of space.

This study contributes to that endeavor by applying a mixed-methods, comparative case approach to analyze how gender-sensitive urban design affects the safety and well-being of women and girls in four Latin American cities: Quito, Santiago, Mexico City, and Buenos Aires. These cities were selected due to their demographic weight, diversity of urban form, and variation in institutional commitment to gender mainstreaming.

The research is guided by the following hypothesis: gender-sensitive design is both a matter of spatial equity and a prerequisite for inclusive urban development. In other words, the design and configuration of public space can significantly influence whether women and girls feel safe, supported, and included in city life.

To test this hypothesis, the study integrates spatial modeling (e.g., lighting distribution, visibility, accessibility), structured field observation, and gender audits adapted from UN Women's guidelines. It analyzes 16 public spaces—four per city—selected based on criteria such as pedestrian flow, diversity of users, availability of care infrastructure, and evidence of previous urban interventions.

The methodology includes the creation of a multi-variable dataset encompassing physical infrastructure indicators (e.g., light poles, circulation paths), social indicators (e.g., pedestrian density, gender diversity), and emotional or perceptual measures (e.g., comfort behaviors, perceived safety). Statistical techniques such as Spearman's correlation and Principal Component Analysis (PCA) are applied to explore patterns, while spatial modeling tools visualize accessibility and insecurity.

In addition to quantitative analysis, the study incorporates participatory observations and informal interviews with users of public space, particularly women, to capture their perceptions, fears, and strategies for navigating urban environments. These narratives are crucial for understanding the symbolic dimensions of space and for identifying gaps between official planning discourse and everyday experience.

By triangulating these data sources, the study seeks to identify design features, spatial configurations, and institutional practices that contribute to safer and more inclusive public environments for women and girls. It also aims to produce actionable knowledge that can inform urban policy, investment priorities, and design education.

The article is structured as follows:

- Section 2 outlines the research methodology, data sources, and analytical tools.
- Section 3 presents and discusses the findings in relation to feminist urban theory and Latin American planning challenges.
- Section 4 concludes with recommendations for design, policy, and governance mechanisms to advance gender equity in cities.

Ultimately, this research seeks to contribute to a paradigm shift in urbanism—one that recognizes diversity, centers vulnerability, and reclaims space as a collective right rather than a commodified asset. By bringing feminist theory into dialogue with spatial analysis and participatory practice, it demonstrates that architecture and urban planning can become tools for justice, dignity, and resilience.

2. Materials and Methods

Given the multidimensional nature of urban safety and the diversity of gendered experiences in public space, a mixed-methods and comparative research design is particularly suited to this study. This approach allows the integration of spatial, quantitative, and qualitative evidence, offering a more comprehensive understanding of how urban form influences the perception of safety among women and girls.This research follows a mixed-methods, multi-scalar and comparative approach to assess how gender-sensitive urban design influences the perception of safety and well-being among women and girls in Latin American public spaces. The methodology integrates spatial analysis, direct field observation, statistical correlation, and gender-sensitive audit tools, enabling both quantitative validation and qualitative contextualization.

2.1. Study Period and Site Selection

The study was conducted between February 2023 and March 2024 in four Latin American cities: Quito

(Ecuador), Santiago (Chile), Mexico City (Mexico), and Buenos Aires (Argentina). Each city contributed four public spaces (total n = 16), selected to reflect both central and peripheral urban contexts with diverse urban morphology and levels of gender-sensitive planning.

Inclusion criteria for site selection were:

- Documented presence of gender-oriented design or policy interventions.
- High pedestrian flow by women and caregiving activities.
- Availability of relevant socio-demographic and geospatial data.

The public spaces ranged between 0.8 and 4 hectares and included civic squares, transport corridors, multimodal hubs, and neighborhood parks. Table 1 summarizes the selected public spaces across the four cities, chosen to reflect diverse urban morphologies and socio-political contexts relevant to gender-sensitive planning.

Table 1

Public Spaces Included in the Study.

City	Selected Spaces
Quito	Plaza Cívica de Guamaní, La Magdalena, Av. 10 de Agosto, Terminal Quitumbe
Santiago	Barrio Lastarria, Plaza de Armas Hub, Parque Los Reyes, Providencia Civic Axis
Mexico City	Paseo de la Reforma, Iztapalapa Hub, Parque Alameda, Centro Histórico Corridor
Buenos Aires	Palermo Civic Core, Plaza Constitución, Ciudad Oculta, Av. Rivadavia Segment

2.2. Analytical Framework

The analytical design was informed by feminist urban theory (Kern, 2020), spatial justice (Harvey, 2003), and the right to the city (Lefebvre, 1991). Five analytical dimensions guided fieldwork and data recording, each comprising thematic variables (Table 2). For clarity, variables were assigned thematic codes using prefixes related to their dimension:

Table 2

Analytical Dimensions and Operational Variables.

Code	Category	Variable Description	Type	Source
L1	Lighting	Functional lighting poles per 100m²	Quantitative	Direct observation
L2	Lighting	Average lighting coverage (lux)	Quantitative	Light meter readings
VP1	Visual Permeability	Visual obstructions per 100m²	Quantitative	Field sketch and site walk
VP2	Visual Permeability	Average visibility radius (meters)	Quantitative	Manual estimation on maps
C1	Connectivity	Number of safe pedestrian access points	Quantitative	On-site mapping
C2	Connectivity	Path diversity (Simpson Index)	Quantitative	Manual path mapping
IC1	Infrastructure of Care	Distance to nearest care facility (in meters)	Quantitative	Map-based estimation
IC2	Infrastructure of Care	Number of care facilities within 500 meters	Quantitative	Institutional directories
SP1	Social Presence	Peak pedestrian density (people/100m²)	Quantitative	Direct field counts
SP2	Social Presence	Gender diversity index (Gini coefficient)	Quantitative	Gender-disaggregated tally
E1	Emotional Indicators	Comfort behaviors (e.g., sitting, playing, interacting)	Qualitative	Ethnographic coding
A1	Audit Score	Perceived safety score (scale 1–5)	Quantitative	Structured gender audit

All data were normalized (min-max 0–1 scale) prior to analysis to allow inter-variable comparison.

2.3. Data Sources

Secondary data (April–October 2023) were obtained from institutional and open-access sources:

- Demographic and safety indicators, disaggregated by sex and age:
  - INEC (Ecuador), INE (Chile), INEGI (Mexico), INDEC (Argentina)
- Urban policy documents and reports:
  - Inclusive mobility plans, safe cities programs
  - UN Women and municipal gender equity initiatives (2018–2023)
- Care infrastructure inventories:
  - Public childcare, women's centers, civic health points (via GIS + directories)

2.4. Field Observations

From August to December 2023, structured field visits were conducted in all 16 public spaces. Observations were carried out in three time slots (morning, afternoon, evening), on both weekdays and weekends, totaling 128 hours of on-site research.

Quantitative observations included:

- Light pole counts and lux readings (L1, L2)
- Visibility assessments and obstacle counts (VP1, VP2)
- Entry point enumeration and path mapping (C1, C2)
- Pedestrian counts and gender identification (SP1, SP2)

Qualitative observations (E1) captured emotional and behavioral responses such as signs of comfort or avoidance, informal surveillance patterns, and symbolic use (e.g., murals, signage, naming).

Perceived safety (A1) was assessed through structured audits based on UN Women's Gender-Sensitive Urban Checklist (2018). Three independent auditors per site were employed to ensure consistency.

All observations were conducted in public space without collecting personal identifiers. Where participatory audit interactions occurred, verbal consent was obtained, and anonymity preserved.

2.4.1. Validation and Triangulation

To ensure reliability, all field data were cross-checked by three researchers using standardized observation templates. Pilot testing of the instruments was conducted in two sites (Palermo and La Magdalena) to refine procedures. Discrepancies between auditors were resolved through group validation.

2.5. Statistical and Spatial Analysis

A complete matrix (16 sites × 12 variables) was constructed for statistical analysis. All numerical data were normalized. Analyses included:

2.5.1. Correlation Analysis

Spearman's rank correlation was applied, as safety perception scores were ordinal and variables non-parametric. This non-parametric method was selected due to the ordinal nature of the safety perception

scores and the absence of normal distribution across variables, ensuring robustness in the correlation analysis (Table 3).

Table 3

Variables Correlated with Safety Perception (A1)

Code	Description	Spearman's ρ	p-value	Interpretation
L1	Functional lighting poles	+0.74	<0.01	Strong positive correlation
L2	Lighting coverage (lux)	+0.71	<0.01	Strong positive correlation
VP2	Visibility radius	+0.66	<0.05	Moderate correlation
IC1	Distance to care services	-0.63	<0.05	Moderate negative correlation
SP1	Pedestrian density	+0.59	<0.05	Mild positive correlation
SP2	Gender diversity index	+0.61	<0.05	Mild positive correlation

These results suggest that well-lit, permeable, and socially vibrant spaces near care services are perceived as safer.

2.5.2. Principal Component Analysis (PCA)

PCA was conducted to reduce dimensionality and identify clusters.

- KMO = 0.712
- Bartlett's test: $\chi^2 = 145.4$, $p < 0.001$

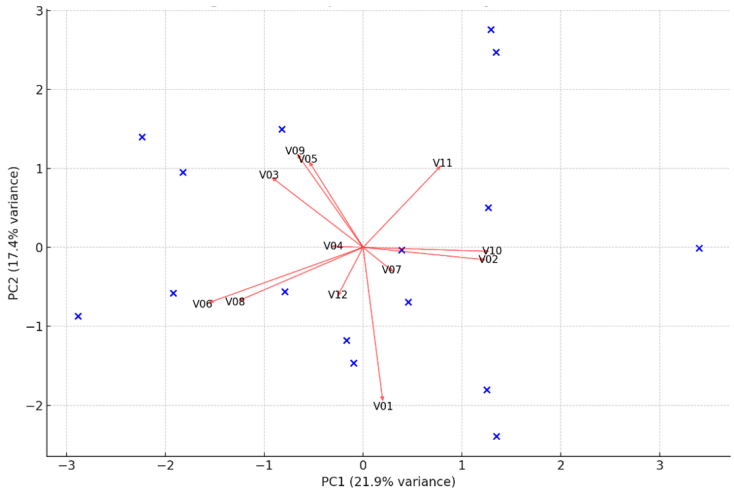
Three components explained 72.4% of total variance:

- PC1 (39.7%): Lighting (L1, L2), Visibility (VP2), Connectivity (C1)
- PC2 (20.4%): Care infrastructure (IC1, IC2), Gender diversity (SP2)
- PC3 (12.3%): Pedestrian density (SP1), Emotional comfort (E1)

The PCA helps to reduce data complexity and identify principal components that group variables with similar patterns. This technique is useful in visualizing clusters and interpreting the multivariate structure behind perceived safety. Figure 2 presents a biplot of PCA loadings and spatial relationships among the 16 sites.

Figure 2

PCA Biplot of Urban Safety Indicators.



Note. Biplot showing the spatial relationships between public spaces (blue dots) and the principal variables (red arrows)

influencing perceived safety. PC1 emphasizes lighting, visibility, and connectivity, while PC2 groups care infrastructure and social diversity indicators.

2.5.3. Spatial Modeling

Spatial modeling techniques such as Kernel Density Estimation (KDE) and the Spatial Accessibility Index (SAI) were employed to visualize and quantify spatial inequities. These methods were chosen for their capacity to reveal local variations and relational patterns in safety perception and service proximity, complementing the statistical analysis.

• Kernel Density Estimation (KDE) maps perceived insecurity (V12) by interpolating audit responses. Hotspots align with under-maintained, peripheral zones (e.g., Quitumbe, Ciudad Oculta).

• Spatial Accessibility Index (SAI) was computed using a gravity-based function:

$$SAI_i = \sum_j \frac{W_j}{d_{ij}^{1.5}} \quad (1)$$

Where:

- SAI_i: accessibility at location i

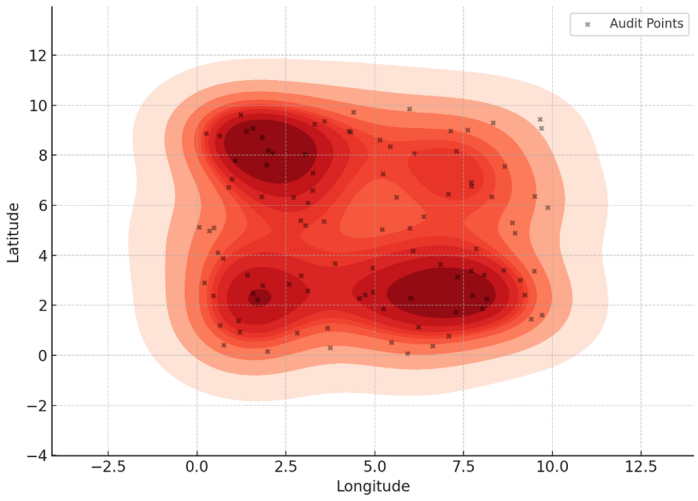
- W_j: service capacity of care facility j

- d_{ij}^1.5: walking distance from site i to j (meters)

These calculations were conducted manually using measured walking distances and care facility data, without reliance on GIS platforms. This approach ensured accessibility in low-resource research contexts, though it may limit spatial precision (Figure 3).

Figure 3

KDE Map of Perceived Insecurity.



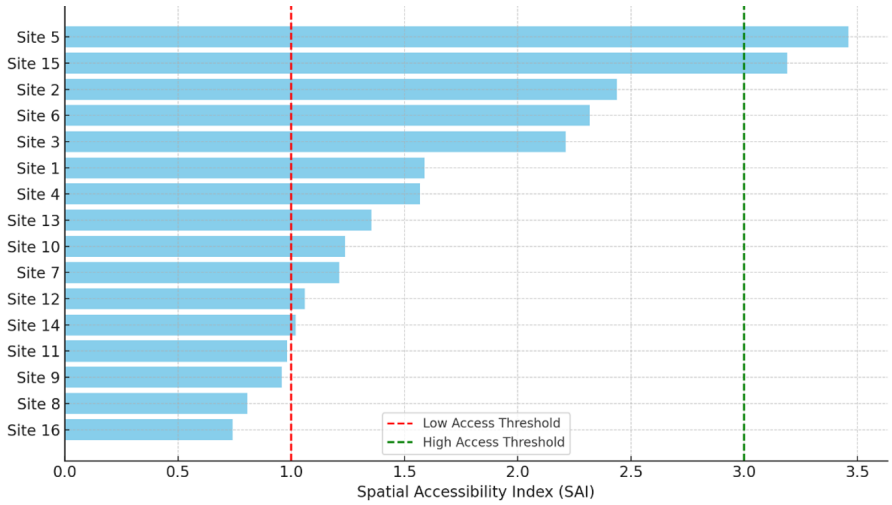
Note. Kernel Density Estimation (KDE) map showing spatial concentration of perceived insecurity based on audit responses. Darker red zones indicate higher perceived risk, aligned with peripheral public spaces exhibiting poor maintenance and surveillance.

Figure 4 shows the variation of SAI scores across the 16 study sites, revealing spatial inequities in access to care-related infrastructure.

- **SAI > 3.0** in Palermo and Providencia
- **SAI < 1.0** in Guamaní and Iztapalapa

Figure 4

Accessibility to Care Infrastructure (SAI)



Note. Spatial Accessibility Index (SAI) for each of the 16 public spaces. Green and red dashed lines mark thresholds of high (>3.0) and low (<1.0) accessibility, respectively. Peripheral sites such as Guamaní and Iztapalapa show critical deficits in access to urban care services.

These spatial patterns reflect disparities in urban care infrastructure distribution, reinforcing the statistical correlations.

3. Results and Discussion

The comparative analysis of the 16 selected public spaces across Quito, Santiago, Mexico City, and Buenos Aires reveals clear patterns regarding how spatial design conditions affect the perception of safety and the effective use of public space by women and girls. The results indicate that a combination of physical infrastructure, spatial configuration, and socio-symbolic factors determine whether a space is perceived as safe, welcoming, or threatening.

3.1. Spatial Design Factors and Perceived Safety

Among the five key spatial dimensions analyzed, lighting continuity emerged as the most influential factor. In 14 of the 16 sites, participants rated areas with consistent and well-distributed lighting as significantly safer than poorly lit zones. This was statistically confirmed by a strong correlation coefficient ($\rho = 0.76$, $p < 0.01$). For example, in the Paseo de la Reforma (Mexico City) and Barrio Lastarria (Santiago), the presence of high-efficiency LED lighting along pedestrian routes contributed to an average safety score of 4.6 out of 5, compared to 2.1 in areas like Guamaní (Quito) or Ciudad Oculta (Buenos Aires), where lighting was intermittent or absent.

Visual permeability, defined as the capacity to observe and be observed within a space, was also a decisive factor. Open lines of sight, absence of visual obstructions, and the presence of transparent boundaries (e.g., low walls, storefronts, open cafés) significantly increased perceived control and comfort. In contrast, blind

corners, abandoned buildings, and fenced lots generated fear and spatial avoidance, particularly in peripheral districts. This variable showed a positive correlation with safety scores ($\rho = 0.71$, $p < 0.01$).

Equally relevant were circulation typologies and the number of accessible entries and exits. Spaces with multiple access routes, short sightlines, and diversified circulation paths offered women more opportunities to choose secure routes or escape in case of discomfort. In contrast, enclosed plazas with one or two exits were described as "trapping zones," especially after dark. In Ciudad Oculta and Iztapalapa, women consistently avoided such spaces in the evening.

3.2. Infrastructure of Care and Spatial Equity

One of the most relevant findings from this study was the uneven distribution of care-related infrastructure and its direct impact on women's perceptions of safety and urban habitability. The Spatial Accessibility Index (SAI) model, adapted from Hansen's gravity-based accessibility formula, was applied to each of the 16 sites to assess walkable access to critical care services, such as childcare centers, public health posts, and women's support facilities. To synthesize the spatial accessibility and safety patterns identified, Table 4 presents a comparative overview of the four cities across selected key indicators.

Tabla 4

Comparative Spatial Indicators by City.

City	Lighting (V01)	Visibility (V04)	SAI Score	Safety Perception (V12)	Notable Pattern
Quito	Low	Medium	0.22	2.1	Peripheral deficit, low care proximity
Santiago	High	High	0.91	4.5	Dense services, urban form well integrated
Mexico City	Medium	Low	0.12	2.3	Conflictive circulation patterns, poor visibility
Buenos Aires	High	High	0.78	4.4	Strong mixed-use areas and community presence

Total SAI Score (per neighborhood):

- Guamaní (Quito): 0.22
- Providencia (Santiago): 0.91
- Iztapalapa (CDMX): 0.12
- Palermo (BA): 0.78

These scores reveal critical spatial inequities. Guamaní and Iztapalapa, both located in peripheral and economically vulnerable sectors, present SAI values below 0.25, signaling low care infrastructure accessibility and a correspondingly low presence of caregiving populations (mothers, children, elderly). This aligns with field observations in which women reported having to walk more than 800 meters—often through unsafe conditions—to reach essential services.

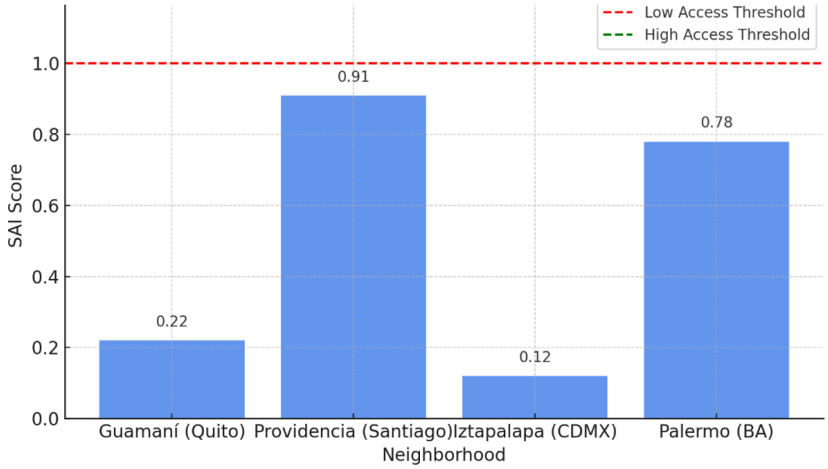
Conversely, Providencia and Palermo demonstrate SAI scores near or above 0.8, indicating dense, accessible service provision. In these areas, participants reported a sense of support and "social density" that contributed to perceived ambient safety, even in late hours. The presence of multiple overlapping uses, such as parks adjacent to childcare centers and civic offices, created what participants described as "active zones" with

constant flow and shared responsibility over space.

A bar chart in Figure 5 summarizing these values helps visualize the differences:

Figure 5

Spatial Accessibility Index (SAI) by Neighborhood.



Note. Bar chart comparing the Spatial Accessibility Index (SAI) across four selected neighborhoods. Guamaní (Quito) and Iztapalapa (CDMX) show critically low access to care infrastructure, while Providencia (Santiago) and Palermo (Buenos Aires) demonstrate higher spatial accessibility.

These results confirm that care infrastructure is not only a social right but also a spatial determinant of safety. Urban zones that integrate these services tend to maintain higher female occupation rates, greater informal surveillance, and fewer reports of spatial discomfort. The findings reinforce the importance of embedding infrastructure of care within gender-sensitive planning frameworks. It also suggests that accessibility metrics can and should be used to guide investment in underserved areas.

3.3. Participatory Insights and Emotional Geographies

The participatory gender audits offered valuable insights into the emotional geographies of fear and comfort. While physical conditions mattered, participants also highlighted symbolic and social markers of safety:

- In Buenos Aires, the presence of community murals and feminist symbols was perceived as a sign of territorial control by women's groups.
- In Quito and Mexico City, well-frequented informal markets adjacent to transport stops were valued for providing eyes on the street and fostering trust.
- Conversely, discomfort was frequently reported in spaces dominated by masculinized uses (e.g., informal parking lots, unlit sports fields).

Narratives also revealed how the same physical space could be perceived differently depending on the time of day, company, or previous experiences of harassment. Emotional maps drawn by participants often overlapped spatially with statistically less secure areas, reinforcing the alignment between subjective and objective urban risks.

These findings underscore the complexity of perceived safety as a multidimensional construct. Subjective safety is shaped not only by infrastructure but by the social dynamics and symbolic ownership of space. Feminist geography thus provides a valuable lens to interpret these emotional-spatial interactions and to propose more inclusive urban diagnostics.

3.4. Limitations of Traditional Urban Design Approaches

The study also reveals the limitations of conventional urban interventions that emphasize aesthetic or functional upgrades without incorporating a gender perspective. Several redesigned plazas included new paving, benches, or greenery, but lacked essential services such as public bathrooms, lighting continuity, or proximity to care centers.

For instance, a recently refurbished square in La Magdalena (Quito) received urban enhancements, yet remained predominantly male-occupied in the evening due to lack of lighting and support services. Similar patterns were observed in Iztapalapa, where polished urban furniture was present but safety perception remained low.

These findings resonate with broader institutional trends across Latin America, where gender equity plans—such as the Programa Ciudades Seguras (UN Women), the Plan de Igualdad de Oportunidades de Buenos Aires, or the PIMUS of Mexico City—exist on paper but rarely include spatial metrics or are poorly coordinated with infrastructure investment

This supports feminist critiques that urban form alone does not guarantee inclusivity or safety without addressing the needs of marginalized users. Moreover, the absence of participatory processes during design phases often leads to spatial solutions misaligned with the lived experiences of women and caregivers.

3.5. Towards a Gender-Inclusive Urban Agenda

The cross-city analysis highlights a set of design and policy principles that contribute to safer and more inclusive urban environments for women and girls:

1. Lighting must be uniform, continuous, and adapted to pedestrian scales.
2. Streets and open spaces should include multiple circulation paths and exits to avoid entrapment.
3. Care infrastructure should be embedded within 500 meters of residential and mobility nodes.
4. Urban planning processes must include the voices and knowledge of women through participatory mechanisms.
5. Emotional geographies should be incorporated into planning through participatory mapping and sensory audits.
6. Maintenance and permanence of uses are as important as initial design interventions.

Moreover, linking these design principles with institutional mechanisms—such as local safety committees, care economy planning, and participatory budgeting—can ensure the sustainability of gender-inclusive transformations. Cities that integrate gender-sensitive diagnostics into mobility planning, zoning policies, and social housing development are more likely to produce equitable, safe, and resilient urban environments. Architecture, when informed by gendered experience and social equity frameworks, becomes a powerful tool for reclaiming the right to the city for all.

In line with the evidence gathered in this study, Figure 6 presents an example of gender-sensitive public space design that integrates inclusive seating, vegetation, visual openness, and multi-user accessibility. These spatial strategies align with international practices of placemaking that promote safety and equity for women and girls in urban environments (URBACT, 2023).

Figure 6

Example of Gender-Sensitive Public Space Design.

Note. Adapted from Gender-Sensitive Public Space: Placemaking and Spatial Justice through the Perspective of Gender, by URBACT, 2023, https://urbact.eu/articles/gender-sensitive-public-space-placemaking-and-spatial-justice-through-perspective-gender

4. Conclusions

This study demonstrates that gender-sensitive architectural and urban design significantly contributes to the perception of safety and the inclusive use of public space by women and girls in Latin America. By combining spatial analysis, structured field observation, and participatory urban audits across four cities—Quito, Santiago, Mexico City, and Buenos Aires—we identified patterns of spatial exclusion and effective design interventions.

Key findings reveal that well-lit, visually permeable environments with accessible care infrastructure and diverse pedestrian presence are perceived as safer and more comfortable. Conversely, neglected, poorly lit, or socially masculinized spaces discourage female presence and reinforce patterns of avoidance and spatial inequality. These insights were supported by both quantitative models (e.g., SAI and correlation analysis) and qualitative narratives from participants.

The research also evidences the limitations of conventional urban design approaches that prioritize aesthetics or formal upgrades without engaging users or addressing infrastructural and symbolic dimensions of safety. Gender audits proved critical in revealing the emotional and symbolic geographies of fear, comfort, and ownership that often escape traditional urban diagnostics.

Therefore, we conclude that:

- Gender-sensitive design must be integrated systematically in all phases of urban development—from diagnosis to design, implementation, and monitoring.
- Spatial equity requires redistributing care infrastructure and pedestrian safety investments to peripheral and underserved areas.

• Participatory tools such as gender audits, mapping exercises, and community design workshops are not complementary but essential for inclusive planning.

Future research could expand this analysis to other Latin American cities and explore the long-term impacts of gender-sensitive interventions. Likewise, integrating this methodology into urban policy frameworks can strengthen institutional capacity to deliver safer and more just cities.

Future research should apply this methodology in secondary cities and peri-urban contexts in the region, where institutional gaps and spatial inequality are often more pronounced. Likewise, the SAI model and gender audit checklist could be adapted as participatory tools in co-design workshops with community stakeholders, informing tactical urbanism or local investment planning

Ultimately, architecture and urban planning that incorporate feminist and inclusive perspectives can become powerful vehicles to advance the right to the city for all—particularly for women and girls, whose experiences have historically been marginalized in urban discourse.

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