

Infection Risk Self-Perception and the use of Central Squares in Santa Maria City during the Omicron Variant period of dissemination.

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SUMMARY

The present research investigated the effects of the Covid-19 pandemic, during the period of dissemination of the Ômicron strain (12/09/21 to 04/01/22), in relation to the use of public spaces. The object of study was the public squares: Saldanha Marinho, João Pedro Menna Barreto and Praça General Osório, all in the central region of Santa Maria - RS. The research used an online questionnaire, divided into four sections that presented questions about the following items: ways of using the squares, characterization of users, uses and frequency and perceptions regarding the environment. As a result, an overview of public squares use and the perceptions of its users during the researched period of the pandemic is presented. The information collected may help researchers, urban planners, and public managers to understand how the population used plazas and which factors significantly interfered with their routines during the pandemic, thus being able to better prepare for future situations similar to those experienced during the Covid-19 pandemic.

KEYWORDS: Public Squares. Risk perception. Covid-19.

1. INTRODUCTION

The city provides its users with a series of social functions, such as mobility between home and work or leisure space. Cities are in continuous growth, and, in 2015, 84.72% of the Brazilian population already was living in urban areas (IBGE 2015).

According to Alves *et al.* (2019), during the period between 1950 and 1960, the exodus from rural areas was responsible for 17.4% of urban growth in Brazil, which led to the overcrowding of urban centers.

To provide equal access to leisure and recreational activities for all citizens, the need for public open spaces increases with population. Those spaces are characterized for its free access and being maintained by the city.

Brazilian cities offer few options of good quality public spaces for leisure and recreation, with the main option being public squares. Leitão (2002) points the importance of such places for the socialization of local residents, providing a place for day-to-day relaxation, stress relief and psychological health of its users, providing a fundamental part in social and urban development.

Different authors adopt different plaza definitions. Lamas (2004, p. 102) define a plaza as a “*place of intentional meet, permanence, happenings, social practice of community and urban life manifestation*”. As Rocha (2003, p.122) defines it as “*place of gathering, passage, informal commerce, speech, religious preaching, the beggar and the homeless*”.

The plaza, as defined by Saldanha (1993), is an open environment with the presence of nature, becoming a local of great importance that stores personal, collective and political histories of the population.

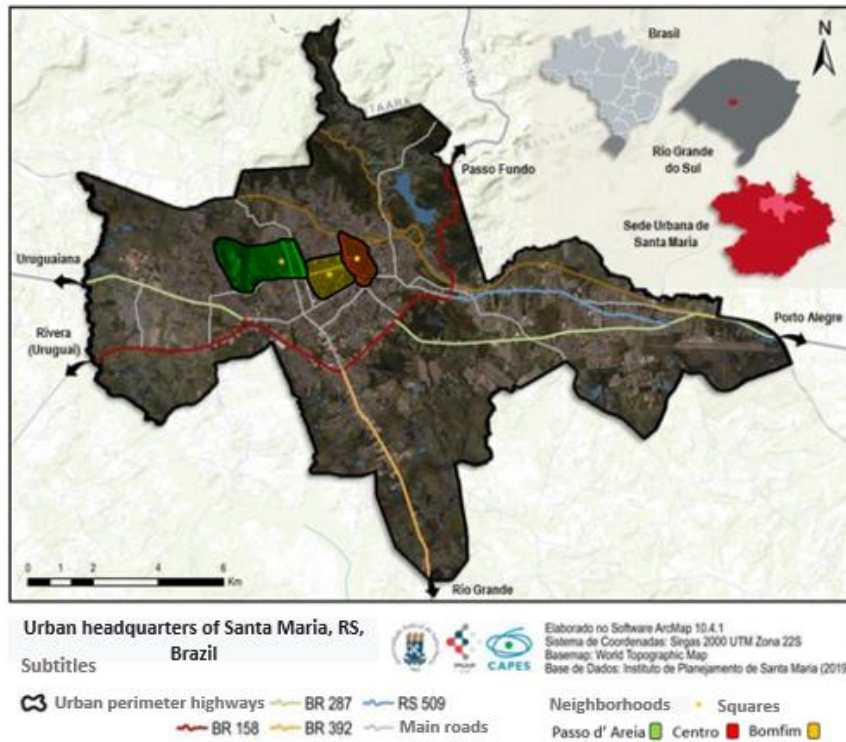
The environment of the plaza is characterized by an public, open space without buildings and destined for public use, leisure and recreation, generating social interaction (VIERO; BARBOSA FILHO, 2009).

Other works define public squares as unrestricted spaces used for physical activities and leisure, often having greenery and enabling social interaction (BARROS; VIRGILIO, 2010; LOBODA; DE ANGELIS, 2004; DORIGO; LAMANO-FERREIRA, 2015).

Public space importance for public health and social life was made evident by the COVID-19 pandemic, which calls for a deeper look into the demand and use of open public space.

This study focused on three public plazas of Santa Maria City, a city with 41 neighborhoods along 8 administrative zones, it is a medium size city in the central area of Rio Grande do Sul State with 285,159 habitants (IBGE, 2021). The selected plazas for this study are Plaza Saldanha Marinho, in the city center, Plaza João Pedro Menna Barreto, in the Bonfim neighbourhood, and Plaza General Osório in the Passo d' Areia neighborhood (Fig. 1).

Figure 1: Location of Santa Maria City and the selected public squares.



Source: Cocco 2012, adapted by the authors 2022.

2. OBJECTIVES

Identity, through a questionnaire, the usage patterns, activities, frequency, perception and perceived importance of public squares for users during a pandemic period.

3. METHODOLOGY

The questionnaire was applied through Google Forms between December 09, 2021 and January 7, 2022. It was composed by 16 close-ended questions and divided in four parts: plaza usage (seven questions); user demographics (four questions); uses and frequencies (three questions); and environment perception (two questions). Estimated response time was 5 minutes.

The questions were structured from a model questionnaire made available by the group QUAPA-SEL Santa Maria. The study is exploratory and not representative of the whole city

population, having no statistical validity. The sample was made by convenience and 219 responses were collected.

The questionnaire was distributed in a virtual format, through social networks, institutional e-mails, and through the mailing list of the Architectural undergraduate and graduate courses of Santa Maria University (UFSM).

Questions assemblage considered the language, aiming easy comprehension and understanding as well as reducing possible questions or discomforts that the questions may cause.

Questions in the plaza usage section aimed to identify factors that led the population to use plazas, plaza selection, mask usage, social distancing and to identify the most used spaces.

Users' demographics focused in age, sex and neighborhood of residence.

The section related to uses and frequencies aimed to identify usage frequency, times of day, stay time, group settings and developed activities.

The environment perception section inquired about environmental risk and plaza importance for the pandemic period.

4. RESULTS

The results are presented below.

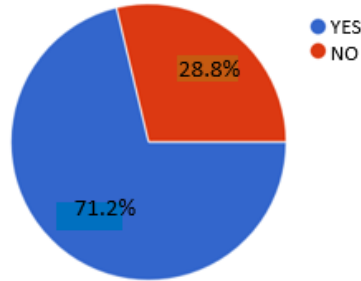
4.1. Public Square attendance

There were 219 respondents, from which 71.2% (156) said that they visited at least one public square during the surveyed period, between December 2021 and July 2022 (Figure 2).

The other questions had 156 participants in total, corresponding to those respondents that visited public squares during the investigated period.

Figure 2: Participants public square attendance.

Did you go to any square from December 2021 to July 2022? 219 Answers.

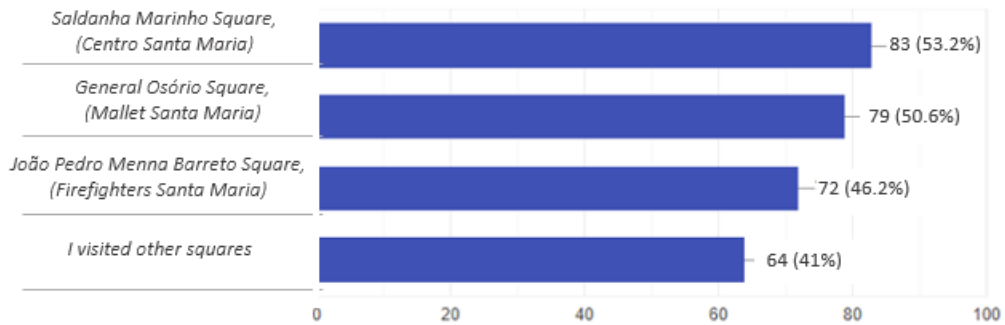


Source: the authors 2022.

Between the squares visited by respondents, Saldanha Marinho square was the most visited (53.2%), followed by General Osório (Mallet) square with 50.6%, João Pedro Menna Barreto (Bombeiros) square with 46.2%, e others with 41%. In this question, respondents who visited more than one square could select all relevant options, which is why the total exceeds 100% (Figure 3).

Figure 3: Most visited squares.

Did you use any of the squares mentioned below in any way? (You can mark more than one option, if necessary). 156 Answers.



Source: the authors 2022.

The most relevant factors that led participants to visit public squares were the expansion of vaccination (60.3%), the decrease in the contamination rate of Covid-19 (55.1%), and the presence of greenery and recreational areas (50.6%) (Figure 4).

Figure 4: Public square attendance factors.

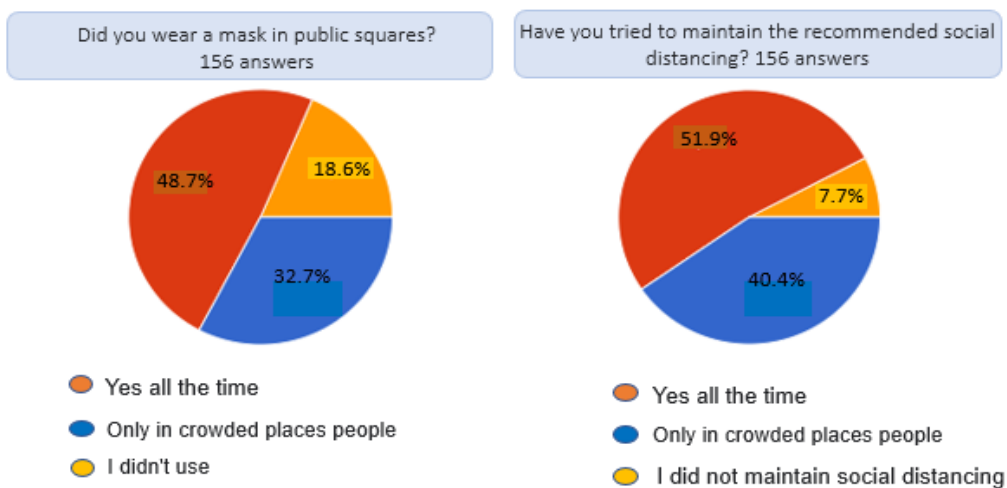


Source: the authors 2022.

Regarding mask usage, an active public health measure at the time of the survey, 32.7% of respondents said to have uses masks at all times, 48.7% said to use mask only in crowded places or situations and 18.6% opted for not using mask at any moment (Figure 5).

Regarding social distancing, 40.4% of respondents kept social distancing at all time when visiting squares, 51.9% said to keep social distance only when crowded, and 7.7% did not kept social distancing at all (Figure 5).

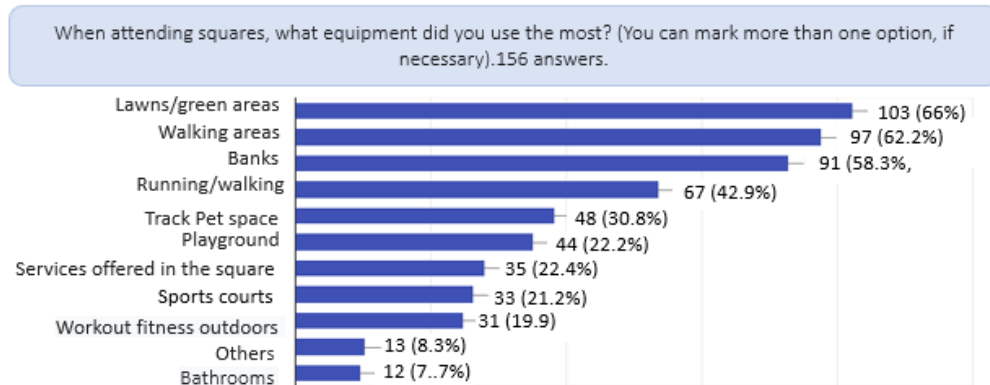
Figure 5: Mask use and social distancing.



Source: the authors 2022.

The most frequently cited areas used inside public squares were lawns, walking areas benches, walking paths, playgrounds and pet places (Figure 6).

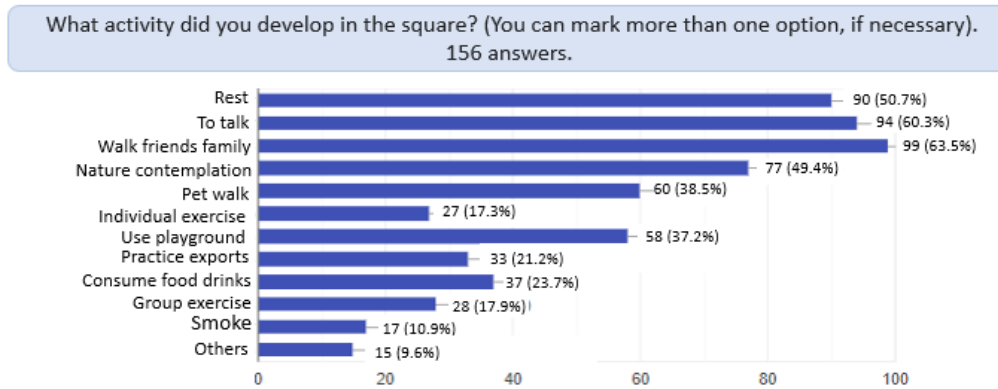
Figure 6: Public Square spaces attendance.



Source: the authors 2022.

The most frequent activities cited were walk with friends and family, talk and rest, followed by nature contemplation, walk pets and several different exercises (Figure 7).

Figura 7: Activities frequently developed.

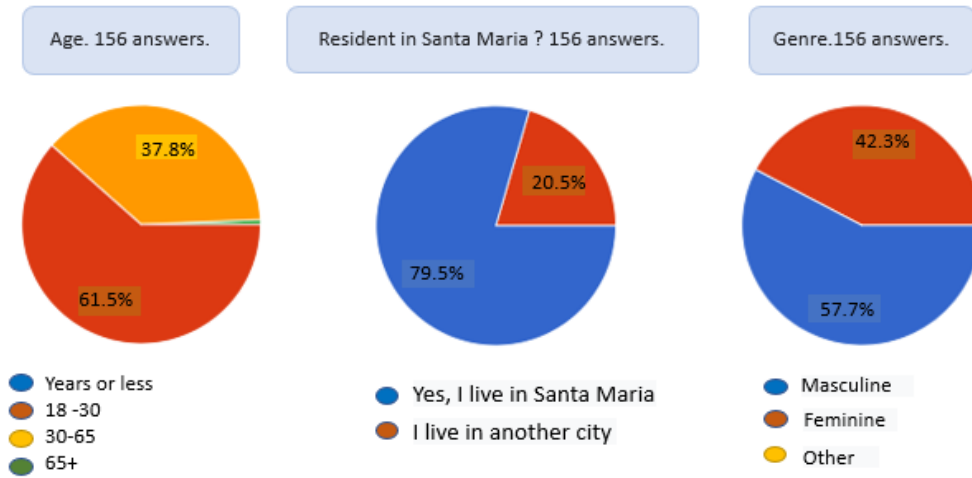


Source: the authors 2022.

4.2. Users Profile

Amongst the respondents, the majority were Santa Maria City residents (79.2%), with age varying between eighteen and thirty years (61.5%) and predominantly male (57.7%) (Figure 8).

Figure 8: Users Profile.



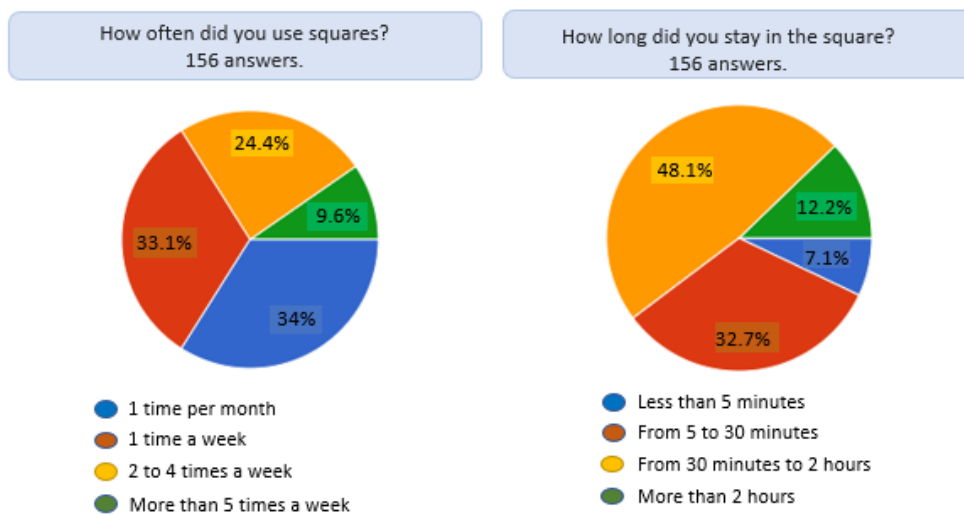
Source: the authors 2022.

4.3. Use Frequency

Regarding the frequency users' access public spaces, 34% of respondents said to use it up to once a month, while 32.1% said once a week, 24.4% use it between two and four times a week and 9.6% use it more than 5 times a week (Figure 9).

The average stay duration time inside the square was, between 30 and 120 minutes for 48.1%, and between 5 and 30min for 32.7% (Figure 9).

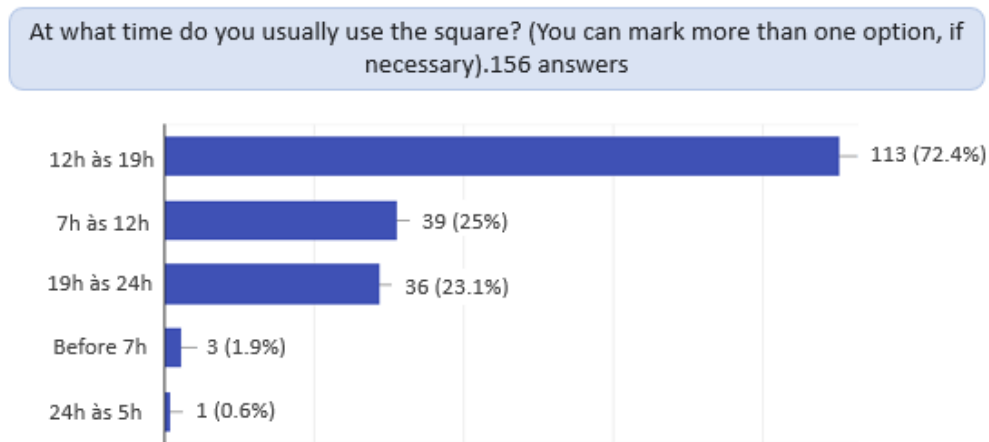
Figure 9: Use frequency and Average stay duration.



Source: the authors 2022.

The most frequent period of public square visitation was before 7am between noon and 19:00 (72.4%), followed by 7:00 to noon (25%), and between 19:00 and 24:00hs with 23.1% (Figure 10).

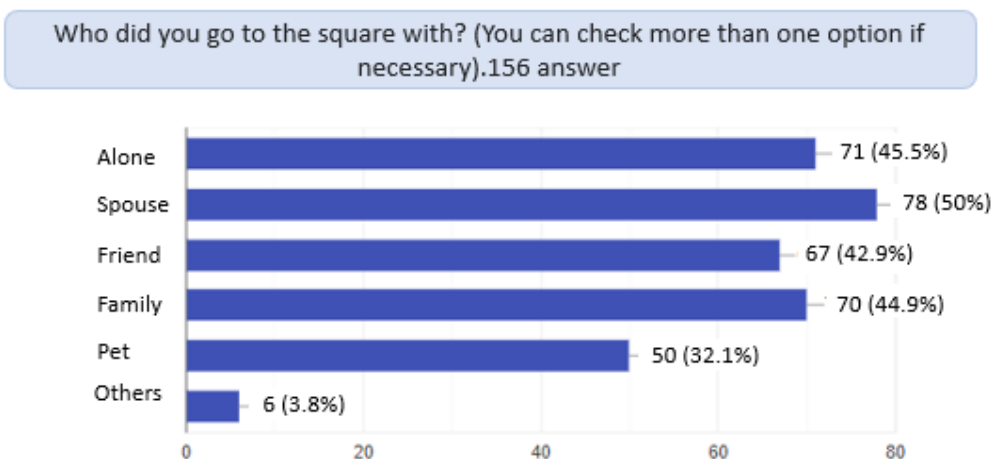
Figura 10: Public square visitation hours.



Source: the authors 2022.

At last, most users visited public squares accompanied by spouses (50%), alone (45,5%), with family (44,9%), friends (42,9%), pets (32,1%) or others (3,6%) (Figure 11).

Figura 11: Public square visitation company.



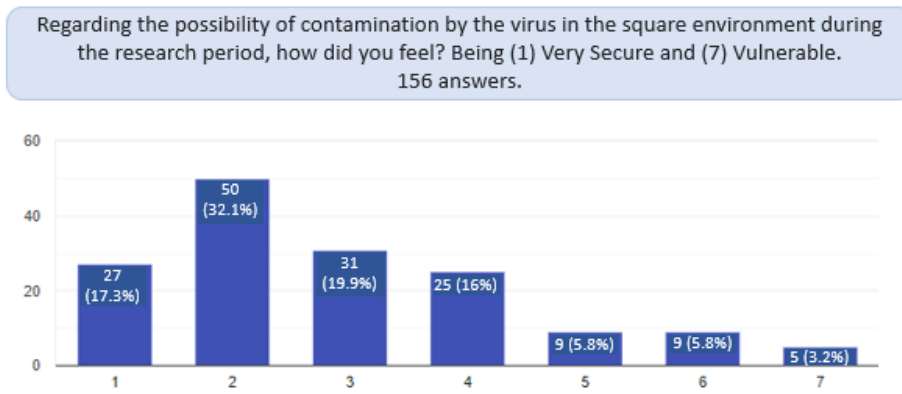
Source: the authors 2022.

4.4. Environment Perception

Users’ perceptions of the environment were measured through two questions using a 7-point likert scale. The first question inquired about users’ opinion regarding the safety provided by the public square environment in relation to contamination by Covid-19. The scale was coded as ‘Very Safe’ (1) to ‘Vulnerable’ (7) (Figure 12).

To 49.4% of respondents the square was either very safe or safe, while only 9% said it to be vulnerable or very vulnerable (Figure 12).

Figure 12: Public square safety regarding contamination by the Covid-19 virus

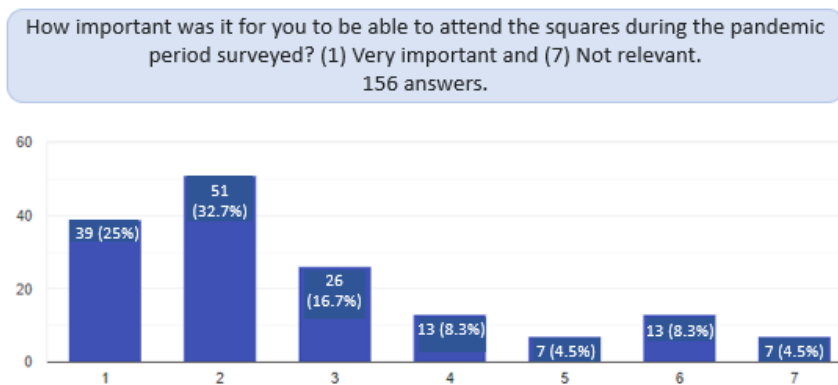


Source: the authors 2022.

The second question inquired about the importance of a public square for users in pandemic times, going from ‘Very important’ (1) to ‘Irrelevant’ (7) (Figure 13).

Most (57.7%) of respondents considered it to be Very important (25%) or important (32.7%), while 12.8% found it to be Irrelevant (8.3%) or Very Irrelevant (4.3%) (Figure 13).

Figure 12: The importance of public squares during the pandemic.



Source: the authors 2022.

5. CONCLUSION

The pandemic significantly affected mobility, public space availability and social gathering spaces throughout the city.

Public squares became a sought place for dwellers in social isolation as it provided a place that allowed social interactions and afforded the practice of several different activities. The different administrative spheres of cities enforced a series of measures that aimed to control the spread of the virus, such as public space adaptation through ground markings to avoid crowding, spatial configuration adaptations, the establishment of usage hours, as well as behavioral and public health recommendations such as mask usage and social distancing.

This research presents how public space was used in the city of Santa Maria, RS, during the dissemination period of the Omicron Variant.

The space of the public square was a necessary place of escape and relaxation, defined by its social role and the affordance for several activities. It was perceived as a place of great importance and relative safety for day-to-day use if maintained the health recommendations.

Most respondents reported mask use and keeping social distancing, specially in crowded situations.

Amongst the factors that induced public square utilization, the gradual increase in vaccination, the diminishing number of infection and the burnout felt by the prolonged social isolation were the most cited along the yearning for green open spaces.

The above-mentioned factors led to a perception of lowered risk of infection, which increased the demand for open public spaces and induced the relaxation of preventive measures and behavior such as mask use and social distancing. That said, the research was conducted at a time of increase contagion due to the appearance of the Omicron Variant, showing that self-perception of risk may not be aligned to real contagion risk, especially in situations of burnout caused by prolonged social isolation. City managers should consider the provision and maintenance of open public spaces that induce and reinforce mask use and social distancing behavior.

This study presents an exploratory analysis and is restricted to a single city in Rio Grande do Sul State and, as so, cannot be generalized. Further studies that investigate and quantify risk perception and users' behavior in similar situations are necessary for a more broad or definitive conclusion.

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