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Investigating the Mental Health Burden of the COVID-19 Pandemic in Two Populations from Different Socioeconomic Levels in São Paulo, Brazil: A Qualitative Analysis

Sergio Gresse Junior[1,2]*, Carolina Diana Rossi[1], Alexandre Pereira Santos[2,3], Juan Miguel Rodriguez Lopez[2], Katharina Heider[2], Sabine Wöhlke[1]

[1] Hamburg University of Applied Sciences, Hamburg, Germany; [2] University of Hamburg, Hamburg, Germany; [3] Ludwig Maximilian University of Munich, Munich, Germany.

Abstract

Background: *Brazil ranks among the top 10 countries regarding coronavirus disease (COVID-19) infections and deaths, and São Paulo is recognized as a super-spreader city with 85% of transmissions nationwide. The burden of the pandemic in Brazil had a strong territorial influence and was higher in the most vulnerable populations. This study investigated the impact of the pandemic on the mental health of two populations from regions with different socioeconomic levels in São Paulo, Brazil.*

Methods: *A qualitative social-empirical approach was adopted through two focus groups: Group SP1 (upper-middle socioeconomic status) and Group SP2 (low socioeconomic status). The material was analyzed using a thematic analysis.*

Results: *The COVID-19 pandemic profoundly affected the mental health of all participants. Both groups reported heightened levels of fear, anger, anxiety, and stress. However, notable differences were observed. While reports from Group SP1 often linked these emotions to feelings of isolation, loneliness, relationship difficulties, and challenges with work or education, reports from Group SP2 primarily cited concerns about restrictive measures, including their effects on employment, working conditions, and income. On the other hand, it also presented an opportunity for individuals in group SP1 to report improvements in their well-being.*

Conclusion: *Territorial and socioeconomic factors significantly shaped the COVID-19 pandemic's impact on the mental well-being of São Paulo residents. We encourage community-level investigations to inform local policies that address specific unmet needs within the community.*

Introduction

COVID-19 provoked the largest pandemic since the Spanish Influenza in 1918, being caused by SARS-Cov-2, a new coronavirus (Neiva et al., 2020). Brazil is ranked sixth globally in terms of the total number of COVID-19 confirmed cases and second in terms of the number of deaths, with more than 700.000 cases as of October 2024 (World Health Organization [WHO], 2024). The COVID-19 pandemic has severely impacted the country, with major losses in healthcare, socio-economic aspects, work, and education, fueled by high social connectivity, intense vulnerability, a turbulent political situation, and a lack of federal and regional coordinated responses (Barberia et al., 2021; Santos et al., 2024).

Besides its direct impacts on physical health, the COVID-19 pandemic induced major consequences from official mitigating measures attempting to control the spread of the virus and to avoid major disruption of healthcare services (WHO, 2021). As a consequence of restrictive measures, people were mostly affected by work, social activities, education, and finances, which led to high pressure on mental health. According to the WHO, the prevalence of anxiety and depression induced by the pandemic has increased by 25% globally due to the disruption of several programs and services linked to the primary

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care of patients related to mental health, such as suicide prevention and neuropsychiatric care (WHO, 2022). From a life perspective, the pandemic has led to the worst economic setback since the Great Depression of 1929 (Gopinath, 2020), further exacerbating pre-existing socio-economic inequalities (Adams-Prassl et al., 2020) and imposing an effective shift in working conditions. There were also considerable educational setbacks regarding the challenges of remote learning (e.g., infrastructure, access to the Internet, and home conditions). The risk of school dropout drastically increases, and the performance and learning rate reduce dramatically compared to the equivalent in-person model (Lichand et al., 2022). Restrictive measures also forced people to spend their free time at home and to be deprived of social interaction. According to the literature, confinement-shaped routines, especially among younger populations (Lazcano et al., 2022), lead to higher time spent on virtual activities and favor a scenario of insufficient levels of physical activity, which impacts self-esteem and stress (Cheval et al., 2021).

Brazil's social structure and characteristics modulate the course of the pandemic in the country, and the consequences of the crisis have particularly affected the most vulnerable regions and populations (Bermudi et al., 2021; Li et al., 2021). As the most populous and with a remarkable level of people movement, the city of São Paulo was considered a "superspreader city" in the country, being responsible for 85% of the national transmissions at the beginning of the pandemic, according to epidemiological tracking (Nicolelis et al., 2021). In addition to its remarkable macroeconomic characteristics, São Paulo is a highly unequal city (Segatto et al., 2021). Therefore, the burden of the pandemic in the metropolitan region of São Paulo was also significantly unevenly distributed (Ferreira, 2020; Li et al., 2021; Santos et al., 2022). The high incidence of COVID-19 in the city, combined with major low coping capacity from a large share of the population, undermined physical self-isolation and the availability of healthcare facilities and resources, such as hospitals, vaccines, and tests, and contributed to unequal rates of infections and deaths due to COVID-19 according to the city area (Travassos et al., 2020).

In this context, this study explores the impact of the COVID-19 pandemic on mental health and life perspectives in different populations. The hypothesis was that populations with lower socioeconomic levels have different overall mental health impacts and well-being conditions than those with higher socioeconomic levels. To test this uneven effect, we conducted the research in two regions of São Paulo with contrasting socio-economic levels: (1) the expanded center, with upper-middle level (e.g., Human Development Index [HDI] in 2010 between 0.869 – 0.942) and (2) Vila Benfica, with low level (e.g., HDI of 0.681) (Atlas Brasil, 2013).

Materials and Methods

Study Design

This is a qualitative, social-empirical analysis that uses semi-deductive methods. We obtained data from two focus groups held on March 13 and 15, 2022, in Vila Benfica and São Paulo city center, respectively, as part of the COVIDGI project (University of Hamburg, 2022). We recorded the audio, transcribed it, and translated it from Portuguese to English. The Braun and Clarke guidelines, as part of the APA - American Psychological Association Handbook (Braun & Clarke, 2012), guided the thematic analysis of the dataset in the context of its impacts on mental health and life perspectives. The full transcripts of the records are available electronically.

Recruitment Strategy: SP1 and SP2 groups

Local stakeholders were interviewed to assess local needs in the first stage of the recruitment process. The second step was to analyze the COVID-19 risk at the district level through behavioral mapping and population risk on a metropolitan scale. Based on the risk analysis results, we chose two different regions with contrasting realities for sample recruitment. The first area (SP1) presented lower vulnerability, a higher level of infrastructure, and socioeconomic profile within the expanded center of São Paulo. The second area (SP2) was the Vila Benfica community in Guaianases. It presented higher vulnerability, including informal settlements with multiple needs and lower socioeconomic status.

We sampled two balanced groups regarding gender, contacting a similar rate of adult women and men, and with similar socioeconomic characteristics according to the participants' sub-districts of residence. Participants were contacted via phone [group SP1] and local partners (e.g., the Teto Brasil NGO and local community leaders) [group SP2]. The types of contact were not standardized due to the different levels of access to both populations, as our contact with participants from group SP2 was mediated by the NGO TETO Brasil and the local community leaders.

As a preliminary setup for the focus groups, we individually interviewed a subset of participants about changes in their mental and physical health, mobility, and life events before the pandemic

Metrics	SP - Group 1	SP – Group 2	São Paulo
Region	Expanded Center	East	-
District	República	Guaianases	-
Participant's Subdistrict(s)	Sé, Lapa, Mooca, Pinheiros, V. Mariana	Vila Benfica	-
Total Population	372.238	110.361	11.451.999
Average Income per capita	USD 189.90 – USD 836.87	USD 107.57	USD 235.11
Average Salary Offer	USD 822.91	USD 512.81	USD 960.49
Formal job offers rate / 10 hab.	22	0.99	4.8
HDI	0.869 - 0.942	0.681	0.842
Life Expectancy	68.2	60.7	68
% Students in Public Schools	73.80%	49.30%	67.10%
% Informal Settlements	0.00%	2.90%	9.40%
Access to Public Transport (% Pop.)	88%	6.90%	18.10%
Infant Mortality / 100.000 live births	6.4	16.4	11.2

Characteristics of Regions SP1 and SP2. Region, district, subdistrict(s), population (IBGE, 2024), average salary offer, formal job offers rate per 10 inhabitants, life expectancy, percentage of students in public schools, percentage of informal settlements, percentage of population with access to public transport, and infant mortality per 100.000 live births (Mapa da Desigualdade, 2020), average income per capita (Fundação Seade, 2021), HDI (Atlas Brasil, 2013). [USD 1.00 = BRL 5.7514; Exchange Rate on 22 September 2024].

Table 1: *Group characteristics.*

between 2018 and 2021 (Mobility and Health Biography Grid; see Appendix 1). The interviews provided background information and shaped the guiding questions of the focus groups. This study was conducted in accordance with the guidelines for safeguarding good research practices and avoiding scientific misconduct from the University of Hamburg, the Code of Conduct from the Deutsche Forschungsgemeinschaft e. V., and the resolutions 466/2012 and 510/2016 from the Ethics in Research Commission of the Federal University of Rio Grande do Sul (CEP/UFRGS), which approved the project on January 27, 2022. The process is available under Plataforma Brazil (CAAE 54068521.0.0000.5347). Before enrollment, we informed the participants about the study's purpose, risks, and benefits and gathered their written consent (see Appendix 2).

Focus Groups Guidelines

In-person focus groups primarily aimed to collect information regarding the effects of the COVID-19 pandemic, particularly on mobility patterns and behavior. Nevertheless, reports about the effects of the pandemic on mental health were extremely frequent and, therefore, qualitatively analyzed in the present study. The conversations adhered to semi-structured open-ended interviews directed by the project's overarching research inquiries and preliminary interviews.

We defined this approach to maintain the richness of each participant's testimonial and to allow participants to interact and generate ideas in a non-controlled setting. The questions were structured into three main parts: 1) introduction, presenting the project, and asking the participants about general aspects of the pandemic in their lives and mobility; 2) questions related to general behavior, when participants commented on their social activities; and 3) questions related to mobility habits, when mobility was contextualized to the participants' professional and educational contexts.

A professional mediator presented a colloquial version of the questions in Portuguese, interjecting and asking new questions to maintain a natural flow of discussions. The authors of this publication participated in two groups, where 10 participants voluntarily attended each focus group. The final focus group questionnaire is presented in Appendix 3.

Data Collection and Analysis

We recorded the full sessions and later orthographically transcribed them in Portuguese using Microsoft Word (Microsoft 365-Version 2209), reproducing spoken words and sounds, including hesitations and cut-offs in speech. We then attributed nicknames to the participants to maintain confidentiality, and translated the transcripts into English.

Qualitative analysis of both datasets was performed using MAXQDA (VERBI Software, Version 2022) and followed the six main stages of Braun and Clarke's 2012 guidelines:

1. Becoming familiar with the data.
2. Generating codes.
3. Searching for themes linked to the research questions to create a thematic map.
4. Review potential themes related to the research questions.
5. Defining and naming themes related to the re-

Code	Themes	Themes Characteristics	Sub-Themes	Sub-Themes Characteristics
A - Mental Health	**A1 - Fear**	Reports of fear in general or specific situations. Words like “fear”, "panic", "agony", "desperate"	N/A	N/A
	A2 - Anxiety	Reports of the word “anxiety” or “anxious” in general or specific situations, including eating disorders	N/A	N/A
	A3 - Sleeping Problems	Reports of sleeping disorders	N/A	N/A
	A4 – Emotional and/or Psychological Distress	Reports of non-specific emotional and/or psychological distress (i.e.: reports of general psychological or emotional problems/impacts such as “it affected me psychologically”, "I was out of my mind", "it affected my head", agony, lack of motivation, compulsion, sadness/unhappiness, and crying spells) and use of or lack of psychological support	N/A	N/A
	A5 - Stress	Reports of stress episodes; capture of the words "stress" or "stressful" and synonyms like "tension", "pressure", "tensity"	N/A	N/A
	A6 – Anger	Capture of the words "angry", "angriness", "anger" and synonyms like "irritated", "irritability" and "rage"	N/A	N/A
	A7 - Psychological Support	Reports of psychological assistance or support	N/A	N/A
B - Life Perspectives	**B1 - Work**	Reports of impacts on work conditions: overall conditions (informality, home office, hybrid scheme) and employability (getting a new job, losing job, being promoted)	B1.1 - Work Conditions	Reports of general work conditions (informality, home office, hybrid scheme, pressure, poorer or improved working conditions)
			B1.2 - Employability	Reports of getting a new job, losing job, being promoted
	B2 - Education	Reports of impacts on education: positive impacts (i.e.: starting a new course), negative impacts (i.e.: absenteeism), problems/opportunities because of homeschooling	B2.1 - Educational Environment	Reports of challenges regarding pedagogic support, online environment of classes, social interaction among students
			B2.2 - Changes in Educational Status	Reports of important changes on educational status such as absenteeism, starting a new course
	B3 – Leisure/Social Life	Reports of impacts on leisure: positive or negative impacts on fitness/exercising, cultural activities (i.e.: books, films, TV, music), traveling, social activities, relationships, housing and general hobbies	B3.1 - Fitness/Exercising	Reports of impacts on fitness, physical activities and exercising
			B3.2 - Cultural Activities	Reports of impacts on cultural activities like books, entertainment (TV, movies, music), arts.
			B3.3 - Social Activities/Relationships	Reports of impacts on meetings, parties, physical contact with relatives, social relationships, social communities/social network (organizations, associations).
			B3.4 - Hobbies	Reports of impacts on general hobbies including traveling
	B4 - Financial Status	Reports of impacts on income and financial status: income, purchasing power and consumption	B4.1 - Income	Reports of impacts on income
			B4.2 - Purchase Power/Consuming	Reports of impacts on purchase power and/or overall impacts in finances, and consuming behavior

Table 2: *Thematic map - codes, themes and sub-themes.*

search questions.
6. Report production.

Codes were defined deductively in two categories: Code A, Mental Health and Code B, Life Perspectives, represented by impacts on work, education, social life, and financial status. We then produced a thematic map of the themes found in Table 2.

Using MAXQDA, one analyst performed two data analysis sessions ten days apart after the initial definitions of codes, themes, and subthemes to improve intracoder reliability and robustness. The same analyst performed a pilot analysis 15 days before the first official session to acclimatize the software and test the coding system. The results obtained from the second and final rounds of analysis are available electronically.

Results

Results of Impacts on Mental Health

The analysis showed significantly different scenarios between the two groups regarding the burden of the pandemic from mental health and life perspectives, represented by impacts on work, social and educational activities, and finances. Fear, anxiety, sleeping problems, emotional and/or psychological distress, stress, anger, and mental health support were defined and analyzed as sub-themes of mental health. The most frequent sub-theme related to mental health in both groups was fear, mostly related to fear of infection or death of themselves or relatives, and fear of being in crowded and/or enclosed spaces.

Reports of stress and anger related to education and work were captured by the group SP1. On the other hand, economic hardship was the most common trigger for mental health burden in Group SP2. In addition to the differences in mental health episodes, different realities between both groups concerning access to psychological support during the pandemic were also found. While participants in group SP1 frequently reported mental health support provided by their employers, educational institutions, or obtained privately, participants in group SP2 reported not having such support, even when they sought it. Tables 3 and 4 summarize the results.

Results of Impacts on Life Perspectives: Work, education, leisure/social life, and financial status

Regarding life perspectives, reports of mental health episodes were usually associated with loneliness, isolation, problems related to relationships or friendships, and stress or anxiety related to economic hardships affected by unemployment. Nevertheless, the differences in the burden of the pandemic regarding work, finances, and education among both populations were abysmal. Only participants from group SP1 reported an impact on education. Despite the challenges faced by students due to virtual activities, the pandemic was also an opportunity for this population.

Impact on social life emerged as the most common theme in both groups, while work was the least reported theme for SP1 and education for SP2. Financial concerns were particularly noteworthy in highlighting the unequal burden of the pandemic on these two populations. While all accounts from group SP1 focused on positive impacts or opportunities, all reports from the SP2 group conveyed negative impacts, usually connected to anxiety and stress episodes. Contradictorily, reports of higher satisfaction levels owing to the new virtual office, flexible work schemes, and increased productivity and job opportunities were captured in group SP1.

Furthermore, participants from group SP1 maintained their jobs and had the opportunity to decrease their overall expenses due to restrictive measures (e.g., eating at home) and to increase consumption (e.g., buying online). On the other hand, the same measures led the participants in group SP2 to face negative changes in work conditions (e.g., increased stress due to exposure), virtually no possibility of working from home, and unemployment due to restrictive measures. In addition, those temporarily employed in the health sector (e.g., campaign hospitals) reported a trade-off between unemployment and exposure to high-risk work.

The pandemic dramatically impacted the social interactions and relationships of participants from both groups. Routines were severely and suddenly altered when restrictions came into effect, with the resulting isolation or confinement leading to significant mental health pressures. Both groups frequently reported concerns about family members, relatives, and friends. Participants from group SP1 reported being able to temporarily leave São Paulo to be with their immediate families. At the same time, those in SP2 felt trapped in crowded houses with little potential for isolation (e.g., houses with a single dormitory for the entire family).

Additionally, participants from group SP1 also reported having more time and opportunities to interact with cultural activities (e.g., books or movies) and improve physical health (e.g., exercising at home), which may also positively contribute to their mental health. Changes in behavior after some period of implementation of restrictive measures were

Group SP1	Group SP2
A1. Fear	
I panicked a lot in closed environments, supermarkets, these things..."	"I had a panic crisis and everything, and I was alone"
"...when I'm in the subway, the bus, and it's crowded, I feel claustrophobic."	"I was afraid of my husband catching it (COVID) because he 'brings the food 'into the house'"
A2. Anxiety	
"It [the pandemic] gave me anxiety, it gave me a lot of anxiety"	"I had an anxiety crisis and gained weight, some extra fat and some less fat... I reached 110kg."
A3. Sleeping Problems	
-	"I couldn't sleep" "I used to sleep all day long"
A4. Emotional and/or Psychological Distress	
"…because during the pandemic the motivation was no longer there, I was at a point where I thought 'I'm going to quit college because there is no way, anyway.'"	"Yes, for various reasons, both because of Covid and because of the [economic] situation there, it was neither physically nor mentally pleasant and I was already a little disturbed in my mind."
"There were people crying in the meeting [at the university]."	"I had a very hard time."
A5. Stress	
"I felt a lot of stress from spending a lot of time in front of screens."	"I remember that I was feeling bad at the general hospital here in Guaianases, a doctor said that my problem was pressure and stress"
A6. Anger	
"I fought with a woman who was two meters away, she didn't want to get close, for several things."	"I got nervous [nervous as a report of anger when someone appeared with symptoms of COVID]"
A7. Psychological Support	
"Yes, she helped me have a conversation with the therapist as well."	-
"Just one last thing, we also had mental health support for our employees during this last period."	

Table 3: *Results summary code A - mental health.*

also observed as a probable sign of normalization and tiredness of isolation. Both populations also reported risky behavior in family reunions (e.g., during the end of the holidays) and after taking the first vaccine dose, potentially represented by increased confidence.

Discussion

This study is the first to qualitatively describe the effects of the COVID-19 pandemic on mental health and connect them to the impact of restrictive measures on the life perspectives of these specific populations from São Paulo. This provides a nuanced examination of how the COVID-19 pandemic has disproportionately affected the mental health of individuals across different socioeconomic strata, particularly within the context of two different populations from the city.

COVID-19 mortality rates were higher in the vulnerable populations in São Paulo. Previous outbreaks, such as Chikungunya, Dengue Fever, and Zika, have already highlighted socioeconomic health determinants in Brazil (Araújo et al., 2020; Carabali et al., 2021). Since early 2020, there has been a wealth of quantitative evidence examining the effects of the COVID-19 pandemic on mental health among the general population, corroborating these findings. Goularte et al. (2021) explored the prevalence of mental health issues during the pandemic in Brazil, revealing alarmingly high rates of symptoms: 81.9% reported anxiety, 68% reported depression, 64.5% reported anger, and 55.3% reported sleeping problems. In a cross-sectional study conducted by Barros et al. (2020), 45,161 participants from various regions of Brazil completed a questionnaire on their mental and physical well-being between April and May 2020. During this period, the number of official COVID-19 cases surged from 45,757 to 330,890, with reported deaths increasing from 2,906 to 21,048. According to these findings, 40% of respondents reported frequent feelings of depression or sadness, over 50% experienced anxiety, and 40% of individuals who had no sleeping issues before the pandemic reported insomnia afterward. In a regional analysis, Ida et al. (2024) performed a longitudinal study of 12-month post-COVID infection persistent symptoms, functional impact, indirect costs, and patients' quality of life in Fortaleza, Brazil. Their findings showed that 44% of the participants had lower mood, anxiety, and sleeping problems. According to Malta et al. (2020), political instability exacerbates these challenges in

Group SP1	Group SP2
B1. Work: B1.1 Work Conditions and B1.2 Employability	
B1.1 "I "went into" home office after that and never went back."	B1.1 "There were many nurses who were forced to work, there were people who cried and didn't want to have to work but they were forced, they didn't have the option to choose."
B1.1 "I liked working from home [followed by laughs of contained satisfaction]."	B1.1 "It takes me about 3 hours to get where I had to go to work."
B1.1 "This mobility, being able to go from one meeting to another, you have a meeting with a company that you are going to have... increases your productivity but also the opportunities."	B1.1 "Then after that we got that job [temporary job in Vila Mariana, for 30 days, together with about 60 women from the community] that the woman didn't pay anyone."
B1.1 "I am fine and doing the internship also reconnected me with the passion for architecture."	B1.1 "No, it's because I worked with healthcare, I cleaned there and as I said it was a COVID hospital, so I was obligated to work, I was crazy to close down there too so I could stay at home, but it didn't work out. I had to work."
B1.2. "Then it became smooth, at the end of the year I got an internship at São Paulo Urbanismo."	B1.2. "It's because Covid arrived, jobs were gone."
B1.2. "It increased (job opportunities) because I work at Teto, but at the same time I teach online courses. I wouldn't have had the chance to do all three things (Teto, online courses, and university classes) because of mobility."	B1.2. "The pandemic was heavy for me because of my work, understand?"
	B1.2. "Because I work with Carnaval [celebration], so it was cancelled, you know? In the times of the pandemic..."
B2. Education: B2.1 Educational Environment and B2.2 Educational Status	
B2.1 "They were heavier than the face-to-face classes, man. Amazingly, they halved the course load, but it was much worse, much worse than the face-to-face classes."	
B2.1. "Yes, so... it was not easy, some professors were very understanding, others not, they were more demanding."	
B2.1. "I think it also made a lot of research unfeasible, I had extension projects that could not continue because of the pandemic."	
B2.1. "I am doing postgraduate studies and I am not much in the job market, but research has also improved a lot, in this sense you can connect with more people."	–
B2.1. "I spent the whole day working on the computer, having meetings on the computer, then three more hours at night having classes, and after that I would have group work, which was also online."	
B2.1. "In college I realized that several professors that before would never have had the possibility to give us a class or a lecture, started to do so. There was a professor from Rio Grande do Sul, one from Portugal."	
B2.2. "I am sure that I wouldn't be studying if it wasn't possible, because it is a 100% online course from a very good university in Argentina, they have this mobility that you don't have classes at fixed times, you have deliveries every week, it is a lot of responsibility to have these weekly deliveries, but I can manage my schedule. This [online course] facilitated many things, I couldn't be studying any other way."	–
B3. Leisure/Social Life: B3.1 Fitness/Exercising, B3.2 Cultural Activities, B3.3 Social Activities/Relationships, and B3.4 Hobbies	
B3.1. "I improved my health a lot, I lost a lot of weight."	
B3.1. "I started to use only a bicycle."	
B3.1. "And the bicycle, I'm increasing its use for those who know how to use it like Henry, going to college, to work, who knows."	–
B3.1. "I started to walk a lot more than I was walking [before the pandemic]."	
B3.2. "I started to read a lot in the pandemic because I didn't read that much."	–
B3.3. "In my case we broke up because we couldn't see each other."	B3.3. "For me we used to go more often to São Bernardo [city], we have relatives, so we ended up not going [due to the pandemic]."
B3.3. "I didn't have any family members that died and personal things like that... I didn't have any completely negative points, you know?"	B3.3. "Yes, I have bronchitis, I have chronic bronchitis, so when you said isolation, I wouldn't have even left home because I have chronic bronchitis so I would be more... it attacks faster, I would think, no, I have a weak lung, I have bronchitis, I would die. It's better to stay at home, I was isolated indeed."
B3.3. "Yes, she [girlfriend] helped me have a conversation with the therapist as well."	B3.3. "It didn't change, actually I stopped going out more when my husband left [prison]."
B3.3. "I started to stay only at home, I didn't go out anymore."	B3.3. "But we're vaccinated, with the three vaccinations we get right, we go out once a week."
B3.3. "I feel that it increased a lot because of the third dose, everybody took the third dose, in the second dose it wasn't that much, but with the third dose people became more relaxed."	B3.3. "Lara committed herself at home, she couldn't see anyone."
B3.3. "I broke up during the pandemic, we were already dating long distance, he lived in Minas Gerais, and I lived in São Paulo."	B3.3. "No. I don't go out; I only stay at home."
B3.3. "At the end of 2020 I ended a relationship."	B3.3. "Not since Covid started we haven't been there anymore and we used to go once a week, every 15 days."
B3.4. "I didn't stop using any modal, I started using bicycles but for recreation."	
B3.4. "I spent most of the time outside, so I had no way to keep a plant alive. Now yes, until now my apartment looks like a jungle [everyone laughs]."	–
B3.4. "The first year, in 2020, instead of traveling by plane and everything else, we wanted to do an end-of-the-year trip, which we did, and my partner went by car."	
B4. Financial Status: B4.1 Income and B4.2 Purchase Power/Consuming	
	B4.1. "[I'd be isolated] If I could have afforded it [financially]."
	B4.1. "If I had money I'd be here until today."
–	B4.1. "Yeah, well, that's what I'm talking about, because if we could really afford it, I doubt that anyone would want to leave here to go to work, take a bus or do anything else."

Table 4: *Results summary code B - life perspectives.*

Brazil.

Overall, the pandemic has led to a surge in mental health problems, including fear, anxiety, depression, anger, and sleeping problems. Fear was the most common mental health episode among the participants. Apart from concerns about infection or mortality, additional factors, such as social isolation and financial strain, have been added to the mental distress experienced by many people. Asmundson and Taylor (2020) coined "Coronaphobia" to encapsulate this phenomenon.

Our results also shed light on the complex interplay between socioeconomic status and the differential impact of the pandemic on different population groups. One of the key insights from this study is the profound impact of socioeconomic disparities on mental health outcomes during the pandemic. Individuals with lower socioeconomic status face heightened levels of anxiety, depression, and sleeping problems, potentially attributed to financial strain, unemployment, and limited access to support services, experiencing greater challenges in coping with its effects. This population is more likely to experience mental health issues due to financial strain and social isolation. Fear of infection and financial hardship contribute to mental distress, with economic instabilities further amplifying concerns. This aligns with the existing literature that underscores the role of socioeconomic factors in shaping mental health outcomes during times of crisis (Reme et al., 2022).

This study highlights the disruptive effects of the pandemic on education, social activities, work, and economic hardship as potential triggers of mental health episodes. Regarding educational impacts, online learning posed significant challenges for students and educators, particularly for individuals with a higher socioeconomic status who were enrolled in educational programs during the pandemic and faced barriers to accessing educational resources. However, this was also a source of opportunity. Despite the challenges related to remote classes, participants also reported the opportunity to participate actively in international courses and to join lecturers with international speakers, a positive side of the pandemic that may have positively contributed to the mental health of this population.

This research additionally underscores the unequal burden on employability represented by job losses and deteriorating working conditions among vulnerable populations, exacerbating socioeconomic inequalities, and the uneven burden on the mental health of these populations. Conversely, some participants from the group SP1 reported improved satisfaction with their work conditions. Improvements include the possibility of working at home (meaning lower exposure to COVID-19), mental health support programs offered by employees, and low unemployment risk due to restrictive measures. This scenario may have contributed to the higher level of resilience and lower mental burden in this population. Furthermore, participants in group SP1 reported an increase in consumption (e.g., online shopping). This can be interpreted as a sign of no economic hardship and impacts on income, which potentially reduces the mental pressure related to finances. Perceived changes in consumption can also be explained by coping strategies. Sneath et al. (2009) observed changes in purchasing behavior due to disaster stress after Hurricane Katrina. Our findings reinforce the urgent need for targeted interventions to support vulnerable communities and mitigate the long-term impact of catastrophic events on mental health. Such support should focus on the economic, laboral, and social impacts.

Regarding social activities, restrictive measures and fear of infection led individuals to avoid gatherings and social events, drastically changing their routines, and avoiding physical contact with relatives and friends, which is likely to have contributed to loneliness, anxiety, and depressive episodes. Additionally, movement behavior analysis in São Paulo showed a gradual return to normal mobility levels after the initial suspension of social and work activities in March 2020 (Santos et al., 2024). The respondents reported a similar behavior when they gradually resumed their social lives by the end of that year, especially among families. Some participants also attributed being infected by COVID-19 during these gatherings to a certain amount of remorse.

This analysis also noted changes in mental attitudes during the pandemic, particularly those concerning fear. Participants from both groups indicated a decrease in fear, particularly noticeable in the second year of the pandemic, which led to a resumption of social activities over time. This phenomenon can be attributed to the natural normalization of the situation. Capano et al. (2022) examined factors such as education, employment, and healthcare, categorizing Brazil among countries experiencing collective stress consistently. They also discussed the prospects of post-COVID times in terms of normalization and psychological resilience to crises.

Our findings also revealed the significant role of vaccination in reducing fear levels among participants. Participant accounts suggested a gradual decline in fear throughout the vaccination process. These individuals were more inclined to relax and gradually resume social interactions with friends and family after the initial dose. International literature

presents diverse viewpoints regarding the correlation between vaccination and fear. Researchers have investigated not only the fear of vaccination and willingness to get vaccinated, but also the fear of COVID and acceptance of vaccination triggered by cognitive biases. Azarpanah et al. (2021) found that vaccine hesitancy in the US stemmed from fear. Furthermore, Ganie and Mukhter (2022) highlighted misinformation as a factor that induces fear and anxiety, affecting mental well-being and vaccination efforts during the pandemic. In some instances, the vaccines were perceived as triggers for fear. However, Mertens et al. (2022) discovered that individuals who consented to vaccination exhibited higher fear of COVID-19 and perceived susceptibility to illness. This suggests that populations with a greater fear of COVID-19 were more accepting of new vaccines than those with less fear of infection. In Brazil, historical data indicate high vaccine acceptance (Brown et al., 2018), which remains consistent during the COVID-19 pandemic (Fernandes Nehab et al., 2023). Our study suggests a plausible association between vaccination and reduced perceived risk or fear, although the corroborating evidence is limited.

Despite the challenges posed by the pandemic, this study identifies pockets with higher resilience and adaptive coping strategies among individuals with higher socioeconomic status. Access to mental health support, opportunities for remote work or study, and engagement in positive activities contributed to greater resilience in this population group. By contrast, individuals with lower socioeconomic status reported feeling abandoned by public service providers, having extremely restricted access to health services, and ultimately being driven to rely on community support and grassroots initiatives to navigate the challenges of the pandemic. This highlights the importance of collective resilience in times of crisis and the need to maintain essential services (e.g., social services or health) even during pronounced crises.

These findings have significant implications for policy and practice, particularly for addressing socioeconomic disparities and promoting mental health resilience. They not only support decision-making related to the consequences on the populations affected by the COVID-19 pandemic but also allow for better preparedness for future pandemics and major natural disasters, particularly in regions with high socioeconomic inequality levels. Policymakers should prioritize targeted interventions to support vulnerable communities, including access to mental health services, financial assistance, and educational resources. Moreover, efforts to combat misinformation and promote evidence-based public health communication are essential for fostering community resilience and reducing mental health stigma.

This study has methodological strengths and limitations. First, the limited number of participants within a specific geographic area compromises its external validity, and the generalization of our results to populations from cities with different socioeconomic characteristics. Second, conducting focus groups entails complex logistical processes, including organization, data collection, transcription, translation, and analysis, which may introduce various methodological challenges to the study. Lastly, the involvement of a single data analyst who resided in São Paulo for 19 months during the COVID-19 pandemic introduced the possibility of researcher bias. This proximity might foster empathy towards participants and potentially skew the analysis by viewing situations from their perspective, a phenomenon known as researcher presence. Conversely, this approach can yield a deeper comprehension and interpretation of COVID-19's real-life impacts, offering insights into the pandemic's nuances from a community's vantage point. This study's qualitative nature enables profound personal exploration, which is crucial for understanding the pandemic's systemic effects and shaping localized policies to address unmet needs. The richness of the data and the analytical perspective may significantly contribute to public health knowledge and benefit the local communities in São Paulo.

Conclusion

Impacts on mental health and life perspectives represented by changes in work, education, social activities, and finances of both groups were uneven and potentially influenced by territorial and socioeconomic factors. The triggers of mental health episodes differed between the two groups, with a strong geographic influence.

The results also suggest that catastrophic events represent a source of opportunities for populations from areas with higher socioeconomic levels, who have increased chances of coping and maintaining mental and social resilience, and for exploiting social changes as opportunities. In conclusion, this study highlights the interconnected nature of socioeconomic factors, mental health outcomes, and the differential impact of the COVID-19 pandemic on various population groups. By understanding these dynamics and implementing targeted interventions, policymakers and practitioners can work towards building more equitable and resilient communities in the face of future crises. Further qualitative and quantitative evidence to corroborate these findings and support local policy is strongly recommended.

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Supplementary Materials

Appendix 1: Mobility and Health Biography Grid
Appendix 2: Written Informed Consent Term
Appendix 3: Questionnaire Focus Groups

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Conflicts of Interest

The authors declare no conflict of interest.

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