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Perception of Insecurity and Victimization among University Students in Public Spaces: Experiences and Behaviors in Granada, Spain

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Abstract

This study quantitatively analyzes victimization experiences in public spaces while walking among university students in Granada, Spain, focusing on how these experiences shape perceptions of insecurity and behavioral responses. A survey conducted during the 2022-2023 academic year assessed gender differences in levels of perception of insecurity, victimization experiences and strategies employed to manage risk. Employing Principal Component Analysis, the study identified five key dimensions of insecurity perception, including environmental neglect; harassment; social disorder; risk of victimization; and night-time urban infrastructure. Findings reveal that women report significantly higher levels of both direct and indirect victimization, particularly related to sexual violence and street harassment, which influence protective behaviors limiting their mobility. The multi-dimensional nature of insecurity perceptions underscores the complex interplay between physical environment, social dynamics, and gendered power relations. The results offer critical insights for urban policies and gender-sensitive interventions aimed at fostering safer, more inclusive public spaces for all city residents.

Key words

Victimization; Perception of insecurity; Gender differences; Urban public spaces; Principal Component Analysis (PCA)

1. Introduction

Perceived insecurity due to fear of crime in public spaces while walking substantially affects individuals' experiences and behaviors by limiting mobility, autonomy, and quality of life. The

research also explores the underlying patterns and dimensions that structure these experiences and perceptions.

Perception of insecurity due to fear of crime is a multifaceted construct shaped by a complex interplay of personal, environmental, and social factors. Individual vulnerability and coping competences, the physical design and maintenance of urban environments and, also, social representations of place —including direct and indirect victimization experiences— jointly contribute to how insecurity is perceived and managed while walking. These factors do not act in isolation but interact dynamically within specific social contexts, making perceived insecurity a deeply contextualized and gendered phenomenon.

The perception of insecurity not only provokes negative emotional reactions and increases the risk perceived by individuals in relation to the probability of falling victim to violence but also leads to the adoption of defensive behaviors and strategies caused by fear of falling victim to violence (Clément & Piaser, 2021; Özascilar, 2013). The perception of insecurity due to fear of crime is a significant factor that influences women's behavior. They adopt various strategies to manage risks and promote safety in public spaces due to fear, and it causes a differentiated and unequal use of public space at specific times, and in specific circumstances and places (Rodó-de-Zárate, 2014; Rodríguez, 2011; Zúñiga, 2014). Understanding this interplay is essential in order to develop effective urban policies and interventions that address both the psychological and material dimensions of insecurity, ultimately enhancing public safety and equity in shared spaces. Previous studies have reported that women tend to experience higher levels of fear and risk perception due to recurrent threats of sexual violence and harassment (Koskela, 1997; Pain, 2001). In university contexts, these perceptions are particularly impactful, affecting academic and social life (Ceccato & Loukaitou-Sideris, 2021).

Understanding urban insecurity and victimization experiences has become a critical area of inquiry, particularly among vulnerable populations such as university students. Despite increasing awareness, there remain gaps in knowledge about the specific dimensions of insecurity perceived by young urban residents, and how these perceptions vary by gender and lead to distinct behavioral responses.

This research quantifies perceptions of insecurity, victimization, and consequent behaviors among students, highlighting gender

differences and coping strategies in Granada, a university city with low official crime rates (Ministry of Interior, 2023), that nonetheless exhibits normalized and underreported forms of violence in public spaces (European Union, 2015), such as street harassment. This study addresses these gaps by employing a quantitative survey of university students in Granada, Spain, coupled with Principal Component Analysis (PCA) to unravel the underlying structure of insecurity perceptions. The research aims to answer the following questions:

1. How do perception of insecurity and experiences of victimization differ by gender?
2. In what ways do these perceptions and experiences influence behavioral strategies adopted to mitigate risk, particularly regarding mobility and risk prevention?
3. What are the main components that characterize perceptions of insecurity among university students in Granada?
4. How does the multidimensional nature of insecurity perceptions inform urban policy and gender-sensitive safety interventions?

To address these research questions, the article is structured as follows: The first section reviews the relevant literature on perception of insecurity due to fear of crime in public spaces, victimization, and gendered experiences in public spaces. The second section outlines the study's methodology, including the survey design and Principal Component Analysis used to identify dimensions of insecurity perception. The third section presents the results, highlighting gender differences in victimization experiences and behavioral responses, as well as the five components derived from the PCA. The discussion interprets these findings in the context of urban safety and gender-sensitive policy implications. Finally, the conclusion summarizes the study's contributions and proposes directions for future research and urban interventions.

2. Theoretical framework

Extensive research confirms that women experience higher levels of perceived insecurity than men, largely due to the threat of victimization and persistent fear of sexual violence and harassment (Collins, 2016; Koskela, 1997; Pain, 2001). Moreover, the socialization of fear leads women to internalize vulnerability, promoting cautious behaviors in public spaces (Lim & Fanghanel, 2016). This gendered fear

restricts women's freedom of movement and is associated with what Koskela (1999) termed "gendered exclusions." Men's perceptions tend to focus more on risks related to robbery or physical fights, though cultural norms often inhibit the display of fear (Rodó-de-Zárate et al., 2019).

2.1. Environmental and social factors

The design and maintenance of urban spaces critically influence perceived security. Positive environmental attributes like streetlights, sidewalks, cleanliness, spaciousness, and active storefronts enhance feelings of safety (Jacobs, 1961; Loukaitou-Sideris, 2006; Ottoni et al., 2021). Conversely, poor lighting, graffiti, abandoned buildings, unkempt areas, and physical disorder contribute to insecurity perceptions (Ceccato & Loukaitou-Sideris, 2021; Ferrer & Ruiz, 2018; Lizárraga et al., 2022). Nighttime exacerbates insecurity due to reduced visibility and the presence of social risk factors such as alcohol consumption venues and groups associated with social disorder, which heighten fears, especially among women (Baillie et al., 2022; Mehta & Bondi, 1999).

The presence or absence of other people and the nature of social interactions also affect perceived safety. Natural surveillance by passersby generally boosts security perceptions, while visible social disorder —including homelessness, vagrancy, vandalism, and crime activity— increases fear (Ferrer & Ruiz, 2018; Van Cauwenberg et al., 2012).

2.2. Victimization experiences and behavioral implications

Direct and indirect victimization experiences are among the strongest predictors of perceived insecurity. Women who have suffered sexual harassment or assault, directly or vicariously, express markedly elevated insecurity levels (Fox et al., 2009; García-Carpintero et al., 2019). Sexual violence is a structural, gendered phenomenon used as social control, often underreported and normalized within broader societal power dynamics (Anitha & Lewis, 2018; Yodanis, 2004).

Higher perceived insecurity results in restricted mobility, avoidance of unsafe spaces, changes in routes, reduced nighttime activity, and increased reliance on accompaniment and protective behaviors (Zhang et al., 2022). Women disproportionately adopt avoidance and confrontation strategies that affect their use of public space and daily routines. It has been found that insecurity limits freedom of movement and conditions the experiences of women, causing changes in behavior

through strategies of protection or avoidance, i.e., prompting them to avoid certain areas; to change their route or to inhibit them from choosing walking as a mode of transportation in general, but particularly at night (Koskela, 1997, 1999; Rodó-de-Zárate & Estivill, 2016).

The types of risk and fear management strategies can be avoidance and confronting risk strategies. Avoidance strategies refer to stopping going through places perceived to be unsafe or modifying one's route or certain times in order to avoid them (Starkweather, 2007; Uhnoo, 2008). Although the level of perceived insecurity changes depending on real crime rates of a particular urban context, women walk less frequently at night than men do and, also, avoid traveling during rush hours more than men do (Uteng & Cresswell, 2012). Fear of crime reduces the probability of walking for women (Abdulla et al., 2017; Foster et al., 2014). In addition, in other previous studies, for different spatial and social contexts, it has been found that sexual violence against women traveling on foot led to an increase in the use of private vehicles (Ceccato & Paz, 2017; Cozens, 2008; Kash, 2019; Mackett, 2014). Strategies for confronting risks include those that increase perceived safety, such as pretending to be speaking on a mobile (Starkweather, 2007), being accompanied by someone (Tucker & Matthews, 2001), using social or spatial skills to identify 'safe' and 'risky' places (Cahill, 2000) or learning self-defense (Hollander, 2018; McDaniel, 1993).

3. Material and methods

3.1. Study area

Granada is a university city that offers a secure and pedestrian-friendly urban setting, where 54% of journeys are made on foot (Granada City Council, 2013). During the 2022/2023 academic year, the University of Granada had 46,729 students, which is a significant proportion (19.22%) with respect to the total city population (243,059 inhabitants in 2022). In light of this, the University plays a substantial role in the economic and social activity of Granada, creating 7.7% of jobs in the province and contributing 6.1% to Gross Domestic Product (Canal UGR, 2020). The student population resides in different areas of the city and studies at five campuses with various centers and degree and postgraduate programs. Three of these campuses are located in the periphery and the other two in the city center. The city's walkability and

safety, as well as the availability of non-motorized and public transport options, together with the central location of these campuses, make it an ideal location to explore gendered insecurity perception in public spaces and victimization experiences (Ferrer & Ruiz, 2018; Grindlay et al., 2021; Lizárraga et al., 2022).

3.2. Research design

A cross-sectional study was conducted using a structured questionnaire applied to students in their 2nd to 5th year at the University of Granada between October and December 2022. The sample was stratified by gender and study center, with 383 valid responses (57% women, 43% men). The survey instrument, adapted from the Barcelona Victimization Study (Barcelona City Council, 2021) and Mexico's INEGI survey (INEGI [National Institute of Statistics and Geography of Mexico], 2021), covered three domains: perceived neighborhood insecurity and risk, direct and vicarious victimization experiences, and fear/risk management strategies. Responses included Likert scales and binary yes/no items.

The questionnaire's first section covers socioeconomic data and is divided into three dimensions: Perceived insecurity and risk in the neighborhood (7 items); Direct and vicarious victimization (14 items); and Fear and risk management strategies (12 items) (Özascilar, 2013; Van der Burgt, 2015). Firstly, respondents were asked about the perceived level of insecurity during the day and at night when they walk through their neighborhood (2 items). Secondly, they were asked about the perception of risk while walking in the neighborhood, by asking about the probability of being a victim of violent acts (6 items). Responses were recorded on a 10-point Likert-type scale ranging from 1 (very unsafe/not at all likely) to 10 (very safe/very likely). Regarding victimization, they were asked if, while walking through a public space, they had been a direct or vicarious victim of physical aggression; sexual assault; rape; chase; street harassment; theft or robbery (10 items). The responses were binary, yes or no. The crimes of kidnapping and murder were excluded, as they are very infrequent in our study area, as with the Barcelona survey (Barcelona City Council, 2021).

With respect to fear and risk management strategies, they were asked whether they have taken any of the following options to feel safer walking on the street: going with someone else; activating

geolocation applications on your mobile; changing your appearance; talking or pretending to talk on the phone while walking; carrying items of self-defense. They were also asked whether, because of the fear of being a victim of a violent act, they have made any of these changes to their usual behavior: avoiding walking alone during the day; avoiding walking alone at night; avoiding going out at night; avoiding walking by the shortest route during the day; avoiding walking by the shortest route at night; choosing another mode of transport to travel during the day; choosing another mode of transport to travel at night. The answers were of a binary type.

3.3. Research instruments

Cronbach's Alpha was calculated for the instrument as a whole and for each dimension to assess the internal consistency of the instrument. Its values can vary from 0 to 1, with a generally accepted lower limit of 0.7 to verify the reliability of the indicators.

The Mann-Whitney test was employed to analyze statistically significant differences between groups due to its suitability for non-parametric data and distributions that do not conform to normality assumptions.

Principal Component Analysis (PCA) was used to identify and examine the key components of insecurity perception. PCA is a multivariate statistical technique that reduces the dimensionality of correlated variables by transforming them into a smaller set of uncorrelated components, which explain most of the variance in the data. This method facilitates understanding the complex and multifaceted nature of perceived insecurity by extracting distinct factors that represent different aspects of the construct. PCA was chosen over Exploratory Factor Analysis (EFA) because it focuses on data reduction without assuming latent variables underlying the observed data, which aligns better with the study's aim to summarize and simplify the structure of insecurity perceptions rather than modeling latent psychological traits. This approach thus provides a straightforward and effective way to highlight the most significant patterns in the data (Jolliffe, 1986).

4. Results

A total of 383 valid responses were obtained, 57% are women and 43% men, coinciding with the distribution by gender in the population of the second to fifth year students on the campuses analyzed. With regard to sexual orientation, 77.5% identified themselves as heterosexual, the average age was 21; 32% reported receiving a grant, the average amount of which was 800€, and the average monthly household income was 3,384€. Half had a driving license, but only 19.3% had a car, and 68% did not live with their parents. Regarding ethnicity, only seven people (1.8%) identified themselves as being of non-majority ethnicity, the majority being racialized white people. In relation to location, 81.7% of the students lived in Granada city, and the rest in the metropolitan area, confirming that university students choose to live near the place of study (Capasso Da Silva & Rodrigues Da Silva, 2020; Hewawasam et al., 2020), and guaranteeing that the population surveyed has experienced the public space in the city.

As respects the analysis of the internal consistency of the questionnaire, Cronbach's Alfa resulted in 0.820 for the dimension Perceived insecurity and risk in the neighborhood; and 0.761 for the dimension Victimization. The values exceed the 0.7 threshold, which confirms the reliability of the indicators. The Kolmogorov Smirnov test determined that responses for each scale were not normally distributed.

4.1. Perceived insecurity and risk in the neighborhood

Women reported a higher perception of insecurity when walking in their neighborhoods compared to men, particularly at night. The average insecurity rating for women at night is 5.7 out of 10, while for men it is notably lower at 3.8. The survey uses a Likert scale from 1 to 10, where 1 signifies no feeling of insecurity whatsoever, and 10 indicates the highest possible sense of insecurity. University students generally feel very safe walking around their neighborhoods during the day. However, significant differences arise between daytime and nighttime perceptions, with women consistently feeling more insecure after dark (Tab. 1).

Measure	Women		Men		Mann-Whitney U
	M	*SD*	*M*	*SD*	
Day	2.463	1.560	1.909	1.13	14,319.0***
Night	5.674	2.288	3.794	2	9,822.5***

Note. *** p < .001

Table 1. Frequency distribution of perceived insecurity level in neighborhood

Note. *** p < .001

In all cases, women exhibited a greater perception of risk regarding their possible victimization, and with significant differences compared to men. Sexual harassment and chase are the types of violence against women perceived as most likely in the neighborhoods where they live. In general, the perceived risk by men is low and in no case exceeds the value of half the scale (5/10), while they consider the most probable forms of violence robbery, theft and chase (Figure 1).

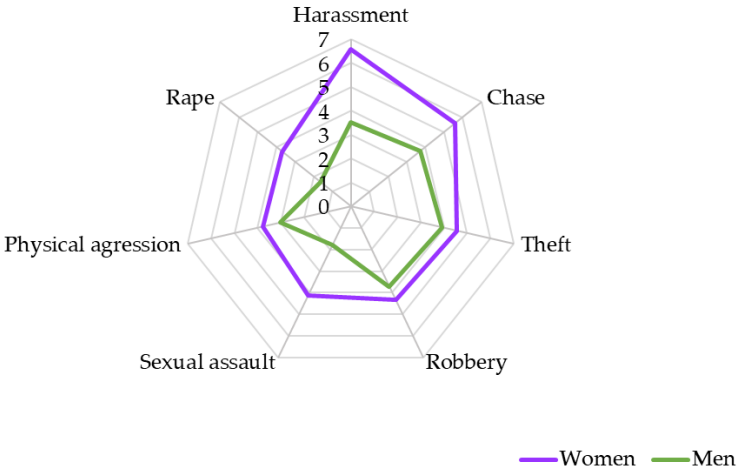

Figure 1. Perceived risk of victimization

4.2. Victimization experiences

The types of victimization experiences indicated by men and women were examined, both throughout their lives as well as in their time in Granada, to understand the various aspects of violence against women

in public spaces while walking. 84.9% of the women surveyed had suffered some type of direct victimization experience while walking in public spaces, compared to 71.5% of men. In the case of vicarious or indirect victimization, this proportion reached 73.9% for women and 32.7% of men. When the experiences of victimization were analyzed, it was observed that the form of violence experienced to the greatest extent for women is street harassment, both indirect (80.3%), and direct (69.7%); as well as direct chase (42.7%) and indirect chase (59.2%), with significant differences compared to men (Figs. 2 -3).

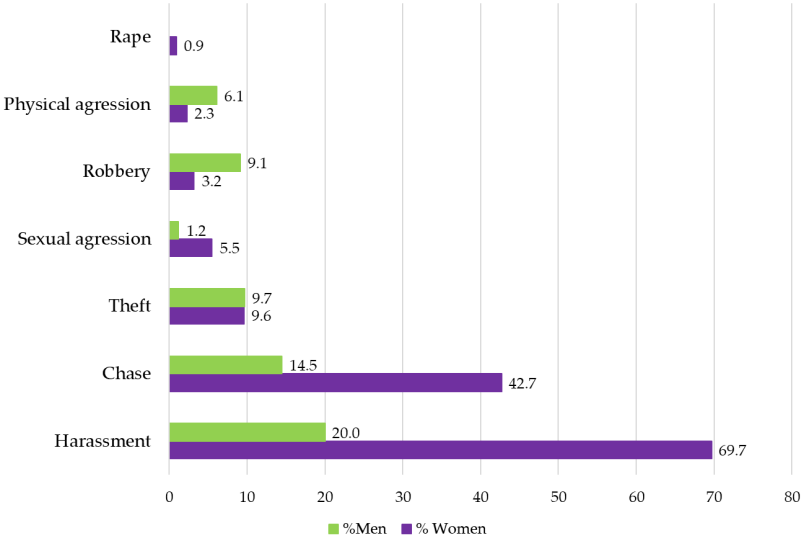

Figure 2. Direct victimization while walking in public space along life: percentages and gender index

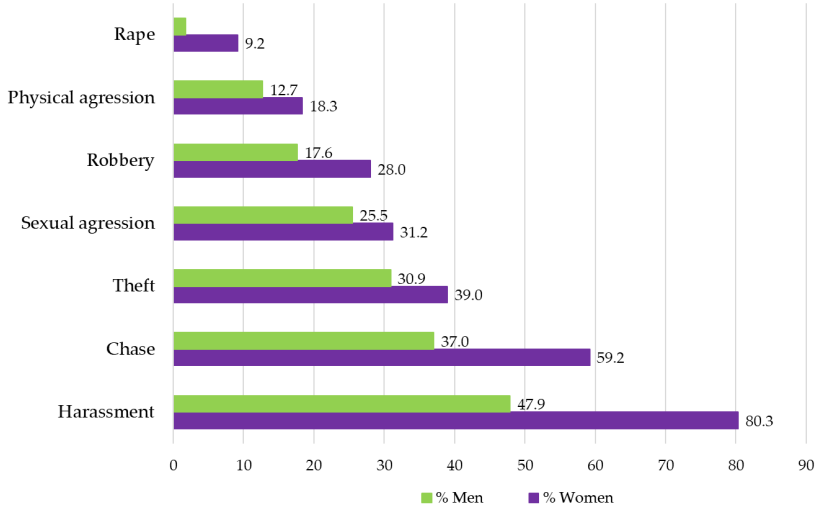

Figure 3. Indirect victimization while walking in public space throughout life: percentages

4.3. Fear and risk management strategies

Differences in the perception of insecurity due to fear of crime and risk, together with experiences of direct and indirect victimization can lead to significant differences in the strategies adopted, both of confrontation and avoidance. In the case of women, the most common confrontation strategies were to travel together (88.1%); to talk or pretend to talk on the phone (86.7%), and to use other means of transport at night (63.3%). Of the avoidance strategies, the most common were carried out at night, avoiding going alone (83.9%) and changing one's route (61%). In all cases, women carry out confrontation and avoidance strategies to a greater extent than men, the gender index being greater than 1, and with significant differences compared to men in all cases, except for carrying items of self-defense or modifying personal appearance. 42.7% of women have reached the point of staying home to avoid situations of insecurity, with insecurity being a significant limiting factor in freedom of movement in the public space. It is also noteworthy that a percentage 6.88 times higher in women than in men avoid walking alone during the day (Figs. 4-5).

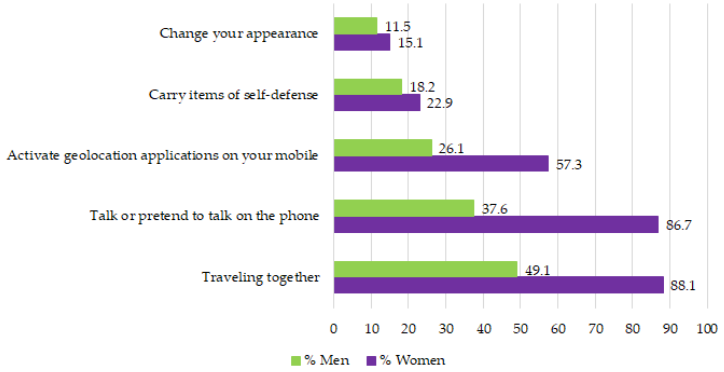

Figure 4. Walking confrontation strategies adopted at any time in the past year due to fear of crime.

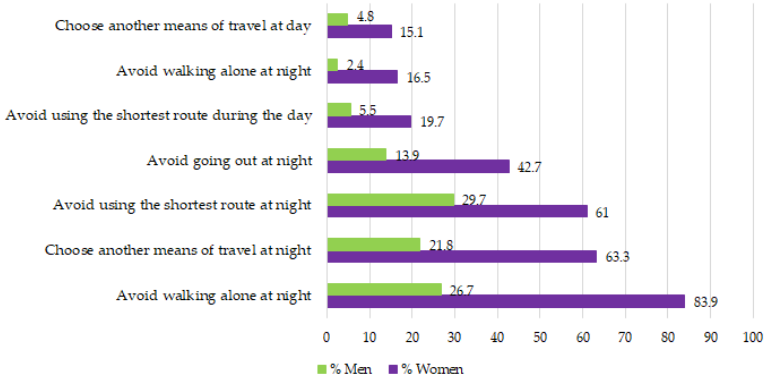

Figure 5. Walking avoidance strategies adopted at any time in the past year due to fear of crime.

4.4. Principal Component Analysis of Perception of insecurity

The Principal Component Analysis (PCA) results reveal five components explaining approximately 51% of the total variance after rotation, indicating a moderately complex but interpretable structure of insecurity perception. The chi-squared test indicates a statistically significant model fit ($\chi^2(115) = 480.608$, $p < .001$), confirming the adequacy of the PCA model. According to the Kaiser criterion, only components with eigenvalues greater than 1 are retained, ensuring that each selected component explains more variance than an individual standardized variable. Moreover, the generally low to moderate uniqueness values indicate that the vast majority of surveyed perceptions and experiences

are effectively captured by the five-component model, showing that the extracted factors provide a robust summary of how residents experience and interpret insecurity in their urban environment. It is important to mention that correlations between components are low to moderate (0.068-0.387), which supports the interpretation of distinct yet related dimensions of insecurity perception.

Applying Kaiser criterion resulted in the retention of five components that explained 51% of the total variance. Respect to the interpretation of the dimensions explained by each component, the first and second components each account for 11.4% of the total variance, together representing the largest proportion (22.8%). *Environmental Desolation*, reflects desolate houses, absence of people, and poor lighting, factors that increase vulnerability. The second component, *Harassment*, is characterized by experiences of street harassment and chase—both direct and indirect—which primarily capture forms of unwanted attention, intimidation, and pursuit in public spaces; notably, this component is gendered, as these experiences disproportionately affect women compared to men. The third component, *Social Disorder*, explained that 10.4% of the total variance is defined by the presence of drunk people, overt violence, homelessness, and gangs—indicators of acute public disorder that contribute to feelings of insecurity and heighten perceptions of social risk within the urban environment. The fourth, *Urban Neglect*, (explaining 10% of the total variance) emphasizes elements like litter and graffiti that intensify insecurity perceptions. Finally, the fifth component, *Risk of being a victim* (explaining 10% of the total variance), captures psychological fears associated with indirect victimization (robbery, aggression, theft…). Finally, the component *Nighttime Infrastructure Insecurity* (explaining 7.8% of the total variance) includes locations such as bridges, pedestrian underpasses, and stairs at night, and it captures the heightened sense of vulnerability associated with moving through specific urban infrastructures after dark —settings that are often perceived as risky due to limited visibility, reduced foot traffic, and restricted escape routes—, which collectively amplify concerns about personal safety (Tab. 2).

	Environmental desolation and urban neglect	Harassment	Social disorder	Risk of being a victim	Insecure Urban Infrastructures at Night	Uniqueness
Desolate house	0.708					0.532
Absence of people	0.708					0.539
Wastelands	0.697					0.521
Vandalism	0.515					0.549
Litter	0.465					0.555
Poor lighting	0.417					0.691
Street harassment (direct)		0.799				0.36
Tailing (direct)		0.791				0.384
Tailing (indirect)		0.787				0.326
Street harassment (indirect)		0.638				0.462
Presence of drunk people			0.777			0.404
Violence			0.675			0.553
Homeless individuals			0.672			0.55
Gangs			0.55			0.579
Robbery_Indirect				0.769		0.409
Physical aggression (indirect)				0.752		0.445
Theft (indirect)				0.717		0.453
Sexual aggression (indirect)				0.545		0.617
Bridges at night					0.804	0.357
Pedestrian underpass at night					0.757	0.439
Stairs at night					0.505	0.571

Table 2. Principal Component Analysis

Note: Applied rotation method is Promax. The component loadings reveal that key variables are strongly associated with their respective components, confirming the multidimensional structure of perception of insecurity.

5. Discussion

The findings of this study align with the reviewed literature, as the access to and use of the public space by young university students is conditioned by their position in the sex-gender system (Capasso Da Silva & Rodrigues Da Silva, 2020; Ceccato & Loukaitou-Sideris, 2021; Lizárraga et al., 2022), even in public spaces where it is possible to enjoy the social privilege of going on foot, as explained by Boyer (2022), such as in the case of the city of Granada. The basis of the idea is that a low crime rate does not include the forms of violence that are exercised in a normalized way on the bodies of women (European Union, 2015; Lim & Fanghanel, 2016).

The analysis of results revealed, regarding the experiences of victimization throughout their lifetime, that there are significant differences in the case of both direct and indirect victimization experiences with a sexual component. 69.7% of respondents of the survey indicated sexual harassment based on personal experience. The fact that the main form of violence against women in public places is sexual harassment demonstrates the appropriation, by men, of the right over women's bodies, an aspect normalized and romanticized within heteropatriarchy (Anitha & Lewis, 2018; Boyer, 2022; Lim & Fanghanel, 2016). Although sexual harassment breaks the rules of the civic game because the norm of not interacting with strangers in public spaces is violated, as recognized by Almanza Avendaño et al. (2022), for Mexicali in California (US), women that have been sexually harassed are not recognized as victims (European Union, 2015; Ministry of Interior, 2021). This rupture causes "gendered exclusions" (Koskela, 1999) and gendered use of public space. It reflects unjust power dynamics and women's unequal status and contributes to the perpetuation of disparities in the use of public spaces, irrespective of crime rates. 73.9% of women, compared to 32.7% of the men surveyed had indirect or vicarious victimization experiences, which allows us to consider that men share their victimization experiences to a lesser extent, and rarely express to each other their fears of crime victimization (León et al., 2022).

Drawing on the principal component analysis, the *Environmental Desolation and Urban Neglect* component highlights how neglected physical spaces, lacking people and proper lighting, contribute significantly to residents' sense of vulnerability, aligning with literature that links urban decay to increased fear of crime (Ottoni et al., 2021). The *Harassment* component underscores gender-specific risks, reflecting the pervasive threat women face from street harassment and chase, corroborating feminist perspectives on spatial control and gendered power relations in public areas (Loukaitou-Sideris, 2014; Pain, 2001). The *Social Disorder* factor emphasizes the impact of visible signs of social disarray —such as intoxication and homelessness— which exacerbate feelings of insecurity and perceived social breakdown (Baillie et al., 2022). The *Risk of Being a Victim* component corresponds to the personal threat dimension, capturing fears linked to direct victimization, consistent with victimology research on perceived susceptibility and fear. Lastly, the *Insecure Urban Infrastructures at Night* component

draws attention to urban design and its importance for personal safety, supporting studies that identify poorly lit infrastructures like bridges and underpasses as critical locations for insecurity, especially during nocturnal hours (An et al., 2020).

Consistent with prior research, the findings reinforce the deeply gendered nature of power dynamics in public spaces, victimization, and the perception of insecurity. Women demonstrate heightened feelings of vulnerability and report greater exposure to harassment and the threat of aggression, particularly in settings —such as poorly lit environments or during nighttime mobility— where symbolic and material control of space is most evident (Pain, 2001; Valentine, 1989). These experiences are not simply anecdotal but are statistically structured across multiple dimensions, as the factor solution reveals. Furthermore, the links between perceived insecurity, gender, and spatial context echo longstanding calls to recognize how urban design, social norms, and the unequal distribution of risks combine to restrict women's autonomy and reinforce male dominance in the shared city environment. This supports the argument that effective public safety policies must address the intersection of gender, spatial configuration, and collective memory of risk and victimization in order to achieve meaningful change in both perception and lived experience.

One of the limitations of this study refers to the similar ages and social backgrounds of the respondents. From the data obtained, it has not been possible to extract results on the differential characteristics of race or social class, as the respondents surveyed belong to a socially uniform body of university students, middle class and white racialized. Despite these limitations, a gender differentiation has been found in the experience of public spaces in terms of perception of security and risk, in strategies against fear of crime, and in the types of victimization experiences suffered.

6. Conclusions

This study quantitatively analyzed victimization experiences in public spaces while walking among university students in Granada, Spain, focusing on how these experiences shape perceptions of insecurity and behavioral responses. The research also explored the underlying patterns and dimensions that structure these experiences and perceptions,

revealing a complex interplay of environmental, social, and gendered factors influencing feelings of safety and risk management strategies. The paper answered the research questions by demonstrating significant gender differences in perceptions of insecurity and victimization experiences, with women reporting higher levels of both direct and indirect victimization, particularly related to sexual harassment and violence. It revealed that these perceptions and experiences influenced behavioral strategies predominantly adopted by women, such as avoidance and protective measures that limited their mobility.

Principal component analysis revealed a complex, multifaceted structure of urban insecurity perception characterized by five key components: environmental desolation and urban neglect, harassment, social disorder, risk of victimization, and insecure infrastructure at night. These components collectively capture the diverse and interrelated factors influencing how residents experience and interpret safety risks in their neighborhoods. Finally, the multidimensional nature of these insecurity perceptions informed the understanding that urban policy and safety interventions must adopt gender-sensitive approaches addressing physical environments, social dynamics, and targeted measures to reduce women's vulnerability and promote equitable use of public spaces.

The findings highlight the critical role of both physical environments and social interactions in shaping perceived insecurity, particularly emphasizing the gendered dimensions of harassment and spatial vulnerabilities. These insights underscore the need for integrated public safety strategies that address environmental conditions, social dynamics, and gender-specific risks to effectively enhance urban security and foster inclusive, safe public spaces for all citizens.

Based on the conclusions drawn from this research, various interventions are proposed to avoid victimization experiences in the streets. Interventions should consider the perceived security due to fear of crime in the design of public spaces and street-based activities. Environmental interventions can modify the physical design of public spaces to reduce opportunities for victimization and improve overall security. Other interventions may be linked to connectivity through mobile-based apps that enable the existence of a digital community to share the knowledge and experiences of women in the city to be instantly aware of the safety level and threat of harassment of a given

locality. To the extent that nightlife venues can be spaces to gather and connect that can end in a sexual assault in the public space, protocols such as the one in Barcelona, "we won't keep quiet" (Barcelona City Council, 2018), would enable the business sector in particular and the citizen community in general, to act jointly and consensually to avoid occurrences of sexual aggression and increase security perception.

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