






Green areas and quality of life: use and environment perception of an urban park in São Paulo city, Brazil

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ABSTRACT

The perception and use of green spaces are important factors that help understand the contributions that these places exert to the life of the population.

Objective of the study: The present study assessed the use and environment perception of the regulars of the Mário Pimenta Camargo Park (known as *Parque do Povo*).

Methodology: Structured interviews were carried out with 100 regulars of the *Parque do Povo*, located in the Southern Zone of São Paulo City, southeastern Brazil. The interviews were recorded, transcribed and categorized. The software Iramuteq was used for the analysis of the contents.

Results: The perception of the park by its regulars is positive – they who highlighted not only the importance of green areas, playground, fitness equipment, security, and accessibility, but also restrooms and drinking fountains. The use of the park is related to physical activities and contact with nature, which are perceived by the regulars as better quality of life. The lack of parking places and food kiosks were considered negative aspects.

Contributions: The relevance of considering the information on the regulars' perception, uses and preferences is pointed out as a contribution to the betterment and adequacy of management plans and local administration of urban parks.


Conclusion: The *Parque do Povo* is satisfactorily perceived and used by the population, both in respect to contact with nature and improvement of well-being and health, implying a better quality of life.


Keywords: Urban green spaces, Environment perception, Biodiversity, Health, Sustainability.

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Áreas verdes e qualidade de vida: uso e percepção ambiental de um parque urbano na cidade de São Paulo, Brasil

RESUMO

A percepção e uso de espaços verdes é importante para compreensão das contribuições que estes locais exercem na vida da população.

Objetivo do estudo: O presente estudo avaliou o uso e a percepção de frequentadores sobre o Parque Mário Pimenta Camargo (conhecido como Parque do Povo).

Metodologia: Os dados foram coletados através de entrevistas estruturadas realizadas com 100 frequentadores do parque localizado na cidade de São Paulo, Brasil. As entrevistas foram gravadas, transcritas e categorizadas. Utilizou-se o *software* Iramuteq para análise de conteúdo.

Resultados: A percepção sobre o parque é positiva, destacando-se desde as áreas verdes, *playground*, aparelhos de ginástica, segurança, acessibilidade, bem como sanitários e bebedouros. O uso do parque está relacionado para os frequentadores com a prática de atividade física e contato com natureza, sendo relacionado com melhor qualidade de vida. A falta de estacionamento e opções de alimentação foram considerados aspectos negativos.

Conclusão: Conclui-se que o Parque do Povo é percebido e utilizado pela população de forma satisfatória tanto em relação ao contato com a natureza quanto a melhoria no bem-estar e saúde, implicando em uma melhor qualidade de vida.

Contribuições: Ressalta-se a relevância de se considerar as informações sobre percepção, usos e preferências de frequentadores e aplicá-las para melhoria de parques urbanos.

Palavras-chave: Espaços verdes urbanos, Percepção ambiental, Biodiversidade, Saúde, Sustentabilidade.

Áreas verdes y calidad de vida: uso y percepción ambiental de un parque urbano en la ciudad de São Paulo, Brasil

RESUMEN

La percepción y uso de espacios verdes es importante para comprender las contribuciones que estos locales tienen en la vida de la población.

Objetivo del estudio: El presente estudio evaluó el uso y la percepción de los frecuentadores sobre el Parque Mário Pimenta Camargo (conocido como Parque do Povo).





Metodología: Fueron realizadas entrevistas estructuradas con 100 frequentadores del parque localizado en la Zona Sur de la ciudad de São Paulo, Sureste de Brasil. Las entrevistas fueron grabadas, transcritas y categorizadas. Se utilizó el *software* Iramuteq para el análisis de contenido.

Resultados: La percepción sobre el parque es positiva, destacándose desde la importancia de esas áreas verdes, *playground*, aparatos de gimnasia, seguridad, accesibilidad, así como sanitarios y bebederos. El uso del parque está relacionado para los frequentadores con la práctica de actividad física y contacto con la naturaleza, y es entendido, por los mismos, con mejor calidad de vida. La falta de estacionamientos y opciones de alimentación fueron considerados aspectos negativos.

Contribuciones: Se resalta la relevancia de considerarse las informaciones sobre percepción, usos y preferencias de los frequentadores para la mejora y adecuación de planes de manejo y gestión local de parques urbanos.

Conclusiones: El Parque do Povo es percibido y utilizado por la población de forma satisfactoria tanto en relación al contacto con la naturaleza como en la mejora del bienestar y salud, implicando en una mejor calidad de vida.

Palabras-clave: Espacios verdes urbanos, Percepción ambiental, Biodiversidad, Salud, Sostenibilidad.

Introduction

Along the years, urban green spaces have become important research and conservation instruments thanks to several ecological, social and aesthetic functions that they offer to the metropolises. These spaces are considered part of the essential items that contribute to the well-being of the population of big cities. According to Loboda and De Angelis (2009), these areas are materialized as squares and parks, and have become spaces where humans and nature get together. Besides, these spaces offer structures for the practice of leisure and recreation activities, contributing to the active aging of the population (Gaikwad & Shinde, 2019).

Dacanal, Labaki and Silva (2010) observed that, when searching for a more sustainable development, the preservation of urban forests in the form of urban parks has become important for sustainability. Among the benefits to the cities, the preservation of native fauna and flora, the improvement of air and water quality, the climatic equilibrium and consequently thermal comfort stand out. Besides, these green areas are distinguished from the built environments that are characteristic of big cities because of aesthetic benefits. According to Wang, Zhao, Meitner, Hu and Xu (2019), people prefer places with a greater number of trees and flowers.





Priego, Breuste and Rojas (2008) mention that the contact with nature contributes to a better quality of life, because it is an opportunity to relax from the rush and to contemplate and enjoy the natural environment. The authors state that green areas such as parks must satisfy the demands of the urban population who visits these spaces, and that these demands must be reflected in the urban planning policies. According to Pereira (2013), since the creation of parks, these urban green spaces have assumed multiple configurations and consequently different meanings. However, the main reasons for visiting them, as reported by regulars of the Sheffield parks in the UK, are very much related to health and well-being (Irvine, Warber, Devine-Wright & Gaston, 2013).

The assessment of environment perception allows the understanding of how the relationship between humans and the environment takes place. This understanding makes possible the formulation of conservation policies and decision making processes for more efficient strategies of public green areas management, because they are directed to the wishes and demands of the people who visit places such as urban parks (Suess, Bezerra & Carvalho Sobrinho, 2013; Dorigo & Lamano-Ferreira, 2015). Therefore, it shall be possible to articulate and legitimate urban sustainability strategies that can be used as reference to decision makers (Chiesura, 2004), because green spaces represent important resources to plan and develop a healthier urban environment (Sandifer, Sutton-Grier & Ward, 2015).

To Brito, Régis and Lamano-Ferreira (2016), environment perception is an important tool, capable of guiding the formulation of public policies more adequate to the population's demands and wishes. According to Dorigo and Lamano-Ferreira (2015), environment perception is based on the reality of each individual. Thus, the recognition of different perceptions can aid the understanding of the interactions established between a variety of individuals and public green spaces and to check if these interactions take place in a sustainable manner or not.

In view of the above mentioned reasons, the Mário Pimenta de Camargo Municipal Park (*Parque do Povo*) was chosen for this environment perception survey and analysis, with the objective of assessing how the *Parque do Povo* regulars perceive and use this public space. To acknowledge the regulars' wishes and perceptions is an important tool to make public policies compatible with the population's demands, as well as a diagnosis to identify environmental problems.



Theoretical reference

Environment perception

Environment perception can be defined as the manner in which each individual visualizes and interacts with a certain environment, plus the sensations this environment awakens in him/her. This perception builds in each individual the desire to protect and take care of the environment in which he/she is inserted in the best possible way (Fernandes, Souza, Pelissari & Fernandes, 2004). To Sousa, Araújo and Lopes (2012), the study of the environment perception helps understand the interchange dynamics between humans and the environment through which the individual absorbs sensations from subjective aspects that exist in it, represented by cultural elements and by the observer's understanding of these elements.

Studies on environment perception are necessary in order to: identify which role the green spaces introduced in the metropolises play in the society; which benefits green spaces bring to population groups; how public and/or private administration can guarantee their conservation and maintenance, and even if environmental degradation is taking place. Such data are necessary to guide decision making in order to solve problems, focusing on the continuous improvement of urban green areas.

According to Sousa et al. (2012), when a person visits a certain place, a reverence originated from sentiments towards the natural environment flourishes, as a consequence of the admiration of beautiful landscapes. However, each person has a particular vision of the world (Tuan, 2012). Therefore, each individual perceives, reacts and responds differently to environmental issues (Cunha & Canan, 2015). Despite living in the same city and even in the same neighborhood, people perceive the environment distinctly (Tuan, 2012).

The perceptions among individuals are distinct, because socio-economic and cultural factors are taken into consideration, resulting in different thoughts, expectations and judgements. Hence, the importance of environment perception studies is explained, as it resides in the understanding of the relationships between man and nature, by means of different thoughts and judgements of individuals of different social levels, which strengthens the premise that people from different origins and cultures use and perceive urban green areas in distinct manners (Priego et al., 2008).

The construct of the environment perception has been used in the studies of public parks in big urban centers. The scientific investigation provides opportunities to understand how the





individuals form their perceptions of the natural environment (Petrosillo, Zurlini, Corliano, Zaccarelli & Dadamo, 2007). Bi, Zhang and Zhang (2010) add that the understanding of the nature can be seen as an important tool in the formation of the environment on the basis of the humans' choices and behaviors.

The investigation on the environment perception can be used as a tool by public managers, generating subsidies and involving the society (Viana, Lopes, Neto, Kudo, Silva Guimarães & Mari, 2014; Dorigo & Lamano-Ferreira, 2015; Mak & Jim, 2019) in the management strategies of green areas, such as urban parks. As Bi et al. (2010) point out, the public participation in decision making when it comes to policies that aim at sustainable development has been increasingly recognized.

Urban parks

In the last decades, forest fragments, such as urban green areas (Barros, Bisaggio & Borges, 2006), have become the main environment defenders, thanks to the space that is reserved to them in big cities (Loboda & De Angelis, 2009), because, according to Fiera (2009), these areas undergo a variety of pressures, such as: limited space, adverse climatic conditions, air pollution, among others.

To Jankovska, Straupe and Panagopoulos (2010), the role of these urban green spaces diverges from a big city to another, because of distinct environmental and socio-cultural aspects, consisting in a valuable resource in overcrowded cities, as defined by Ryan (2005). As part of the urban ecosystem (Li, Wang, Paulussen & Liu, 2005), the urban parks offer environmental benefits, such as contact with nature and leisure opportunities (Lo & Jim, 2012), besides promoting improvements in the quality of life in the big cities (Acar & Sakici, 2008).

According to Chiesura (2004), urban parks represent an important strategy in the quality of life of the population who lives in urban areas, because they provide environmental services such as air purification and microclimate stabilization. To Chaves and Amador (2015), urban green areas, such as parks, provide an agreeable environment for recreation and leisure because they filter the polluted air and soften high temperatures. Besides, they promote social interactions in big cities.

Thinking on the quality-of-life improvement in São Paulo City, the *Secretaria do Verde e do Meio Ambiente* (SVMA – Secretariat for the Green and the Environment) decided to expand the city's green area system (Branco, Brischi, Souza, Silva, Pereira, Ferreira, Neves, Sepe, Garcia, &



Geraldi, 2011), by creating the program *100 Parques para São Paulo* (100 Parks for São Paulo) and later the *Plano Diretor Estratégico do Município de São Paulo* (Strategic Master Plan for São Paulo Municipality). At present, the city has 107 parks (SVMA, 2019), distributed throughout the metropolitan region. However, just creating and distributing parks throughout the city is not enough, it is necessary to form more environmentally conscious and sensitized citizens (Viana et al., 2014).

The public policies need to be well connected to effectively involve the population in the environmental quality defense (Mello-Théry, 2011). Therefore, the execution of studies on environment perception generates important results that can be used as management strategies for urban parks, as they are based on the desires and wishes of the people who visit them, attend events and activities, and use the facilities and infrastructure available in these parks (Régis, 2016).

Methodology

The study area

This study was carried out in the Mário Pimenta de Camargo Municipal Park (known as *Parque do Povo*), located in the Itaim Bibi district, a noble region of São Paulo City Southern Zone (Figure 1). According to the São Paulo Prefecture, the park organic format area is 133,547 m² and its infrastructure includes sports courts, fitness equipment, playground, a bicycle path (that links it to other parks, such as Villa-Lobos and Ibirapuera), hiking trail, restrooms, botanical routes (*Jardim Sensitivo* – Sensitive Garden), and other particularities. Regarding the flora, there are adult tree specimens and seedlings of exotic species, noble woods, creepers and a sensitive garden with aromatic plants. Approximately 37 species of birds typical of open spaces were identified (PMSP, 2014).





Figure 1 - Upper view of the Mário Pimenta de Camargo Municipal Park, known as *Parque do Povo*



Source: Licuri Paisagismo, 2015.

The park opening hours are from 6 am to 10 pm. It is close to a variety of commerce, business and residential centers. It is well located and of easy access, with taxi and bus stops and a CPTM train station (*Companhia Paulista de Trens Metropolitanos – São Paulo Metropolitan Train Company*) in the surroundings. The area of the park once belonged to the *Caixa Econômica Federal* and the *Instituto Nacional de Seguro Social*. For two decades, several irregular associations made use of the area until 2006, when the São Paulo City Prefecture was granted with the space. It was reopened in 2008 and now it belongs to the São Paulo City Prefecture and is managed by the Secretariat for the Green and the Environment (SVMA), under the direction of the *Departamento de Parques e Áreas Verdes* (DEPAVE 5 – Department of Parks and Green Areas).

Data collection

The data was collected during random visits to the park in October 2016 and May 2017. The target public was the *Parque do Povo* regulars over 18 years of age, and the interviews were



performed face-to-face (as in the study of Lo & Jim, 2012), that is, the researcher talked directly to the interviewee (Creswell, 2014). The interviews were recorded and later transcribed.

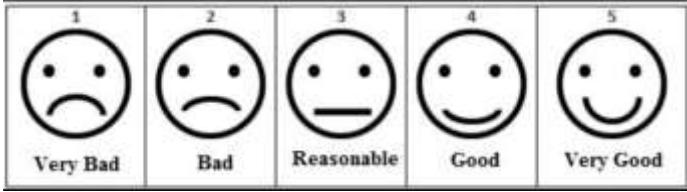
It is worth pointing out that the interviewees were chosen randomly among the regulars who were in the park during the data collection periods. The purposes of the interview were explained to the interviewees and a *Termo de Consentimento Livre e Esclarecido* (TCLE – Free Consent and Informed Form) was handed to each participant. This term was read and signed by the interviewee, who agreed with the use of the information. The interview guide and the TCLE were approved by the *Comitê de Ética em Pesquisa com Humanos* (CoEP – Ethics Committee on Human Research), of the Nove de Julho University, protocol number 848248.

The interview guide (Chart 1) consisted of two sections, one for the characterization of the interviewees' profile and the other for the evaluation of the environment perception. To trace the regulars' profile, the following variables were identified: 1. Age; 2. Education; 3. Marital status; 4. Number of children; 5. Number of people living in the same residence; 6. Frequency of park visits; 7. Company; 8. Periods of park visits; 9. Easiness to access the park; and 10. Means of transport to access the park. In this survey there were no specific questions about the interviewees' income, because some of the variables (such as 2 and 5) already indicated socio-economic conditions.

The regulars' perception and use of the park were assessed in the second section. Mixed methods were used in this phase, which was divided in two blocks. In block 1, the statements on the park infrastructure were evaluated by the interviewees using a likert scale (psychometric scale used in surveys) with the following options: 1. Very bad; 2. Bad; 3. Reasonable; 4. Good, and 5. Very good. In block 2, used to assess and understand the interviewees' environment perception, two additional questions were asked: "What is the *Parque do Povo* to you?" and "How would you describe this park to someone who has never visited it?". These were open questions, and the interviewees' answers were analyzed and categorized as how they perceive and use this public space. After the transcription, the data were processed using IRAMUTEQ® (*Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires*), a software created for the statistical analysis of textual data (Kami *et al.*, 2016) and for a more organized and rigorous treatment of qualitative data (Duarte, 2004).



Chart 1 - Interview guide used to characterize the *Parque do Povo* interviewees' profile (block 1), and how they perceive and use the public space (block 2)

Blocks	Objectives	Questions
1. Socio-environmental profile	Characterize the interviewees' socio-environmental profile	1. Age 3. Schooling 4. Gender (M) (F) 5. Marital status 6. Children (Y) (N) How many? 7. How many people live in your house (including you)? 8. How many times per week do you come to the park? 9. Do you usually come alone or with somebody (who)? 10. Period you come to the park 11. Is the access to the park easy? (Y) (N) Why?
2. Perception of the infrastructure	Identify how the interviewees perceive the <i>Parque do Povo</i> regarding infrastructure, equipment and facilities	<p>A – A list of statements on the characteristics of the park is found below. Please, write the number that corresponds to the emoji that best describes your perception towards the statement.</p> <ol style="list-style-type: none"> 1. The quality of the green areas of the park is 2. The infrastructure available in the park is 3. The quality of the toilets of the park is 4. The availability of drinking fountains in the park is 5. The quality of toys (playground) of the park is 6. The availability of benches in the park is 7. The availability of fitness equipment is 8. The quality of the hiking trail in the park is 9. The availability of parking places in the park is 10. The security in the park is 
	Identify how the interviewees perceive, evaluate and use the park	<p>B – What is the <i>Parque do Povo</i> to you? How would you describe this park to someone who has never visited it?</p>

Source: Prepared by the authors.

The answers for each question were processed and analyzed separately by the IRAMUTEQ[®] software. The method of content analysis was also used. To analyze the question “What is the *Parque do Povo* to you?”, the IRAMUTEQ[®] resources were applied to create a flow chart of active words by similarity and a class dendogram. The results were represented in charts, flow charts of



word similarity and explanatory figures (word clouds), by means of the highest incidence of keywords in the interviewees' discourse (Camargo & Justo, 2013; Brito, 2017).

Results and analysis

Socio-environmental profile of the interviewed regulars

In the periods when the interviews took place, 100 regulars volunteered to answer the interview guide. As shown in Table 1, 61 (61%) were women and 39 (39%) were men. The predominant age group among women (39.34%) and men (41.03%) was 30 to 39 years old. It is worth pointing out that people of all age groups (children, adolescents, adults and elderly) visit the *Parque do Povo*.

Table 1 –Socio-environmental profile of the interviewees of the Mário Pimenta de Camargo Municipal Park (*Parque do Povo*), São Paulo City, Brazil.

VARIABLES	WOMEN		MEN	
	n= 61	61%	n= 39	39%
AGE GROUP				
from 18 to 29	16	26.23%	13	33.33%
from 30 to 39	24	39.34%	16	41.03%
40 and older	21	34.43%	10	25.64%
EDUCATION				
Fundamental (complete or incomplete)	3	4.92%	2	5.13%
High School (complete or incomplete)	16	26.23%	9	23.08%
Higher Education (complete or incomplete)	40	65.57%	28	71.79%
MARITAL STATUS				
Single	29	47.54%	14	35.90%
Married	26	42.62%	21	53.85%
divorced / widowed	6	9.84%	4	10.26%
CHILDREN				
Yes	30	49.18%	19	48.72%
No	31	50.82%	20	51.28%
NUMBER OF PEOPLE LIVING IN THE SAME RESIDENCE				
one to three	46	75.41%	32	82.05%
four to six	15	24.59%	7	17.95%
seven and more	0	0.00%	0	0.00%

Source: Prepared by the authors.





Kim and Jin (2018) highlight the advantages of urban parks regarding well-being and point out that the benefits are much more important for the elderly than for young adults. The authors also highlight that the elderly show disposition to pay for urban parks. However, one of the first studies with adolescents also indicate the benefits that green spaces represent to the mental health of this age group in California, USA (Wang, Meng, Lam & Ponce, 2019). In this context, we suggest that visits to the São Paulo City urban parks should be guided, especially for the elderly, once the city has 107 parks and an increasing number of elderly people. Therefore, the parks would contribute to the population active aging, as pointed out by Gaikwad and Shinde (2019).

Regarding education, the highest occurrence for both genders was in higher education, that is, 65.57% of the women and 71.79% of the men completed their higher education. This high incidence can be explained by the fact that the park was implemented in the Itaim Bibi district, a region where slums are very few and there is no record of irregular allotments, according to the *Centro de Estudos da Metrópole* (Center for the Metropolis Studies; CEM, 2016). Besides, *ca.* 76% of the income per residence is higher than five minimum wages per month (Infocidade, 2010). Regarding marital status, 47.54% of the women are single and 53.85% of the men are married or are in a stable relationship.

It is also possible to observe in Table 1 that approximately half of the women and men have no children and that 75.41% of the women and 82.05% of the men live together with up to three people. Both education and number of people living in the same residence indicate that the *Parque do Povo* interviewees have a reasonable consumer buying power, suggesting that they belong to an upper economic class.

When asked about frequentness, 57.38% of the women and 48.72% of the men affirmed that they usually visit the park on the weekends only, and 83.61% of the women and 76.92% of the men go to the park alone, as shown in Table 2. Regarding the period they use the park, the majority of the women (54.10%) prefer the mornings and the majority of the men (53.85%) prefer the evenings.

90.16% of the women and 84.62% of the men said that the access to the park is easy and that the preferred means of transport is the car (57.38% of the women and 46.15% of the men). Baum and Palmer (2002) report that one of the factors that lead people to visit green areas is, besides comfort and safety, the easiness to reach such places. Zhang and Zhou (2018), when studying the accessibility of parks in Peking, China, attested that the access by public transport influences the use of parks, as well as the distance and the number of buses.





Table 2 – Frequentness of the regulars interviewed in the Mário Pimenta de Camargo Municipal Park (*Parque do Povo*), São Paulo City, Brazil.

VARIABLES	WOMEN		MEN	
	n= 61	61%	n= 61	
ATTENDANCE				
once to three times a week	25	40.98%	17	43.59%
from Mondays to Fridays	1	1.64%	3	7.69%
only on weekends	35	57.38%	19	48.72%
COMPANY				
alone	11	18.03%	8	20.51%
Accompanied	51	83.61%	30	76.92%
PERIOD				
morning	33	54.10%	18	46.15%
afternoon	28	45.90%	21	53.85%
EASY ACCESS				
yes	55	90.16%	33	84.62%
no	6	9.84%	6	15.38%
TYPE OF TRANSPORTATION				
on foot	6	9.84%	9	23.08%
car	35	57.38%	18	46.15%
public transport	12	19.67%	8	20.51%
bicycle	8	13.11%	4	10.26%

Source: Prepared by the authors.

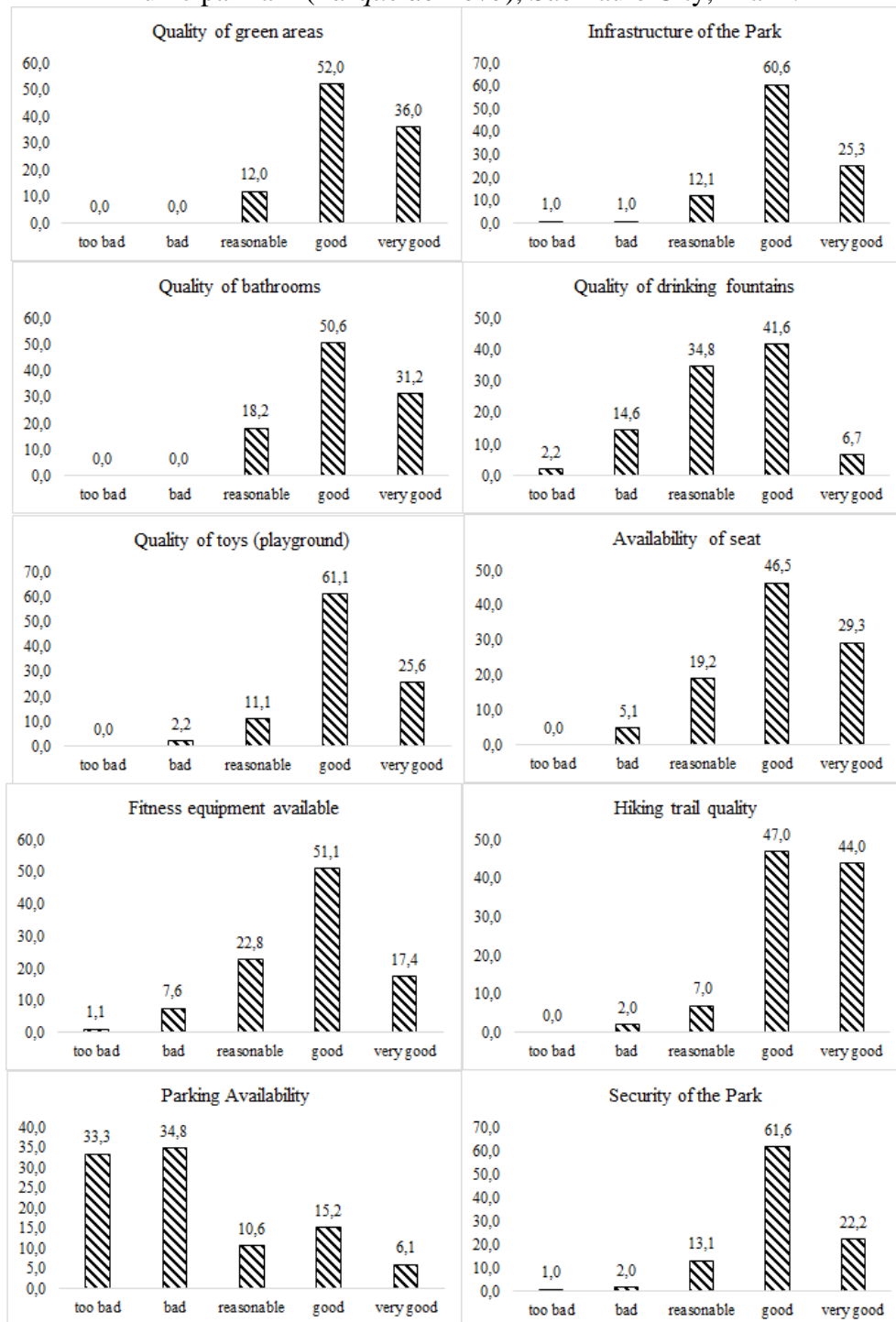
Perception on the Infrastructure

The collected data show that out of the ten statements used to identify how the regulars evaluate the *Parque do Povo* infrastructure, equipment and facilities, nine pointed to a Good scenario, once the score for these nine statements was 4 (Good). One pointed to a Bad scenario, giving the score 2 (Bad), as shown in Figure 2.

It is possible to observe that the scenarios evaluated as Good by the interviewees, no matter the gender, were: Quality of green areas (52.0%) – 1A; Infrastructure of the park (60.6%) – 1B; Quality of the restrooms (50.6%) – 1C; Availability of drinking fountains (41.6%) – 1D; Quality of toys – playground (61.1%) – 1E; Availability of benches (46.5%) – 1F; Availability of fitness equipment (51.1%) – 1G; Quality of the hiking trail (47.0%) – 1H, and Safety of the park (61.6%) – 1J.



Figure 2 - Regulars' perception regarding the infrastructure of the Mário Pimenta de Camargo Municipal Park (*Parque do Povo*), São Paulo City, Brazil.



Source: Prepared by the authors.

The positive evaluation (by both men and women) of the infrastructure, equipment and facilities of the *Parque do Povo* indicates that the interviewees perceive and use the park as a space for leisure and recreation, once the park offers good equipment for the practice of these and other



activities, as observed in the study of Régis, Lamano-Ferreira, Ramos and França (2016). Even with the duplication of the number of municipal parks created in the last decade, this park has been well evaluated and used by its regulars.

Regarding the scenario evaluated as Bad, it is observed in Figure 2 that 34.8% of the interviewed men and women consider the “Availability of parking places” Bad. The negative evaluation is an aspect that can significantly influence the visitors to stop going to the *Parque do Povo*, because as shown in Table 2, 56.45% of the women and 47.37% of the men go to the park by car.

These results indicate that the approach to nature and the easiness of access are not the only aspects that attract and influence the interviewees to visit the *Parque do Povo*, but also the peculiar characteristics of this place, such as the operating conditions, maintenance and equipment, as well as the facilities offered to the regulars, as observed by Costa (2012). The park also has guards who work during the opening hours, which is perceived as a security measure that characterizes the park as a peaceful place.

Santos et al. (2016a) also point out that the *Parque do Povo* has an excellent sports infrastructure and infer that the park was conceived to the public who seeks for physical activities, such as soccer, fitness, CrossFit, jogging and hiking, yoga, massage, martial arts, among other practices. The park is also visited by adults accompanied by children who use the playgrounds and also the elderly who use the gym for the old age. The authors also observed the presence of visitors accompanied by animals and the use of the more shaded spaces to picnic and rest.

According to Santos et al. (2016b), in the whole *Parque do Povo* there are information boards identifying plant species, equipment and infrastructure (trails, restrooms, drinking fountains, sports courts, administration, among others), as well as information on the norms of each sector of the park. The authors mention that there are no food selling points, public telephones or parking place, thus explaining the interviewees’ perceptions (34.8%) regarding the availability of parking places as a Bad aspect of the park (Table 2).

The analysis of the results attests the fact that the interviewees positively interact, use and perceive the *Parque do Povo*. Because they pointed out a negative aspect confirms that these individuals perceive the park based on their own experiences and interactions established with it and not in fantasy and illusory aspects, as described by Régis (2016).





Perception and use of the park

When the regulars were asked “What is the *Parque do Povo* to you?”, a list of words was generated and we opted to compile only the following grammar classes: name (nom), adjective (adj), verb (ver), and adverb (adv). Table 3 shows the 20 words that were most frequent in the regulars’ discourses.

Table 3 – Most frequent words used to answer the question: “What is the *Parque do Povo* to you?”

WORD	INCIDENCE	PART OF SPEECH
park	96	nom
very	58	adv
good	53	adv
good	49	adj
find	46	ver
not	37	adv
to attend	25	ver
place	24	nom
on here	24	adv
area	21	nom
more	20	adv
pretty	18	adj
to see	17	ver
enough	17	adv
green	15	adj
people	14	nom
be	14	ver
kid	14	nom
taste	13	nom
access	13	nom

Source: Prepared by the authors.

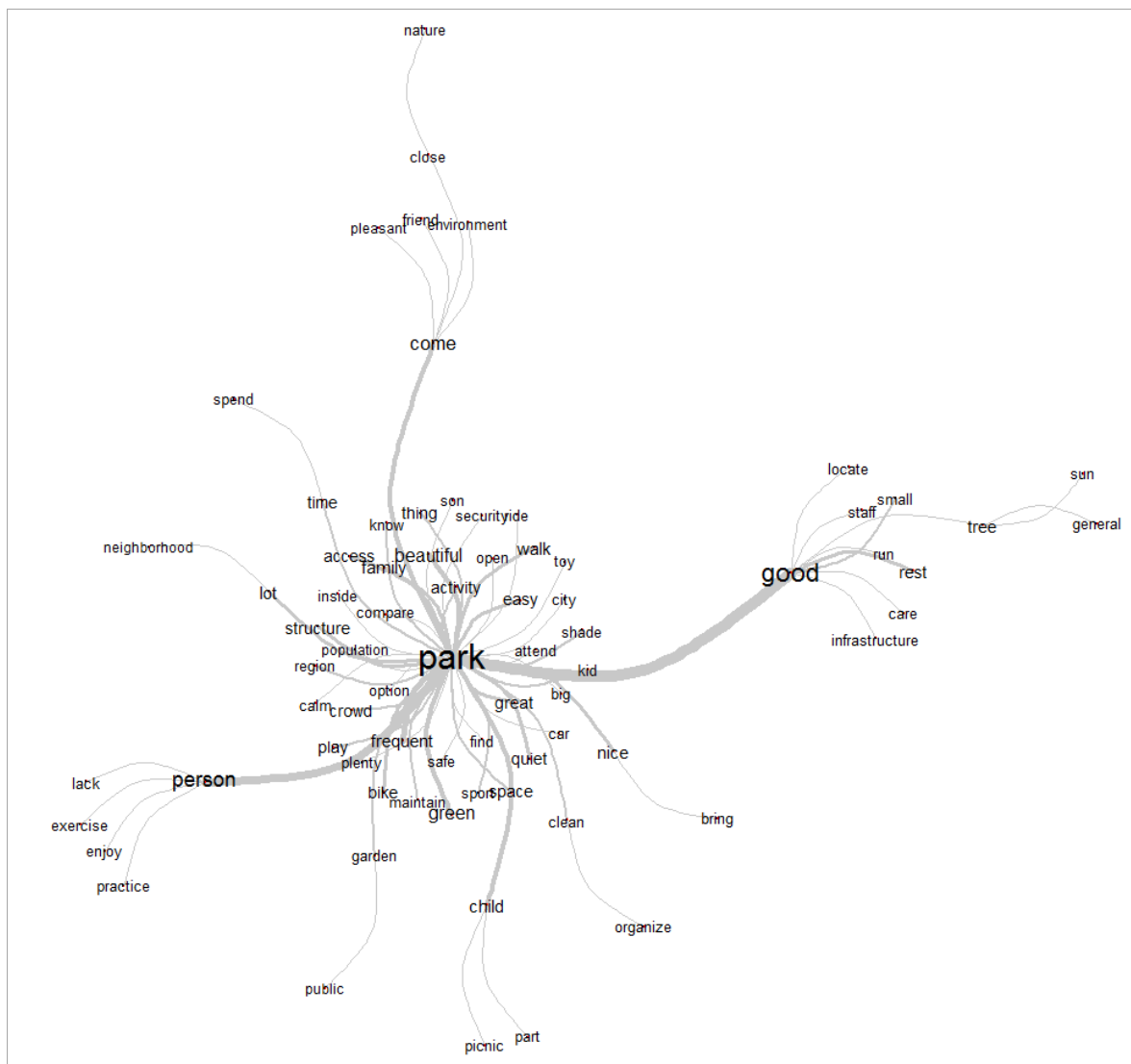
It is observed in the similarity analysis flow chart (Figure 3) that the word “park” is the most cited by the regulars, which is connected to the words “nice”, “organized”, “beautiful”, “peaceful”, “safe”. In this sense, it is possible to infer that the regulars associate the park with something excellent, and for this reason would recommend it. The word “very” is associated with the words “good”, “not”, “full”, “peaceful” and “small”. In the regulars’ general discourse, the park is seen as a good and peaceful park, not very crowded and small when compared to other parks of São Paulo City: “*Excellent, very good.*”; “*In my understanding, it is a well-located park, with well-cared gardens, also a well-cared trail, visited by families, so, very good, I like it a lot.*”; “*It is a peaceful place, beautiful, it is not so crowded, that’s it.*”; “*To me it is of easy access, once I live*





less than a km far from here, I think it is well maintained, well visited, not so crowded; then, I like it very much.”; “It is relatively small when compared to other parks, and good proximity with a large circulation area.”.

Figure 3 – Flow chart of the similarity analysis of the Mario Pimenta de Camargo Municipal Park (*Parque do Povo*) regulars’ environment perception.



Source: Prepared by the authors.

The word “well” is strongly linked to the words “structured”, “agreeable”, “well cared” and “maintain”. We understand that the regulars consider the park structured and well maintained:



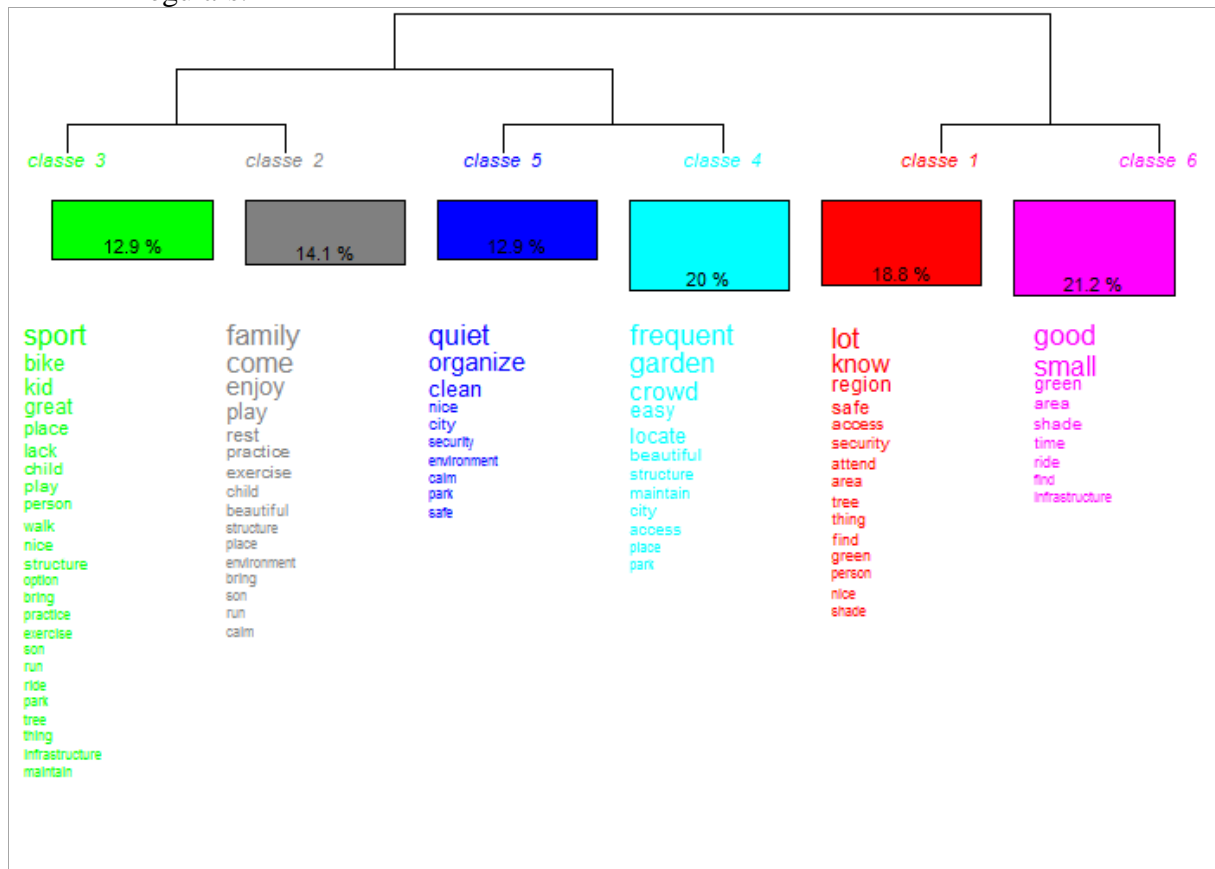
“Excellent and agreeable view, nice, educated people, very good level. Well-cared benches, toys, trees, leaves, grass, good for animals.”; “The Parque do Povo is well structured, well distributed, is... It has a place for walking, for biking, for picnic, for children, but I think it a little poor in the sense of more trees, more vegetation, but in general it is good.”; “It is a well maintained park, good green areas, there is an area for walking, and... I think it is a good park, a good park”.

Another much cited word by the regulars is the verb “think”, which can be used to judge or give an opinion. In the regulars’ discourse, it was mainly used to express the improvements that can be done in the park: *“The Parque do Povo is an agreeable place, very safe, but I think it should have more shaded areas so that people can rest, and I think that it lacks some... someplace where you could eat, a snack bar, but not... itinerant, something permanent so that you could go there and buy food.”; “Look, I consider it a good place, because I live nearby; I think it is a nice park, but it should have more trees, shouldn’t it?, but I like it and I think it is important for this region here.”; “The Parque do Povo functions well, we use the court structures a lot and I think that it should be more directed to sports practice for children.”.*

The software furnished five classes that contain the words that obtained the highest percentage regarding mean frequency between them and different among them (Figure 4). In Class 1, the importance of the park to regulars that practice physical activities was explicit, reporting the area as adequate for the practice of physical exercises. Classes 2 and 3 were related to the sensations and characteristics awakened in the regulars who visit the *Parque do Povo*. The opinions on the accessibility that the park warrants to the regulars were expressed in Class 4, and Class 5 expressed the interviewees’ evaluation on the general infrastructure.



Figure 4 – Dendrogram of the environment perception classes referring to the *Parque do Povo* regulars.



Source: Prepared by the authors.

The analysis carried out from the class dendrogram made the preparation of Chart 2 possible, in which the presented data were supported both by the qualitative discourse by means of personal interpretation and by the literature, as carried out by Souza et al. (2018).

Chart 2 – Interpretation of the class dendrogram supplied by the IRAMUTEQ software

Classes	Higher frequency words	Interpretation	Interviewees' speech
Class 1	Physical, Activity, Exercise	Physical activity	"... has appropriate areas for each activity and can do different things, sports, gymnastics, exercise."
			"One of the best places to practice physical activity, I always go because it is not crowded with Ibirá."
			"... you come practically all day here and do your physical activities, meet your friends, it's a pleasant moment and it's good for your health."



Class 2	Calm, Full, Very	Frequency	“It's a clean park, well frequented, not too crowded, that's why I come in it.”
			“One of the parks that I prefer in São Paulo is very quiet, not too crowded.”
			“It's a very good park to come, it's... very beautiful and not crowded, you can enjoy and rest.”
Class 3	Nice, Shadow, Safety	Environment	“... I find him very nice, he is nice, he is handsome, well attended, security is good, I am quiet here.”
			“It's an open park, it's .. well paved, with little shade, but plenty of room for walking.”
			“... it's a nice place, very safe, but I think there are more areas of shade so people can rest ...”
Class 4	Green, Close, Option	Accessibility	“... and I think it's an option for those who are looking for a green area in a very urban area.”
			“... I think it's an option, besides being close to where we are, it's ... it's close, it's a cool place to come ...”
Class 5	Also, Good, Infrastructure	Infrastructure	“Very good for walking, has infrastructure, green area well located.”
			“... the infrastructure is very good with regard to the bathrooms ...”
			“... it is a park that has enough infrastructure for children ...”

Source: Prepared by the authors.

It is observed that the interviewees, when asked about how they would describe the *Parque do Povo* to a person who has never visited it, they attributed qualities to it, characterizing it as “agreeable”, “safe”, “nice”, “clean”, “peaceful”, “familiar” and “organized”, according to Figure 5. No adjectives were identified that would qualify it negatively. Chiesura (2004) carried out a study in a park in Holland and attested that men report positive sentiments when asked about their experiences with urban nature. Such experiences are similar to those of the *Parque do Povo*, because of the high proportion of positive answers informed by the interviewees of this research.



Figure 5 – Word cloud of the most used adjectives by the *Parque do Povo* regulars



Source: Prepared by the authors.

The regulars' use and perception of urban parks and other green areas are rarely collected and analyzed with the aim of improving planning and management of public spaces. These results are similar to those of Mak and Jim (2019), whose results allowed the formulation of an unabridged, socially relevant and sensitive strategy, adapting the parks to the demands for leisure of those who really use these spaces. It is suggested the construction of social indicators that evaluate the uses of urban green areas and estimate uses such as the cultivation of community gardens.

Final considerations

The environment perception data showed that the interviewees are satisfied with the infrastructure and facilities offered by the *Parque do Povo*, with focus on the role and benefits of this green area to the city and the society. During the visits to the park, the good preservation of all sectors of the park and the presence of guards were observed, which inspires tranquility, safety and the contact of regulars with nature. The sole negative aspect identified during the survey was the availability of parking places, once the park does not provide such service and the majority of the regulars use the car as a means of transport to access it.

It is important to highlight some scenarios that the interviewees pointed out regarding the necessity of improvements, such as parking places, once many regulars use their car as a means of



transport to visit the park, reporting the difficulty of parking. Another aspect mentioned by the regulars was the green area that, despite the floral diversity of native, exotic, fruit species and noble woods, the density of tree species is low, making the space an open, poorly shaded area.

It is concluded that the *Parque do Povo* regulars perceive and use it in a satisfactory manner and therefore this place has complied with the expectations regarding leisure. It is suggested that the public administration should offer maintenance for the conservation of these spaces in the cities, once the benefits to the population health are related to the quality and quantity of parks available in the cities. The importance of considering and applying information on the regulars' perception and preferences is pointed out in order to improve the urban parks.

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