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ABSTRACT

This article investigates the differences between men and women concerning factors that influence satisfaction with the urban environment. It is based on a research with a quantitative approach, with the application of an online questionnaire. Data were collected from 426 respondents from the South, Southeast and Midwest regions of Brazil, analyzed using descriptive statistics, correlations and discriminant analysis. The results indicated that, although there are similarities, there are clear discriminatory variables that reveal that women are more attentive to subjective aspects of the neighborhood, while men's satisfaction is more influenced by objective characteristics. The existence of good schools and a habitable neighborhood are more related to the female group while, for men, cultural activities and bulky buildings are related to the location and recommendation of the neighborhood. The research validates the need to discuss urban segregation from a gender perspective, so that cities can be rethought considering the complex daily life of women, to dignify unpaid reproductive work, and, maybe, democratize it.

Keywords: Urban environment. Neighborhood satisfaction. Gender. Urban Segregation.

RESUMO

Este artigo investiga as diferenças entre homens e mulheres em relação a fatores que influenciam na satisfação com o meio urbano. Fundamenta-se em uma pesquisa de abordagem quantitativa, com a aplicação de um questionário online. Foram coletados dados de 426 respondentes, das regiões Sul, Sudeste e Centro-Oeste do Brasil, analisados por meio de estatísticas descritivas, correlações e análise discriminante. Os resultados indicaram que, embora existam semelhanças, há variáveis discriminatórias evidentes que revelam que as mulheres estão mais atentas aos aspectos subjetivos do bairro, enquanto os homens têm a satisfação mais influenciada por características objetivas. A existência de boas escolas e bairro habitável estão mais relacionadas ao grupo feminino, enquanto que para os homens, atividades culturais e edificações volumosas relacionam-se à localização e recomendação do bairro. A pesquisa valida a necessidade de discutir-se a segregação urbana à partir da perspectiva de gênero, para que se possa repensar as cidades considerando o cotidiano complexo das mulheres, de modo a dignificar o trabalho reprodutivo não remunerado, e, quem sabe, democratizá-lo.

Palavras-chave: Meio urbano. Satisfação com o bairro. Gênero. Segregação urbana.

INTRODUCTION

According to the Brazilian educator and philosopher Paulo Freire, the configuration of any artifact profoundly influences human beings, as a mediation of relationships (Freire, 1974). Human existence relies on physical objects and their symbolic meanings, which are intertwined with their physical configurations, and life is made in the dialectic between objectivity and subjectivity. Also, according to the French geographer, orientalist and philosopher Augustin Berque, the shaping of who one is happens through the interaction between the subjective world (human, technological, cultural, social) and the objective world (natural and physical objects). For him, *to exist,* from the Latin word that can be broken down into *ex-sistere*, means to stand (*sistere*) outside of oneself (*ex*). Thus, one is who one is because of dialogue with the world (Berque, 2005, 2019). For both thinkers, urban space could be described as conditioning the social relations of its inhabitants, while at the same time being conditioned by them. Therefore, reading urban space as a human artifact makes it possible to understand who inhabits it, but also conditions its inhabitants.

Several studies have explored how the urban environment influences human quality of life. A rapid growth of populations in cities around the world has been observed (Mouratidis, 2021), increasing the complexity of urban systems. Such issues must be explored by urbanism, placing people and human rights first (UN-Habitat, 2015). Different social groups develop their own dynamics and

access the city according to their possibilities (Rovere; Tirelli, 2021). Kern (2021) points out that cities were designed from a masculine perspective, and this brings several barriers to women's daily lives. Historically, women were tied to the domestic sphere, while only men commuted to their workplace. For Rovere and Tirelli (2021), this model of urbanism repeats itself around the world and leaves aside the confrontations needed regarding social inequality and gender-related urban segregation.

In this context, urban segregation can be considered a multifactorial phenomenon, involving issues such as housing, mobility conditions, social factors, neighborhood relations, the district and the city as a whole (Rovere; Tirelli, 2021). For Rovere and Tirelli (2021), urban segregation has been discussed for decades in Brazil; however, the approach continues to follow the practice adopted in urban planning, which corresponds to a neutral subject and keeps its focus mainly on the dynamics of large cities. As shown by Feitosa et al. (2021), urban segregation in Brazil has remained stable in recent years, even with the reduction of social inequalities. Studies on urban segregation and gender in the Brazilian context, such as that of Trindade and Pavan (2022), are beginning to spur reflection on the topic.

Currently, most women have a double workday (domestic and paid), using the urban space in a complex way, involving trips to their children's place of study, health facilities, leisure venues, in addition to their paid work. Data from IBGE's Continuous National Household Sample Survey (Brazilian Institute of Geography and Statistics, 2019) found that women spent almost twice as many hours as men on domestic activities, with this difference being even greater when they have young children.

The survey also showed that women with children up to three years old, aged between 25 and 49, had a paid-work occupation rate of 54.6% - against 89.2% among men. In households without children, the occupation rate rose to 67.2% (IBGE, 2019). On a global scale, the World Economic Forum (WEF, 2022) indicated that time spent on unpaid activities was 19% of the total work of working-age men, while it accounted for 55% of women's time. This demonstrates the reality of many mothers, who need to leave paid work to dedicate themselves exclusively to raising their children or caring for dependents. According to the WEF (2022), there is a high risk that the demand to provide unpaid care work will continue to be imposed on women asymmetrically.

Since women have historically been more closely tied to unpaid tasks provided to the family, the availability of services, infrastructure and public facilities near the dwelling are fundamental factors (Araújo et al., 2021). Therefore, proximity to home is a fundamental factor in accommodating women's multiple tasks in the city. From this perspective, among the problems faced in Brazil, Albuquerque and Günther (2019) observed that some urban environments emerged in a disorderly way, with little infrastructure or without the necessary planning, and this reflects a need for architects and urban planners to adopt a systemic view to promote the ordering of cities.

In order to understand how aspects of the urban environment are assessed by residents, recent studies have shown how they influence individuals' satisfaction with their district (Hadavi; Kaplan, 2016; Lee et al., 2017; Biswas et al., 2021). Research has indicated that satisfaction is not the same for everyone: it varies according to life cycle (Boschman, 2018; Milić; Zhou, 2018), gender (Lu, 1999; Esperidião et al., 2021) and sociodemographic characteristics (Aigbavboa; Thwala, 2018).

It is necessary for concepts such as gender to be brought to the fore in research on the urban environment, so that it can be better understood (Rovere; Tirelli, 2021). Seeking to explore these gaps, the research question is: what are the different perceptions of men and women considering factors that influence satisfaction with the urban environment?

URBAN ENVIRONMENT FROM A GENDER PERSPECTIVE

According to Ornat and Silva (2007), the process of appropriation and production of the urban environment occurs through the interaction of social groups and individuals among the various places that make up the environment and their movements. It is urban planning that determines the configuration of the spaces that constitute the physical support for social uses, and it is in them that daily life takes place; therefore, it becomes necessary to analyze the tasks carried out in the environment (Ciocoletto, 2014).

The urban environment is a historical product, shaped by interventions of capital, labor and land use (Deák, 2001), which relate to all human activities: housing, commerce, services, finance, industry, leisure and nature. Among the most profound transformations of the 20th century are those related to gender, with women's emancipation breaking with the traditional division of labor: men with

paid work and women responsible for unpaid domestic work (Madariaga, 2004). However, women's incorporation into the labor market, an irreversible process that fosters equality, was not accompanied proportionally by men taking on responsibilities that until then had been exclusively women's.

The concept of infrastructure for everyday life derives from the intersection between gender studies and urban planning (Madariaga, 2004). For Ciocoletto (2014), it is defined as the set of activities that individuals carry out to meet their needs, at a given time in a physical place (neighborhood, city), across four spheres: productive (paid), reproductive (unpaid, related to the home), personal (individual, intellectual and leisure) and political (social participation). These spheres blend together, and reproductive tasks are of greater relevance, since they are necessary for human life, without which the others would not exist.

Madariaga (2004) stated that men and women use and perceive the urban environment differently at all scales (regional, neighborhood, within and around the dwelling) and in all aspects of urban life (transportation, housing, economy, public facilities). For Ornat and Silva (2007), the differentiation of urban spatialities between men and women is a cultural construction, fostered by the differential institution of gender roles.

The conventional division of the urban environment between workplaces, housing and leisure can be perceived differently when observed from a gender perspective, since, for individuals with domestic responsibilities, the dwelling is also a workplace, not merely a refuge for rest (Madariaga, 2004). It can be observed that the division between productive (paid) and reproductive (unpaid) work influences decisions about cities, the distribution of spaces and investments in infrastructure, with measures that facilitate productive work being prioritized.

Despite changes in family relationships, city planning inherits the division of labor in which women stayed at home and men went to work, with these independent activities taking place in different locations (Grau; Martínez, 2014). Thus, living and working in different parts of cities means, at the very least, commuting time to reconcile activities. Urban planning, by separating uses of the urban environment and prioritizing private transportation, contributes to making it harder to reconcile working life and domestic activities (Madariaga, 2004), and the gender perspective redefines the urbanism developed in society (Ciocoletto, 2014).

Ciocoletto (2014) identified three scales, according to the distribution of daily tasks: neighborhood (immediately around the dwelling), district (where most activities take place) and outside the district, where trips for other activities occur. Thus, the district becomes essential when most activities take place there, especially for people with complex daily lives, with the availability of services, adequate transportation and ease of moving around on foot, for example.

In addition to the neighborhood and the district, Ciocoletto (2014) stated that there are two other typologies in the urban environment: relational space and everyday facilities. Relational spaces are those in which people can strengthen social and support relationships, and support care for the home and for other people, such as squares, streets, corners and open spaces at the district scale. Everyday facilities refer to those used daily as support for the development of daily life, in addition to also generating conviviality, socialization and support, such as health, education and physical activity facilities.

For Kern (2021), the barriers imposed on middle-class white women are amplified and multiplied for all populations, being revealed, for example, in public transportation and public safety. These difficulties are expressed through routes that do not cover certain districts, sidewalks without accessibility and public spaces without maintenance, which are not prepared for mothers with infants, the elderly, or people with obesity or disabilities. Therefore, a district without infrastructure and with difficult access represents a higher cost in time and transportation, especially for lower-income groups (Araújo et al., 2021).

Ornat and Silva (2007) observed, in two social-interest housing developments in Brazil, that women's trips were motivated by activities linked to the family environment, such as shopping, paying bills, and taking children to school and to the doctor. Among men, trips referred to the household's economic activities, that is, to paid work. In this sense, daily life can be more or less complex, and a person with dependents has more activities to carry out, which is directly reflected in the uses of the urban environment (Ciocoletto, 2014).

Ciocoletto (2014) analyzed six cases in different urban contexts from a gender perspective, proposing an audit based on district aspects. The results showed that, although some urban characteristics favor daily life, a comprehensive (gender-based) reading is lacking to understand the

impact on people's lives. A trend was observed in which needs are not being met by urban planning. The characteristics were not absolute, that is, districts may present factors that favor or hinder daily life; however, proximity is a prominent factor, as it results in less time and highlights the burden of reconciling several activities.

Grau and Martínez (2014) analyzed metropolitan areas in Spain, using indicators related to the gender perspective, such as women's participation in urban design, equal access to housing, safety of public spaces and public transportation. Although several urban plans include the promotion of equality and women's participation, the study highlighted the need to understand their expectations and experiences, and to observe the city from the female perspective.

One of the problems identified by Rovere and Tirelli (2021), among low-income women in a city in southern Brazil, was the lack of good schools near the dwelling, and, valuing their children's education, they seek schools farther away, making commuting time longer. This hinders their access to the formal job market. It was observed that they have no perception of their own predicament, since they have always lived in peripheral environments. Thus, urban planning cannot be neutral with respect to class, income level, or gender, and the negative effects multiply when it comes to lower-income women (Madariaga, 2004).

Thus, it is in the neighborhood and the district that most daily activities take place, so it is assumed that the definition of a district does not refer to the geographic area that bounds it, but to the individual's perception (Aigbavboa; Thwala, 2018), which may vary according to social and cultural status. District characteristics are pointed out as important satisfaction factors, and contribute to individuals' quality of life, which should be the purpose of city planning (McCrea et al., 2014). The research strategy is described below.

RESEARCH STRATEGY

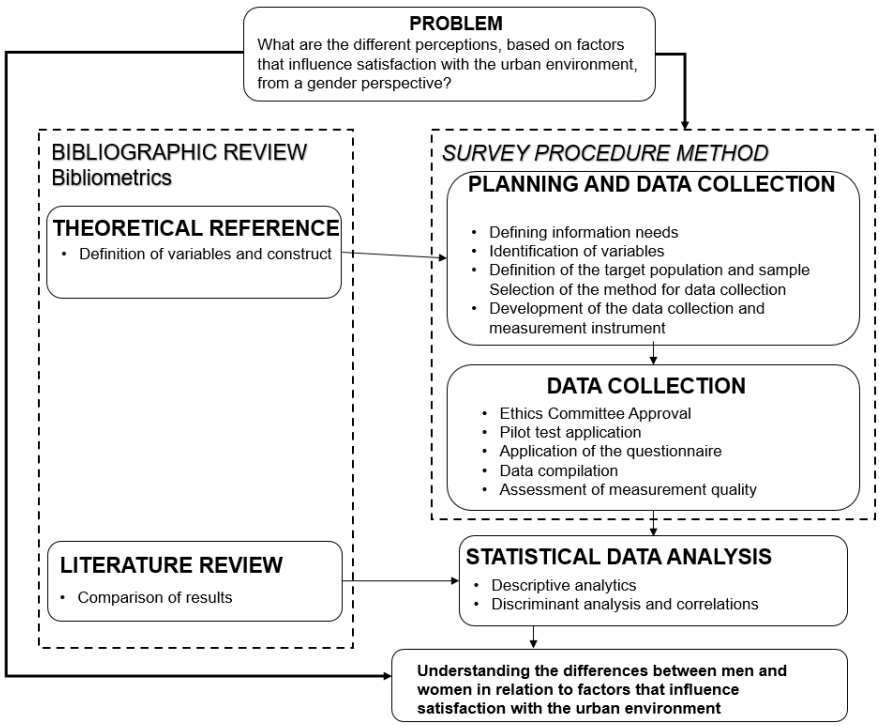
The objective of the research was to identify differences between men and women considering factors that influence satisfaction with the urban environment, adopting the Survey procedural method, as shown in Figure 1.

PLANNING AND DATA COLLECTION

Data collection was divided into the application of the pilot test and the final questionnaire, between May and September 2020. The research instrument adopted was developed based on studies on residential satisfaction and the urban environment (Amérigo; Aragonés, 1990; Adriaanse, 2007; Fornara et al., 2010; Ibem; Aduwo, 2013; Hadavi; Kaplan, 2016; Lee et al., 2017; Faganello, 2019). Since such studies were carried out in other countries, the questions were adapted to the Brazilian context, due to the specificities addressed in each geographic context of reference. Quantitative and qualitative variables were included, the latter being measured on a 5-point *Likert* scale, with the value 1 equal to "strongly disagree" or "poor", and 5 corresponding to "strongly agree" or "excellent".

Thirty-five variables related to the urban environment were analyzed, as shown in Table 1, divided into: urban environment characteristics and features (CRMU) and surroundings performance (DE), in addition to eight variables related to satisfaction with the neighborhood and the district (SH). Sociodemographic characteristics were also surveyed, including gender, educational level and marital status.

Figure 1 | Research strategy.



Source: Authors (2026).

Table 1 | Variables used in the research.

Group	Code	Variables
Satisfaction with the neighborhood and the district (SH)	SH1	Satisfaction with living in the neighborhood
	SH2	Satisfaction with the appearance of the neighborhood
	SH3	Satisfaction with the maintenance of the neighborhood
	SH4	Satisfaction with safety in the neighborhood
	SH5	Satisfaction with living in the district
	SH6	Satisfaction with the appearance of the district
	SH7	Satisfaction with the location of the district
	SH8	Would recommend the neighborhood
Urban environment characteristics and features (CRMU)	CRMU1	Good schools in the neighborhood
	CRMU2	Adequate health center in the neighborhood
	CRMU3	Neighborhood equipped with sports courts
	CRMU4	Good commerce in the neighborhood
	CRMU5	Existence of cultural activities in the neighborhood
	CRMU6	Proximity of dwellings in the neighborhood
	CRMU7	Volume of dwellings in the district
	CRMU8	Variety of dwellings in the district (styles, age, sizes, etc.)
	CRMU9	Use of buildings (residential, commercial, industrial)
	CRMU10	Existence of green areas to relax in the neighborhood
	CRMU11	Existence of parks only in other parts of the city
	CRMU12	Existence of trees in the neighborhood
	CRMU13	Air pollution in the neighborhood
	CRMU14	Risk of natural disasters in the neighborhood
Surroundings performance (DE)	DE1	This neighborhood is very quiet
	DE2	This neighborhood is still livable
	DE3	This neighborhood is suitable for people with disabilities (PWD)
	DE4	This neighborhood is safe
	DE5	There is great concern for sustainability in this neighborhood
	DE6	This neighborhood is very isolated from the city center
	DE7	It is easy to reach other parts of the city from this district
	DE8	It is easy to move around this district
	DE9	There are parking spaces on the streets around the dwelling
	DE10	Traffic is generally calm in this neighborhood
	DE11	Finding my way around the neighborhood is easy, since there is good signage
	DE12	Privacy in the surroundings of the dwelling
	DE13	The appearance of the surroundings of the dwelling
	DE14	Solid and recyclable waste collection
	DE15	Public transit (sufficient schedules and nearby stops)
	DE16	The distance between my dwelling and work
	DE17	The distance between my dwelling and the school/college
	DE18	The distance between my dwelling and health services
	DE19	The distance between my dwelling and retail/commerce
	DE20	The distance between my dwelling and leisure venues
	DE21	The distance between my dwelling and public transportation

Source: Authors (2026).

The CRMU group was formed by aspects that can be observed and assessed objectively, according to Fornara et al. (2010). The DE group brought together variables that form the cognitive perception of district characteristics, from the individual's point of view (Faganello, 2019), and are therefore assessed subjectively. Regarding satisfaction with the neighborhood and the district, the definition by Aigbavboa and Thwala (2018) was adopted, assuming that the district does not refer to the geographic area that bounds it, but to the individual's perception of the surroundings. The neighborhood and district scales defined by Ciocoletto (2014) for daily activities were also used.

Data collection was carried out by means of an *online* (*Google Forms*) tool, in order to reach a broad audience, but limited to the Brazilian population aged over 18, residing in the country and living in their current residence for more than one year. An application protocol was adopted, presenting the research to the participant and having them fill out the questionnaire. The first step was the individual's acceptance (or not) to take part in the research, and the second consisted of filling out the questionnaire itself, in accordance with the Ethics Committee's guidelines. Anyone with the access *link* could respond to the survey, provided they met the criteria and had Internet access, freely and voluntarily. Participants were recruited through the dissemination of the questionnaire on the researchers' social networks (*WhatsApp, LinkedIn* and *Facebook*), emails, and among contacts in the University's Graduate Program.

Regarding sample size, there is no uniformity in the literature recommending an ideal size (between 100 and 300 cases), but small samples generally do not produce significant results in multivariate analyses. Non-probabilistic convenience sampling was therefore adopted, given the lack of knowledge of the number of individuals that would form the sample population, employing individuals who were available for the research and were not selected through a statistical criterion. Questionnaires with more blank answers, residents of other regions of Brazil, those living less than a year in their residence, and those under 18 years old were adopted as exclusion criteria.

The sample was composed of 426 individuals from the South, Southeast and Midwest regions of Brazil. Although the *online* tool was easy to use and free of charge, data collection did not reach a broad audience, as expected. It was observed that a higher income bracket was reached, since access to the questionnaire was restricted to people with Internet access. In-person application was hindered by the COVID-19 pandemic, which could have been fundamental to reaching a lower income bracket in a representative way.

METHOD OF PROCEDURE FOR THE ANALYSES

The data were tabulated in Microsoft Excel, with a sequential number assigned to each individual in order to preserve anonymity. For the analyses, the *Statistical Package for the Social Sciences* (SPSS), version 24, was used. Descriptive and multivariate analyses (discriminant and correlation) were carried out, as shown in Table 2.

The discriminant analysis made it possible to verify whether or not the same characteristics exist for both groups, dividing the sample into two groups, by gender (Figure 2). Discrimination is obtained by calculating the weight of each variable, checking the maximum variance between two or more groups in relation to the variance within the constructs through the structure matrix, which indicates the order of magnitude of the correlation between the function and the discriminant variables. The higher the function coefficient, the greater the variable's discriminating power between the analyzed groups (Hair et al., 2005). As parameters, it was adopted that absolute values above 0.30 show a greater distinction between groups, and values below 0.10 do not discriminate between groups.

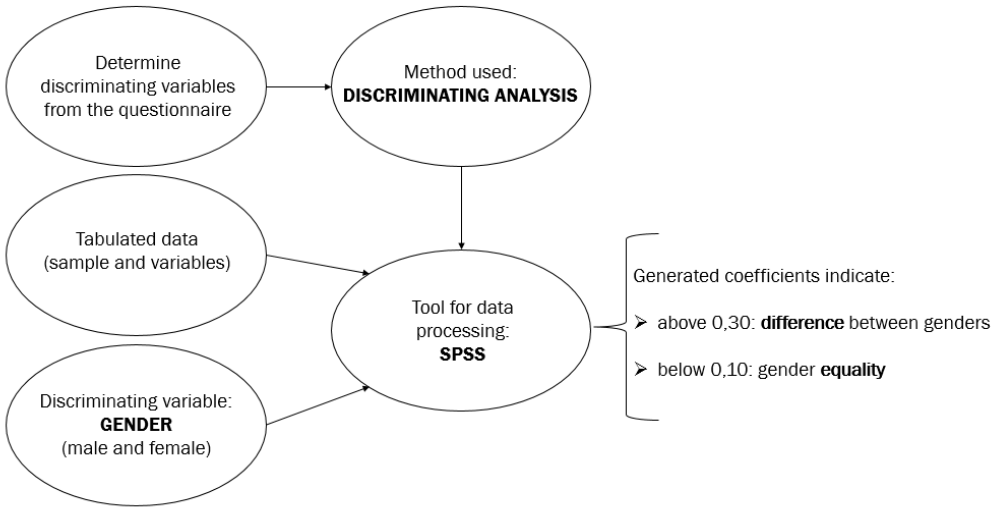
Table 2 | Summary of the analyses used.

Type of analysis	Purpose
Descriptive	Summarize and describe the characteristics of the data under study, involving the presentation and interpretation of data through basic statistics. Allows an initial understanding of the data
Correlation	Examine how two variables relate to each other, ranging from -1 to +1
Discriminant	Classify objects or individuals into predefined groups based on independent variables, useful when determining which variables are most relevant for separating groups

Source: Authors (2026).

In order to gain a better understanding of the results, correlation analyses were applied, by gender, between the discriminant variables and those related to satisfaction. This allows analyzing which aspect of satisfaction the variables are most related to, for men and women. According to Pontes (2010), correlation verifies the interrelationship between two variables, with a variation range from 1 (perfect positive or direct correlation) to -1 (perfect negative or inverse correlation), and 0 indicating the absence of a relationship between the variables.

Figure 2 | Development of the discriminant analysis.



Source: Authors (2026).

Thus, the closer the coefficients are to 1 or -1, the stronger the correlation between the variables. The *Spearman* correlation coefficient was adopted, and absolute values above 0.30 were considered significant for the study (Field, 2009; Cohen, 2013). A color range was also used for the analyses: warm colors indicated direct (positive) correlations, and cool colors indicated inverse correlations. The reliability of the results is indicated by significance levels of 5% and 1%, represented by one or two asterisks, respectively.

ANALYSIS OF RESULTS

Initially, an attempt was made to understand the sample's average behavior, by means of descriptive analyses. 486 responses were collected, and the data were randomly stratified, with the initial criterion being to eliminate results with more blank answers, since no answer was mandatory. Questionnaires with 95% of responses completed were considered valid. Subsequently, responses from outside the study regions were eliminated, since the *online* questionnaire was disseminated throughout the country.

Next, the gender criterion was applied to ensure the sample matched the Brazilian population's gender distribution (IBGE, 2022), as there was a predominance of female responses that could have introduced sampling bias. Thus, by randomly eliminating certain responses—prioritizing the removal of those with the highest number of blank answers—the analyses avoided bias stemming from representing only a single group.

The stratification resulted in a non-probabilistic sample with 426 respondents from the South, Southeast and Midwest regions of Brazil. The dominant profile is of individuals aged between 20 and 29, single and without children, with a specialization/master's degree educational level and an average family income between R$ 4,180.00 and R$ 10,450.00 (Table 3). Regarding gender, although the questionnaire included the "Other" option, responses were split between female (51.9%) and male (48.1%).

Table 3 | Sample characterization.

Gender	Female - 51.9% Male - 48.1%	Children	No children - 66.9% 1 or more children - 33.1%
Educational level	Specialization / Master's degree - 45.3% Bachelor's degree - 39.2% High school - 10.6%	Average family income	From R$ 4,180 to R$ 10,450 - 35.4% From R$ 2,090 to R$ 4,180 - 24.6% From R$ 10,450 to R$ 20.900 - 19.9%
Age	20 to 29 years old - 46% Over 40 years old - 27% 30 to 39 years old - 26.3%	Marital status	Single - 52.8% Married or stable union - 41.3% Other - 5.9%

Source: Authors (2026).

DISCRIMINANT ANALYSIS

The sample was divided into two groups: 221 female respondents and 205 male respondents, for the multivariate analyses. Discriminant analysis was applied, and function coefficients greater than 0.30 - in absolute values - indicate variables with discriminating power between both groups; coefficients lower than 0.10 indicate variables that were not able to discriminate between the two groups. Coefficients between these values - 0.10 and 0.30 - do not allow one to state whether the variables are the same or differ between groups, for the selected sample. Furthermore, positive values indicate a relationship with the female gender, while a negative sign shows a stronger relationship with the male group. Table 4 presents the results for the CRMU group variables.

Table 4 | Discriminant analysis results for the CRMU group.

Variables	Discriminant function coefficients
CRMU10- Green areas	**0.423**
CRMU7- Bulky buildings	**-0.349**
CRMU5- Cultural activities	**-0.331**
CRMU13- Highly polluted air	**-0.317**
CRMU2- Adequate health center	-0.253
CRMU8- Varied buildings	0.229
CRMU6- Nearby dwellings	-0.207
CRMU4- Good commerce	-0.200
CRMU1- Good schools	-0.154
CRMU11- Parks in other parts of the city	0.133
CRMU3- Sports courts	-0.078
CRMU9- Mixed-use buildings	0.075
CRMU12- Few trees	0.068
CRMU14- Risk of natural disasters	-0.053

Female
Male

Source: Authors (2026).

In this group, it was possible to identify four discriminating variables - with coefficients above 0.30 in absolute values: green areas, related to the female gender, and bulky buildings, cultural activities and highly polluted air, these related to the male gender. The existence of sports courts, mixed-use buildings, few trees and risk of natural disasters can be considered similar for both groups, presenting the lowest discriminant function coefficients. Next, Table 5 presents the results for the DE group variables.

Table 5 | Discriminant analysis results for the DE group.

Variables	Discriminant function coefficients
DE14- Solid and recyclable waste collection	**0.469**
DE17- Distance to school	**0.358**
DE2- Livable neighborhood	**0.351**
DE13- Appearance	0.252
DE18- Distance to health services	0.252
DE16- Distance to workplace	0.235
DE3- Neighborhood suitable for people with disabilities (PWD)	-0.226
DE9 - Parking spaces	-0.214
DE5- Concern for sustainability	-0.203
DE12- Privacy	0.193
DE4- Safe neighborhood	-0.191
DE8- Easy to move around	0.173
DE1- Quiet neighborhood	0.140
DE6- Isolated neighborhood	0.114
DE20- Distance to leisure venues	0.090
DE15- Public transportation	-0.086
DE7- Easy to reach other points	-0.073
DE21- Distance to public transportation	-0.047
DE19- Distance to commerce	-0.032
DE10- Calm traffic	-0.027
DE11- Good signage	-0.002

Female
Male

Source: Authors (2026).

In this group, three discriminating variables were identified: solid and recyclable waste collection, distance to school and livable district, all related to the female gender. Among the variables considered similar for men and women were: distance to leisure venues, to public transportation and to commerce, public transportation, ease of reaching other points, calm traffic and good signage.

CORRELATION ANALYSIS

In order to understand which aspect of satisfaction the discriminating variables are most related to, correlations were developed for both groups. The *Spearman* coefficient was used to identify the degree of relationship between two variables. Coefficients above 0.30 are considered significant, with positive values indicating a direct relationship, while negative values indicate inverse relationships.

Table 6 presents the correlations, for the female group, between the discriminating variables and the variables related to satisfaction. It can be observed that green areas are more related to the appearance of the district, while solid and recyclable waste collection is more significantly related to satisfaction with living in the district. The recommendation to live in the district shows a strong relationship with the district being livable, and distance to school showed a negative correlation, indicating that greater distances traveled negatively influence satisfaction with the district.

Table 6 | Correlations between variables and satisfaction for the female group.

	CRMU5- Cultural activities	CRMU7- Bulky buildings	CRMU10- Green areas	CRMU13- Highly polluted air	DE2- Livable	DE14- Solid and	DE17- Distance to school
SH1- Satisfaction living in the neighborhood (SH)	0.217**	0.049	0.265**	-0.177**	0.265**	0.130	-0.021
SH2- Satisfaction with the appearance of the neighborhood (SH)	0.291**	0.086	0.318**	-0.177**	0.165*	0.167*	-0.084
SH3- Satisfaction with the maintenance of the neighborhood (SH)	0.223**	0.290**	0.235**	-0.066	0.075	0.258**	-0.184**
SH4- Satisfaction with safety in the neighborhood (SH)	0.217**	0.125	0.297**	-0.164*	0.115	0.137*	-0.165*
SH5- Satisfaction living in the district	0.310**	0.178**	0.258**	-0.168*	0.305**	0.300**	-0.132
SH6- Satisfaction with the appearance of the district	0.311**	0.270**	0.318**	-0.267**	0.267**	0.286**	-0.195**
SH7- Satisfaction with the location of the district	0.300**	0.194**	0.201**	-0.094	0.296**	0.279**	-0.242**
SH8- Recommendation of the district	0.328**	0.211**	0.254**	-0.176**	0.330**	0.290**	-0.188**

Source: Authors (2026).

The correlations for the male group (Table 7) showed that the existence of cultural activities is more related to satisfaction with the district, while the existence of bulky buildings is related to the district's recommendation. As a variable inversely related to satisfaction with the district's appearance, highly polluted air was observed.

Table 7 | Correlations between variables and satisfaction for the male group.

	CRMU5- Cultural activities	CRMU7- Bulky buildings	CRMU10- Green areas	CRMU13- Highly polluted air	DE2- Livable	DE14- Solid and recyclable waste collection	DE17- Distance to school
SH1- Satisfaction living in the neighborhood (SH)	0.188**	0.247**	0.224**	-0.113	0.349**	0.215**	-0.188**
SH2- Satisfaction with the appearance of the neighborhood (SH)	0.274**	0.233**	0.310**	-0.060	0.289**	0.316**	-0.162*
SH3- Satisfaction with the maintenance of the neighborhood (SH)	0.323**	0.154*	0.211**	-0.058	0.227**	0.317**	-0.148*
SH4- Satisfaction with safety in the neighborhood (SH)	0.076	0.113	0.163*	-0.013	0.294**	0.116	-0.171*
SH5- Satisfaction living in the district	0.273**	0.202**	0.270**	-0.051	0.290**	0.251**	-0.135
SH6- Satisfaction with the appearance of the district	0.385**	0.281**	0.315**	-0.152*	0.290**	0.318**	-0.058
SH7- Satisfaction with the location of the district	0.388**	0.285**	0.228**	0.007	0.261**	0.305**	-0.210**
SH8- Recommendation of the district	0.299**	0.308**	0.259**	-0.076	0.271**	0.268**	-0.141*

Source: Authors (2026).

For both the female and male groups, coefficients with a significance level of 5% or 1% were identified, indicating that the results are likely true for the characterized sample, and not the result of chance. This ensures a higher degree of relevance for the findings, as there is only a 5% or 1% probability that they do not reflect the entire population.

DISCUSSION OF RESULTS

The discriminant analyses identified different aspects that influence the satisfaction of men and women in relation to the urban environment in which they live. On the one hand, the female gender presented more discriminating variables from the surroundings-performance group, that is, subjective perceptual aspects. Kern (2021) stated that groups of women create safe environments to explore cities; thus, attention to such aspects influences the potentiality and modality of their use of the urban environment. This also highlights vulnerability to violence and insecurity in frequenting certain places, or restricting movement to certain times. The greater perception of subjective aspects of the district - such as safety, appearance and social relations - is indicated by women's greater satisfaction related to these aspects.

On the other hand, the male gender appears more attentive to objective variables, grouped into physical characteristics and features of the urban environment. The fact that men's satisfaction with the district is tied to objective aspects - such as maintenance, cleanliness, and the existence of services, such as commerce and cultural activities - reveals that their concerns are less linked to the planning and operationalization of domestic life.

Although the study included 35 variables, it was observed that only seven were considered discriminating between the groups, as shown in Table 8. Thus, despite the existence of differences, similarities were also identified.

Table 8 | Summary of discriminating variables by gender.

Variables
CRMU10- Green areas
CRMU7- Bulky buildings
CRMU5- Cultural activities
CRMU13- Highly polluted air
DE14- Solid and recyclable waste collection
DE17- Distance to school
DE2- Livable neighborhood

Female
Male

Source: Authors (2026).

Among the differences found, distance to places of study is more related to the female group, as already shown by Sarmento (2018) and Esperidião et al. (2021). This reflects a society in which women, considering the sample's profile, are generally concerned with academic education and entering the job market. Despite this, they are responsible for unpaid activities such as taking children to school from an early age. It is common for such responsibilities to take priority over other activities, such as paid work and leisure (Madariaga, 2004). Thus, the existence of educational facilities close to the dwelling can be essential for reconciling paid work and such trips. Proximity is even more relevant for lower-income women, since commuting represents a higher cost in time and transportation.

Women are more satisfied with the appearance of the district when green areas are present. For Gehl and Svarre (2013), the predominance of women in a park is an indicator of a healthy public space, since they are more cautious when choosing the places they frequent and stay in. Whyte (2004) also observed that women are more demanding and spend more time weighing their options, so more frequented public spaces have more women than men. The results indicated that green areas have the potential to be frequented by women as long as they have a good appearance, and this is also related to the maintenance of such spaces.

Considering the district livable influences women to recommend it. In the early 20th century, the conception of a livable city, for women, was a socially just "home" for everyone, promoting common well-being through social public policies, good housing, clean streets, unpolluted air and accessible public spaces, while men sought a profitable city (Flanagan, 2002; Baldwin, 2003). The results may indicate that this thinking is still rooted in society, represented in cities designed to accommodate commuting to work. Large-scale sectorized cities, which prioritize fast long-distance transportation and high densification in central areas, undermine socializing, outdoor conviviality, and neighborly relations that create the "social glue" historically valued by women.

Regarding men, cultural activities are more related to the appearance and location of the district, highlighting men's lack of leading role in domestic activities (Esperidião et al., 2021). Bulky buildings are more related to men's recommendation of the district. Services, such as commerce, are generally concentrated in such locations, so the male group is more satisfied when this offering

is present in districts. The results reinforce the findings of Madariaga (2004), who found that women do not have the same amount of time as men for cultural, leisure and sports activities. Once again, the results highlight the female profile in society, responsible for reconciling various daily activities, without prioritizing personal activities such as leisure.

Although the results are valid for a sample with the characteristics presented, it should be noted that the findings can be replicated for other populations, as observed by Kern (2021), in the sense that barriers and difficulties are even greater for more vulnerable populations. The needs of single, lower-income mothers, or those responsible for the elderly, are different from the needs of women without children and with a higher income range. It is understood that if the sample had a better distribution of respondent profiles, there could be other distinctions between men and women, and other aspects would emerge as relevant. It is important to note that lower-income women are the most disadvantaged in the urban environment, as they depend on transportation and services that are often unavailable in their district.

It is also important to discuss possible sample biases. The exclusive use of *on-line* data collection, necessary due to the restrictions imposed by the COVID-19 pandemic, may have generated coverage bias, restricting participation to individuals with Internet access and greater familiarity with digital technologies. As a result, the sample may present an overrepresentation of participants with a higher level of education and income, an aspect that should be considered a limitation of the study and in the interpretation of the results presented here.

Despite the sample's representativeness, the results were significant for the sample collected, as expressed by the significance in the correlation analyses. This fact explains the relevance of the data. The results showed that female satisfaction is impacted differently than that of men. They reveal that the relational complexity of managing daily chores, education, extracurricular activities, care and attention for young children, planning and commuting occupy a large part of women's daily lives.

CONCLUSIONS

The results found here showed that women use the urban environment differently than men. This difference reveals a busier routine for them, with more trips of various kinds, due to women's dedication to unpaid care-related work. The urban environment is historically formed, in Brazil, a Western colony, from a masculine perspective. Activities linked to the domestic sphere, which is not profitable, are not prioritized, and are therefore invisible. This organizational pattern creates several barriers for women, who use it in a complex way to reconcile all the activities of their double workday (Trindade and Pavan, 2022).

But thinking about the distribution of schools, public facilities, green areas, and the presence of active facades that bring safety by providing "eyes on the street" (Gehl, 2013) reveals an important invisible category, because it is subjective: female sensitivity to human issues is the point at which their time becomes overburdened. Behind domestic and reproductive work lies so-called affective work (Federici, 2019). That is, planning, anticipating, and worrying about how objective reality, in dialogue with subjective reality, affects family members.

The statistical instruments used in this research are very valid for arguing against the structuring forces of urban space held to be legitimate in contemporary times. Statistically identifying the aspects that shape men's and women's satisfaction with their district provides data that fosters debate on gender inequality, and validates findings from the field of sociology through legitimate tools within the mechanistic paradigm (Cross, 2006). Combined with the design tools of architecture and urban design, and with analyses from the human sciences, they can contribute to mapping patterns in terms of distance, densification, and distribution of services and urban facilities. Such tools may provide arguments for decision-making in urban planning, aiming to contribute to the construction of a more democratic urban space, based on the paradigm shift that interdisciplinary dialogue can promote. They can guide public authorities in developing land use and occupation policies, zoning, densification, and balanced distribution of services, by establishing parameters that generate design solutions suited to the human scale.

Furthermore, this type of research can, in itself, raise self-awareness among those who responded to the *Survey* regarding their right to the city, by observing the dynamics of their daily lives, their relationship with the territory, and the sociabilities that the configuration of urban space fosters or inhibits.

Certainly, the differences raised here could be further highlighted if different age and income ranges were explored, but also, and mainly, race, as shown by Trindade and Pavan (2022), probably being more perceptible in other life cycles and lower income ranges. If the sample were predominantly composed of individuals with dependents, whether children or the elderly, the results would be different, since these are activities that fall mainly to women. Thus, among the limitations of the research are the sample's representativeness, and the fact that it covers only three regions of the country. This highlights the need for further studies in various geographic, cultural and demographic contexts, since the urban environment affects individual satisfaction in various ways throughout life.

Seeking the interaction between engineering instruments (statistical data) and architecture (graphic language), among the blind spots observed after data collection, a need for data regarding dwelling location was noted. It is therefore suggested that future questionnaires collect the postal code, for example, preserving anonymity while obtaining a better specification of the location. Furthermore, in future studies, it is recommended to expand recruitment strategies and consider a more inclusive approach to encourage the participation of individuals with different gender identities.

Thus, graphic analysis of urban design typologies and patterns, and a survey of services and infrastructure, may provide a clearer picture, as in the study by Borba (2015), useful not only for improving urban conditions, but also for building an inclusive and compensatory idea of the urban, allowing people, in their complexity, to have full access to the city, that is, to citizenship.

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