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## Leisure activities during Covid-19 Pandemic: The Brazilian scenario

### Atividades de lazer durante a pandemia de Covid-19: o cenário brasileiro

**Resumo:** O objetivo é verificar a existência de relações entre a prática de atividades de lazer e renda familiar, sexo, idade, escolaridade e região geográfica e mapear as principais atividades de lazer vivenciadas durante o isolamento social. Para tanto, foi utilizado um método estatístico com abordagem quantitativa. O instrumento de coleta de dados foi aplicado com 601 cidadãos. Os resultados indicam que os interesses virtuais de lazer têm sido os preferidos durante a quarentena, seguidos pelos intelectuais e sociais. Os menos praticados são os turísticos, físicos e artísticos. Idade, renda, gênero e escolaridade tiveram maior influência do que região e tempo de confinamento. Os indivíduos com mais de 40 anos são mais propensos a interesses físicos, intelectuais e turísticos, enquanto os mais jovens, com menor renda e escolaridade, desenvolvem mais frequentemente interesses virtuais, sociais e artísticos / manuais. As mulheres apresentaram médias maiores em quatro dos seis tipos de lazer.

**Palavras-chave:** Lazer; Atividades; Quarentena; Brasil; Pandemia; Covid19.

### Actividades de ocio durante la pandemia Covid-19: el escenario brasileño

**Resumen:** El objetivo es verificar la existencia de relaciones entre la práctica de actividades de ocio y la renta familiar, género, edad, educación y región geográfica y mapear las principales actividades de ocio vividas durante el aislamiento social. Para eso se utilizó un método estadístico con enfoque cuantitativo. Se aplicó la herramienta de recolección de datos con 601 ciudadanos. Los resultados indican que los intereses de ocio virtual han sido los preferidos durante la cuarentena, seguidos de los intelectuales y sociales. Los intereses menos practicados son los turísticos, físicos y artísticos. La edad, los ingresos, el género y el nivel educativo tuvieron mayor influencia que la región y el tiempo de encierro. Las personas mayores de 40 años son más propensas a intereses físicos, intelectuales y turísticos, mientras que las personas más jóvenes, con menores ingresos y escolaridad, desarrollan con mayor frecuencia intereses

virtuales, sociales y artísticos / manuales. Las mujeres presentaron promedios significativamente más altos en cuatro de los seis tipos de actividades de ocio.

**Palabras llave:** Ocio; Ocupaciones; Cuarentena; Brasil; Pandemia; COVID-19.

### **Leisure activities during Covid-19 Pandemic: The Brazilian scenario**

**Abstract:** The objective is to verify the existence of relationships between the practice of leisure activities and family income, gender, age, education and geographic region and to map the main leisure activities experienced during social isolation. For that, a statistical method with a quantitative approach was used. Data collection tool was applied with 601 citizens. The results indicate that virtual leisure interests have been the preferred during quarantine, followed by intellectual and social. The less practiced interests are the tourism, physical and artistic ones. Age, income, gender and education level had greater influence than the region and time of confinement. The individuals above 40 years are more prone to physical, intellectual and tourism interests, while the younger individuals, with lower income and schooling more often develop virtual, social and artistic/manual interests. Women presented significantly higher averages in four of the six types of leisure activities.

**Keywords:** Leisure; Activities; Quarantine; Brazil; Pandemic; Covid-19.

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The central theme of this study is leisure and its influencing factors in the pandemic scenario and is based on previous studies conducted by specialists in the area, which indicated the existence of several factors (under "normal" conditions of life in society) that impact on leisure practices, namely: Socioeconomic, geographic, age and gender factors (Droomers et al., 2001; He & Baker, 2005; Marshall et al., 2007; Mielke et al., 2007; Monteiro et al., 2003; Mota & Esculcas, 2002; Thrane, 2000). With the arrival of the COVID-19 pandemic, it is considered essential, for the field of leisure, to develop scientific research that seeks to verify the prevalence of these same factors that influence leisure (and the search for new ones) in a scenario of restrictions in the use of spaces and coexistence in society.

And it is precisely in this perspective that this article was built. In addition, as a way of adding new knowledge to this field of study, we sought to verify whether, in pandemic and health emergency scenarios, such as the one we experienced with COVID-19, the confinement time may be an influencing factor on leisure practices.

One of the few certainties we have today is that the world will no longer be the same. Since the outbreak of Coronavirus (SARS--CoV-2), there has been a great deal of fear about this disease that has spread rapidly in various regions of the planet, impacting different areas (Freitas et al., 2020). According to data from *Johns Hopkins Coronavirus Resource Center* (2020), the focus of the pandemic reached Brazil by June, 2020. By March, 2021, the total number of infected worldwide was almost 125 million, with a total of approximately 2.8 million deaths. In Brazil, records indicate 13 million infected, with a total of 300 thousand casualties (2<sup>nd</sup> in the world ranking).

The rate of propagation of the virus in Brazil brings several concerns, either because of its deficit public health system, with about 75% of the population dependent on the Public Health System – SUS (Bahia, 2018), or because of the insufficient number of tests applied in hospitals and health posts. In this direction, the World Health Organization – WHO has already expressed concern about the high number of people infected and killed by the virus in Brazil, emphasizing the possibility of the country (and South America) becomes the new global epicenter of COVID-19 (CNBC, 2020).

This unfavorable panorama of public health compelled governors of most Brazilian states to adopt the orientation of social isolation for their citizens between the end of March and the whole month of April 2020, drawing up decrees related to restrictions on the use of space and mobility, and the operation of basic services only, which led a large part of the population to remain confined in their homes, in the popular "quarantine" (De Oliveira, 2020).

Although necessary, the confinement of citizens raises evident concerns, especially of a socioeconomic order. In the pre-pandemic period, Brazil already had a high rate (40.6%) of informal work (IBGE, 2020a). After the implementation of social isolation, millions of Brazilians who work informally had a sudden decrease in their main sources of income, which makes essential the existence of financial aid programs by the government.

Pandemics and epidemics can also have effects that go beyond socioeconomic and public health, interfering in physical and psychological issues. A study conducted by De Brito (1997) revealed that the Spanish flu epidemic in 1918 had a series of impacts on daily life in Rio de Janeiro. Moved by the fear of contagion, inhabitants emptied the streets and transformed the bohemian city into a space devoid of sounds and movement. Recently, epidemics of dengue and Zika have also aroused fear in the population and triggered changes in habits and behavior (Albarado, 2018).

Natural disasters also have negative impacts on citizens' behaviour. A study conducted with residents of New Orleans (USA), after the disaster experienced by Hurricane Katrina, in 2005, showed that city's college students started to consume 15.7% more alcoholic beverages, while 13.2% more started to self-medicate (Kishore et al., 2008; Kono, 2015). Corroborating on that matter, studies indicate that the pandemic caused by COVID-19 has increased symptoms of anxiety and psychological disorders in the population (Zwielewski et al., 2020).

One of the ways of coping with these negative impacts is practicing and developing leisure activities. The study of Kono (2015) on leisure activities related to natural disasters indicated that leisure could contribute to psychological well-being, providing (a) a positive distraction, (b) an opportunity to remain optimistic and hopeful, (c) a source of new normality at the social and individual levels; and (d) a context for positive internal changes.

Classical authors consider that age, gender, socioeconomic status, geographical region and education level can influence the quality and form of leisure. A study conducted by Thrane (2000) regarding determinants of leisure time between men and women in Scandinavian countries indicated that women have less leisure time during the week than men.

The historical overload of domestic activities, restricted almost exclusively for women, certainly influences the available leisure time. In Brazilian reality, this also applies. A survey conducted by the Brazilian Institute of Geography and Statistics (IBGE), shows that women have, on average, more than twice as many hours of domestic activities per week than men (IBGE, 2019).

Marshall et al. (2007) identified that social class interferes with the frequency of leisure activities. Among the racial/ethnic groups studied by the authors, the prevalence of leisure inactivity was higher in the lower social class. In Brazil, the findings of Monteiro et al. (2003) revealed a similar situation: a significant association between physical activity in leisure time (AFTL) and the socioeconomic level for both men and women.

The results of other surveys have indicated that education levels can directly effect on leisure. Participants with lower schooling experienced statistically higher chances of decreasing the frequency of their physical activity, compared to those with higher schooling or university degree (Droomers et al., 2001; He & Baker, 2005). Another relevant finding showed that, with the increase in age, organized sports activities became a more important matter of the weekly activity of participants (Mota & Esculcas, 2002).

The geographical region can also be a factor influencing leisure activities. A Brazilian study pointed out that the North and Northeast regions presented greater distinctions in the practice of

physical activity in leisure between age groups, while the South region presented the smallest difference between the five Brazilian regions (Mielke et al., 2007).

Considered one of the pioneers in the study of leisure, Dumazedier (1979) developed five main interests and classifications, such as: a) Physical Interests – Physical activities that can generate well-being, from the most elaborate to the lightest; b) Artistic Interests – Activities that seek to educate and rise the artistic sensibility of individuals; c) Manual Interests – Activities whose pleasure is basically found in the manipulation of objects, such as, gardening and carpentry - d) Intellectual Interests – Activities such as chess, backgammon among other games.; e) Social Interests –When socializing is the key element. It can be found in the promotion of meetings, events and parties. Camargo (2003) added the tourism interests, that are related to short, medium and long trips, with the use of tourism and hospitality services and equipment.

In addition, the technological advances of the 21st century and the consequent adoption of new practices and behaviors propitiated by the adherence to the virtual environment, allowed a new update to this list, thus adding the virtual interests of leisure (Haven et al., 2003; Schwartz, 2003). Many times, these interests can be mixed in several activities. This is an absolutely flexible classification, depending a lot on the pretensions and intentions of who will perform the activity (Camargo, 2003; Dumazedier, 1979; Marcellino, 2006).

From this overview, the present paper has adopted the following assumptions. 1) Brazil will have one of the highest numbers (contamination and casualties) caused by COVID-19; 2) Social isolation (quarantine) may cause innumerable side effects; 3) Leisure has a leading role in facing these effects; 4) Socioeconomic, geographic and gender factors may interfere in the quality and frequency of leisure.

Based on these assumptions, it's essential to develop a study that can address whether these leisure influence factors are observed equally during the COVID-19 quarantine in Brazil.

Precisely because this study is based on an analysis of a pandemic scenario on a global scale, which occurred rapidly and unexpectedly in our society, without contemporary precedent, it was not possible, at the time of the article's construction, to count on a considerable number of literary productions with similar experiences. In this sense, the authors understood that it would not be feasible to construct logical hypotheses regarding the research questions

However, based on previous studies of leisure influence factors (in a non-isolation scenario) and the premises posed, this paper seeks to answer the following question: What are the main factors that influence leisure activities during the quarantine of COVID-19 in Brazil?

Therefore, the main objective of this study is to verify the existence of relationships between the practice of leisure activities and family income, gender, age, education level and geographic region. To these factors, an innovative one is added: time of confinement. This work also seeks to map the main leisure activities experienced during social isolation.

No previous research was found in the literature that identified the main leisure activities performed during situations of social isolation due to a pandemic, a fact that makes this research unprecedented.

This study is organized as follows: After the introduction, the Methodology used will be presented in section two. The third section deals with the results of the research according to the categories adopted. Section four discusses the results, providing the basis for the fifth and last section, the final considerations.

## **2 Methodology**

This is a quantitative study, with the application of a virtual data collection tool. The quantitative research is characterized using a structured questionnaire and statistical analysis,

and allows a generalization of the data, unlike the qualitative research, which seeks a deeper knowledge of the subject (Dencker, 2007).

The authors of this study built, specifically for this research, a data collection instrument called LAZ45, in reference to the number of questions it contains (45 questions to be answered on a likert scale). Although this instrument was not piloted, it is important to point out that it was developed according to rigorous scientific and academic criteria, such as: the concept of leisure interests, as well as the factors that influence these activities (Camargo, 2003; Droomers et al., 2001; Dumazedier, 1979; Haven et al., 2003; He & Baker, 2005; Marcellino, 2006; Marshall et al., 2007; Mielke et al., 2007; Monteiro et al., 2003; Mota & Esculcas, 2002; Schwartz, 2003; Thrane, 2000).

The LAZ45 form was divided into two stages: Stage 1: Personal information: Six questions on socio-economic and geographic factors, and Stage 2: Leisure Interests, with 39 questions subdivided into leisure interests (physical, artistic, social, intellectual, manual, tourism and virtual), and may comprises more than one interest in each question. It was chosen to join the categories involving artistic and manual interests, thus totaling six categories. The disposition of the issues according to leisure interests was the following: Physical interests (9 questions); Artistic/manual interests (10 questions); Social Interests (8 questions); Intellectual Interests (8 questions); Virtual Interests (12 questions) and tourism interests (3 questions).

The respondents assigned values between 0 and 10 for each question, with 0 meaning they never practiced the activity and 10 that they always practiced it. Thus, the higher the average of each question, the higher the frequency of activity/interest in leisure activities.

The survey was applied from April, 10<sup>th</sup> to May, 4<sup>th</sup> 2020 to a total sample of 601 participants. Considering that the current estimate of the Brazilian population (over 18 years old) is 156 million inhabitants (IBGE, 2020b), the sample has 99% trust and 5.26% sample error.

The application of the questionnaire took place in a virtual way, with the *link of the survey* being published in the social networks, weekly, on Fridays in the afternoon shift. Only those over 18 years of age and living in Brazil were able to answer the form After the data collection, they were allocated and analyzed in the statistical software SPSS. The questions were grouped according to their relationship with leisure interests, totaling six groups. Data were described by absolute (n), relative (%), mean and standard deviation. The Chi-square test was used to verify possible associations between the categorical variables and the Student t test was used to verify possible differences between groups.

To apply the cross-tabulation tests, the means of score (0 to 10) of each questionnaire response were considered, trying to identify if there are associations between these means and the factors gender, age, education, family income and quarantine time. Results with  $p > 0.05$  were not considered for this analysis.

### **3 Results**

The socio-demographic information of the 601 interviewees reveals the following indicators: around 55% (334) of respondents are in the 18-29 age range, 19% (117) in the 30-39 age range and 11% (66) in the 40-49 age range. Approximately 14% are in the age group above 50 years old. There is also a predominance of the female gender, with 70,8% of participants (426). Regarding the geographic regions, there was a polarization between the South (46.7%) and Northeast regions, with 40.7% of the total respondents. The North region appears with 7%, while residents in the Southeast region represent 5.1% of the total sample. Residents of the Center-West region represent only 0.5% of the total.

In the schooling question, 50.5% of respondents have a complete undergraduate or graduate degree (Post graduation, Master's and Ph.D.), while 49.5% have an incomplete undergraduate degree or lower level (High School and Elementary).

Approximately 35% of the respondents have family income of up to 2 minimum wages, 32.3% have family income between three and five minimum wages and other 32.3% receive six minimum wages or more. Considering the time of quarantine, 47.2% of the sample has been in social isolation for a maximum of four weeks, while 46.9% reports being confined for more than four weeks. Another 6% claim not to be in quarantine.

In the cross-checking of data, it was found that the level of education is higher in the group of interviewees over 40 years of age (86.7% have a university or higher degree complete, while 38.8% of the youngest presents the same level of education). Income follows the same pattern, with 59.3% of those interviewed over the age of 40 receiving six minimum wages or more, while only 24.4% of the youngest are in this economic bracket.

It is also noted that most respondents over 40 years of age are in the south and southeast regions (73.3%). The population under 40 is more evenly divided between the regions (44.5% are in the south and southeast and 55% are in the north and northeast).

In a general overview, it was found that the highest average of leisure practices are found in issues related to virtual interests (5.59), followed by intellectual interests (5.18), social interests (4.67), tourism (3.18), artistic/manual interests (.68), and physical interests showed lower average frequency of practice (1.58).

The results of the mean comparison analysis, using the T Test for independent samples (two groups), and Anova and Post Hoc, with Tukey test for three groups or more will be presented below divided by variable.

### 3.1 Gender

Statistical significance was found in the averages in 16 questions (without counting repeated questions). In general, women presented higher averages in questions related to social, virtual, artistic/manual, and intellectual leisure interests, and men indicated higher averages in questions of physical interests. The category of virtual interests had a predominance of the female gender, except in the *play online games question*, which presented higher average scores in the men. No statistically significant results were found regarding tourism interests. Table 1 presents the results of the means for each question that presented a statistically significant difference when comparing men and women.

Table 1: Gender influence on leisure activities/interests

Leisure activities/interests	Question	Average Men	Average Women	Sig. (p value)
Physical interests	1. I play soccer, basketball, volleyball, handball, indoor soccer, among other sports.	1,53	0,65	<0,001
	31. I frequent playgrounds, sports courts.	1,18	0,68	0,024
Social Interests	13. I take care of pets. I take them for walks, I take care of them, feed them, etc.	3,44	4,61	0,002
	23. I participate in virtual chat with family, friends and colleagues	7,59	8,25	0,012

	through Facebook, Whatsapp, Hangouts, etc.			
	24. I participate in social networks like Facebook, Instagram, Twitter, etc.	8,48	9,10	0,008
<b>Artistic/ Manual Interests</b>	08. Dance	1,25	2,17	<0,001
	12. I make handicrafts and/or sculptures.	0,45	1,33	<0,001
	37. I photograph and/or edit photos.	2,88	3,92	0,002
	38. I do cooking recipes	3,73	5,59	<0,001
	40. I do make-up	0,09	2,56	<0,001
	41. I make collages	0,29	0,90	<0,001
<b>Virtual interests</b>	23. I participate in virtual chat with family, friends and colleagues through Facebook, Whatsapp, Hangouts, etc.	7,59	8,25	0,012
	24. I participate in social networks like Facebook, Instagram, Twitter, etc.	8,48	9,10	0,008
	25. I use Streaming services like Netflix, Globoplay and Amazon.	7,31	8,13	0,009
	30. I watch lives in Instagram	3,66	5,46	<0,001
	36. I make videos using TikTok App.	0,35	0,74	0,011
		.		
<b>Intellectual interests</b>	18. I participate in courses, lectures and seminars on subjects of my interest.	4,20	5,32	0,001
	29. I participate of virtual study groups.	3,01	3,86	0,012

Source: The authors (2020)

### 3.2 Age

For a better organization of the results of the comparison of the frequency of activities/interests of leisure, the participants were grouped in two categories: 18 to 39 years and over 40 years. Statistical significance was found in the averages in 20 questions (without counting repeated questions). The lower age group (up to 39 years old) showed more frequency on social and virtual activities. The group with higher age showed greater tourism and physical interests. Among the intellectual interests, the prevalence was of the group with more than 39 years old, with the exception of the *practice of languages*. Among the artistic interests, participants over the age of 39 are more interested in craftsmanship and sculpture, and those below the age of 39 are more interested in dance and music. Table 2 presents the results of the averages for each question that showed significant statistical difference when comparing the two age groups.

Table 2: Age influence on leisure activities/interests

Leisure activities/ interests	Question	18 to 39 years average	40 years or more average	Sig. (p value)
<b>Physical interests</b>	03. I do hiking and/or soft running.	2,87	4,16	<0,001
<b>Social Interests</b>	24. I participate in social networks like Facebook, Instagram, Twitter, etc.	9,31	8,45	<0,001
	26. Play online	5,18	2,76	<0,001
	39. I play face-to-face games with friends.	1,39	0,84	0,008
<b>Artistic/ Manual Interests</b>	08. Dance	2,23	1,51	0,002
	09. Listen to the music	8,88	8,15	<0,001
	12. I make handicrafts and/or sculptures.	0,78	1,48	0,001
<b>Virtual interests</b>	21. I surf the Internet through mobile phone.	9,65	9,28	0,003
	23. I participate in virtual chat with family, friends and colleagues through Facebook, Whatsapp, Hangouts, etc.	8,31	7,76	0,012
	24. I participate in social networks like Facebook, Instagram, Twitter, etc.	9,31	8,45	<0,001
	25. I use Streaming services like Netflix,	8,54	7,03	<0,001



	Globoplay and Amazon.			
	26. Play online	5,18	2,76	<0,001
	32. I watch videos on youtube.	8,34	6,89	<0,001
	33. I create/participate or read about threads on twitter.	3,77	1,36	<0,001
	36. I make videos using TikTok App.	0,93	0,31	<0,001
<b>Intellectual interests</b>	14. I read magazines, books and newspapers (online and on paper).	4,53	5,60	<0,001
	15. I watch documentaries on the internet and TV.	6,89	8,01	<0,001
	16. I follow news on TV, mobile, computer or radio.	6,40	7,42	0,009
	18. I participate in courses, lectures and seminars on subjects of my interest.	4,53	5,60	<0,001
	34. Study and practice new languages.	3,73	2,66	<0,001
<b>Tourism Interests</b>	19. I do/take tours in my town.	2,46	3,11	0,026
	20. I make regional trips: I travel to other cities.	1,65	2,74	<0,001

Source: The authors (2020).

### 3.3 Education level

The schooling variable presented significantly different averages in 20 questions (without counting repeated questions) and was divided into two groups: participants with primary education up to incomplete undergraduate, and participants with complete university education or higher degrees. Participants in group 2, with higher education, showed greater interest in physical, intellectual and tourism activities. Group with lower education level presented higher averages in artistic interests and almost total prevalence of virtual interests, except for the issue of *surfing the*

*Internet through a notebook, tablet or personal computer*, which received higher scores from group 2 (higher education).

The two issues that presented significant statistical difference in the area of social interests presented divided predominance, the question *play online* indicated greater predominance of interest of group 1 (lower education) and the question *play face-to-face games with friends* indicated greater score of group 2. Table 3 presents more information about the means and significance values found in this category.

Table 3: Education level influence on leisure activities/interests

Leisure activities/ interests	Question	Incomplete undergraduation or lower degree average	Complete undergraduation or higher degree average	Sig. (p value)
<b>Physical interests</b>	03. I do hiking and/or soft running.	2,94	3,94	<0,001
	05. I do bodybuilding, or some other similar activity.	2,76	3,55	0,009
<b>Social Interests</b>	26. Play online	5,17	3,07	<0,001
	39. I play face-to-face games with friends.	1,39	0,90	0,025
<b>Artistic/ Manual Interests</b>	08. Dance	2,39	1,45	<0,001
	09. Listen to the music	8,94	8,19	<0,001
	11. Drawing and painting.	1,93	1,30	0,009
	40. I do make-up	2,18	1,58	0,019
<b>Virtual Interests</b>	21. I surf the Internet through mobile phone	9,61	9,36	0,036
	22. I surf the internet through notebook, tablet or personal computer.	6,48	7,28	0,008
	23. I participate in virtual chat with family, friends and colleagues through Facebook, Whatsapp, Hangouts, etc.	8,31	7,83	0,030

	26. Play online	5,17	3,07	<0,001
	32. I watch videos on youtube.	8,36	7,05	<0,001
	33. I create/participate or read about threads on twitter.	3,69	1,74	<0,001
	35. I do game streaming.	0,47	0,20	0,015
	36. I make videos using TikTok App.	1,03	0,29	<0,001
<b>Intellectual interests</b>	14. I read magazines, books and newspapers (online and on paper).	6,71	8,05	<0,001
	15. I watch documentaries on the internet and TV.	6,26	7,42	<0,001
	16. I follow news on TV, mobile, computer or radio.	7,77	8,33	0,009
<b>Tourism Interests</b>	19. I do/take tours in my town.	2,38	3,11	0,010
	20. I make regional trips: I travel to other cities.	1,64	2,62	<0,001

Source: The authors (2020).

### 3.4 Income

In order to compare the questionnaire scoring means according to income, the sample was divided into 3 distinct groups (Up to 2 minimum wages; 3 to 5 minimum wages and Over 6 minimum wages, (2020 Brazilian minimum wage = BRL 1045,00 - approx. US\$ 210)) for better data analysis according to sample distribution. It was found significantly different means in 14 questions. In general, it was observed that the family income category above 6 minimum wages showed more interest in physical and intellectual leisure activities and less interest in virtual leisure, with the exception of surfing the Internet through a computer or tablet. Participants with family income up to two minimum wages indicated greater artistic and virtual interest and those with intermediate income (between 3 and 5 minimum wages) transited through the five types of leisure interests, with highest averages in the care of domestic animals (social interest) and in the question regarding the watching of videos on Youtube (virtual interest).

There were no significant results in the comparison of the averages for the tourism interest. Table 4 presents more information on the questions that, when comparing the means of score, showed significant statistical difference.

Table 4: Income influence on leisure activities/interests

Leisure activities/ interests	Question	Reference Income (average)	Income (average)	Sig. (p value)
<b>Physical interests</b>	03. I do hiking and/or soft running.	Over 6 minimum wages (4,26)	Up to 2 minimum wages (2,96) 3 to 5 minimum wages (3,14)	<0,001 0.003
	05. I do bodybuilding, or some other similar activity.	Over 6 minimum wages (3,88)	Up to 2 minimum wages (2,50)	0.001
<b>Artistic/ Manual Interests</b>	08. Dance	Over 6 minimum wages (1,27)	Up to 2 minimum wages (2,45) 3 to 5 minimum wages (2,00)	<0,001 0.039
	09. Listen to the music	Up to 2 minimum wages (8,97)	Over 6 minimum wages (8,17)	0.001
<b>Social Interests</b>	13. I take care of pets. I take them for walks, I take care of them, feed them, etc.	3 to 5 minimum wages (5,01)	Up to 2 minimum wages (3,79)	0.014
	39. I play face-to-face games with friends.	Up to 2 minimum wages (1,54)	Over 6 minimum wages (0,85)	0.022
<b>Intellectual interests</b>	14. I read magazines, books and newspapers (online and on paper).	Up to 2 minimum wages (6,49)	3 to 5 minimum wages (7,72) Over 6 minimum wages (8,00)	<0,001 <0,001
	15. I watch documentaries on the internet and TV.	Over 6 minimum wages (7,46)	Up to 2 minimum wages (6,49) 3 to 5 minimum wages (6,61)	0.009 0.029
	18. I participate in courses, lectures and seminars on subjects of my interest.	Over 6 minimum wages (5,69)	Up to 2 minimum wages (4,33)	0.001
<b>Virtual interests</b>	22. I surf the internet through notebook, tablet or personal computer.	Over 6 minimum wages (7,37)	Up to 2 minimum wages (6,31)	0.011
	26. Play online	Over 6 minimum wages (3,16)	Up to 2 minimum wages (4,57) 3 to 5 minimum wages (4,65)	0.002 0.001
	32. I watch videos on youtube.	Up to 2 minimum wages (8,41)	3 to 5 minimum wages (7,75) Over 6 minimum wages (6,89)	0.037 <0,001
	33. I create/participate or read about threads on twitter.	3 to 5 minimum wages (7,75) Up to 2 minimum wages (3,37)	Over 6 minimum wages (6,89) Over 6 minimum wages (2,07)	0.004 0.002

	36. I make videos using TikTok App.	Up to 2 minimum wages (1,16)	3 to 5 minimum wages (0,40)	<0,001
			Over 6 minimum wages (0,37)	<0,001

Source: The authors (2020).

### 3.5 Geographical region

The results concerning the comparison of question averages by region showed significant differences in 18 questions. The northern and northeastern states achieved the highest averages in all questions of artistic interests and in almost all questions related to virtual interests, except for those related to surfing the Internet through the computer or tablet and doing price surveys or purchases over the Internet, which were predominant in the southern and southeastern regions, respectively.

On the other hand, the South and Southeast regions indicated greater intellectual interest, with the exception of the *game of chess, checkers, I do crossword puzzles*, which was prevalent in the Northeast region. The South region presented the highest average in the only question of tourism interest (*I make regional trips: I travel to other cities*) that reached a significant difference, in relation to the Northeast region.

Regarding social interests, the Northern region expressed greater importance in participating in religious groups and the Southern region in caring for domestic animals. No statistically significant differences were found in the averages of the issues framed by physical interests.

The researchers chose to exclude the Midwest region from this analysis due to the low number of participants from this region (n=3). In Table 5 are more information about the questions that presented relevant statistical difference when comparing the average scores of the leisure interests questionnaire.

Table 5: Region influence on leisure activities/interests

Leisure activities/ interests	Question	Region reference (Average)	Region (Average)	Sig. (p value)
<b>Artistic/ Manual Interests</b>	08. Dance	Northeast (2,60)	South (1,28)	<0,001
	09. Listen to the music	Northeast (8,97)	South (8,11)	<0,001
	40. I do make-up	North (4,31)	Northeast (1,73) South (1,57)	<0,001 <0,001
<b>Social Interests</b>	06. I'm active in some religious group	North (4,26)	Northeast (2,06) South (2,02)	0,002 0,01
	13. I take care of pets. I take them for walks, I take care of them, feed them, etc.	South (4,87)	Northeast (3,69)	0,015
<b>Intellectual interests</b>	14. I read magazines, books and newspapers (online and on paper).	Southeast (9,0)	Northeast (7,15) North (5,74)	0,007 <0,001

		South (7,73)	North (5,74)	<0,001
		Northeast (7,15)	North (5,74)	0,025
	15. I watch documentaries on the internet and TV.	Northeast (6,20)	Southeast (8,20) South (7,42)	0,011 <0,001
	17. I play chess, checkers, I do crossword puzzles.	Northeast (2,73)	South (1,90)	0,021
	18. I participate in courses, lectures and seminars on subjects of my interest.	Northeast (4,18)	Southeast (6,60) South (5,45)	0,006 0,001
<b>Virtual interests</b>	22. I surf the internet through notebook, tablet or personal computer.	South (7,32)	Northeast (6,30)	0,014
	26. Play online	Northeast (5,13)	South (3,18)	<0,001
	27. I do shopping and price research over the internet.	Southeast (7,27)	Northeast (5,13)	0,024
	29. I participate of virtual study groups.	North (5,50)	South (3,64) Northeast (3,13)	0,028 0,002
	30. I watch lives in Instagram	North (7,00)	Northeast (5,15) South (4,52) Southeast (3,90)	0,022 <0,001 0,004
	32. I watch videos on youtube.	South (7,02)	North (8,62) Northeast (8,26)	0,003 <0,001
	33. I create/participate or read about threads on twitter.	Northeast (3,54)	South (1,88)	<0,001
	36. I make videos using TikTok App.	North (1,40)	South (0,43)	0,026
<b>Tourism Interests</b>	20. I make regional trips: I travel to other cities.	South (2,44)	Northeast (1,61)	0,036

Source: The authors (2020).

### 3.6 Quarantine time

Regarding quarantine time, respondents were divided into two groups: up to 4 weeks of confinement and over 4 weeks of confinement. The comparison between the questions and the quarantine time category was the one with the least statistical significance. Only 4 questions indicated a relevant difference between the means. Participants with more than 4 weeks of isolation showed the greatest interest in cooking recipes, make-up and attending courses and lectures. Those who were in less time of isolation scored more on the *Create/participate or read*

about threads on twitter question. Table 6 presents the values of the means and significance found.

Table 6: Quarantine time influence on leisure activities/interests

Leisure activities/ interests	Question	Less than 4 weeks average	More than 4 weeks average	Sig. (p value)
<b>Artistic/ Manual Interests</b>	38. I do cooking recipes	4,75	5,51	0,012
	40. I do make-up	1,55	2,17	0,018
<b>Intellectual interests</b>	18. I participate in courses, lectures and seminars on subjects of my interest.	4,63	5,32	0,024
<b>Virtual interests</b>	33. I create/participate or read about threads on twitter.	3,18	2,37	0,012

Source: The authors (2020).

#### 4 Discussion

This research sought to identify the factors influencing leisure activities during the COVID-19 quarantine in Brazil, based on the analysis of the relationships between the practice of leisure activities and variables such as family income, gender, age, education level, geographic region and time of confinement. It also seeks to map the main leisure activities experienced during this period.

The results indicate that age, family income and schooling have the most influence on Brazilians leisure activities/interests during social isolation, in line with the studies of Droomers et al. (2001); He & Baker (2005); Marshall et al. (2007), Monteiro et al. (2003) and Mota & Esculcas (2002).

Similarities were identified in the way these three factors perform on leisure activities, leading to the understanding that individuals with higher education, family income and age tend to develop/practice more physical, intellectual and tourism leisure activities. This finding can be explained by the fact that, in general lines, the elder people has more concern with health and well-being, as pointed out by Monteiro et al. (2003) and Mota & Esculcas (2002). Moreover, they present a higher level of schooling, which allows more access to informational resources and justifies a greater interest in activities that stimulate the intellect. Besides, having better financial conditions permits more frequent tours and trips that demand costs.

On the other hand, it was found that younger people, with lower income and schooling have been developing, with greater frequency, leisure activities of the social, artistic/manual and, in great prominence, the virtual modality. Among these activities, those with low (or no) cost, such as playing online, dancing, listening to music and meeting with friends are the preferred by this group, strengthening the hypothesis that the financial issue directly affects the possibilities of leisure activities during quarantine.

The preference for virtual interests and the use of the Internet by mobile phones (usually at reduced costs), reinforces the idea that this public has less access to resources, options and

leisure structures, especially in a scenario of restricted use of public spaces, as experienced in social isolation. High averages of playing online among these share of respondents was not a surprise finding, however, it reinforces the concern about the negative impacts from the excessive use of this tool by the younger public (low self-esteem, depression, etc.), as pointed out by studies of Lam et al. (2013) and Stetina et al. (2011).

Gender also presented significant influences in leisure activities. The results indicate a higher level of involvement of the female public in leisure practices/interests during quarantine and conflict with the reality identified in the studies of Thrane (2000) that point out that women, in a regular scenario, would have less time and access to leisure than men.

The fondness of the female public for intellectual and virtual activities demonstrates even greater concern with the need for constant updating on news and presence in social networks, in addition to the worry about developing activities that stimulate the intellect, which lead to realize that female have prioritized qualification regarding content and information more than male respondents.

The geographical region showed a slightly smaller extent in its influence on leisure interests. When considered this aspect, the differentiations were not so evident. The results showed that the South and Southeast regions presented, in general, greater indicators regarding intellectual and tourism interests. The North and Northeast states, on the other hand, reached the highest averages in questions concerning artistic interests and most questions concerning virtual interests.

However, several caveats were identified in this factor, such as the fact that in the Northeast, interest in intellectual games is significantly higher than in the South. In addition, there were no significant differences in physical interests between the regions, unlike the results for age, gender, family income and education.

With respect to quarantine time, an element of unprecedented analysis in leisure studies, it was found that, compared to other factors, this aspect had the lowest level of influence on the activities developed.

It was also revealed that the virtual leisure activities were the most developed by the interviewees during the quarantine, a result that is hardly surprising, since the research was applied in a context of restricted use of public and private spaces. In addition, this form of leisure does not demand high costs, which makes it more attractive, especially to people who have been facing financial difficulties, common in this period.

The scenario presented strengthens the hypothesis that virtual activities will take the lead in the leisure of Brazilians in the coming years. Therefore, it is up to the professionals of the sector to adapt their products and services to this new reality.

It must be considered, however, that the prolonged and excessive use of a specific leisure interest can bring social, psychological and physical damages, since it restricts and limits the activities performed by people in their free time.

To this end, it is necessary to seek balance between leisure interests, making them accessible to the entire population and promoting what Dumazedier (2002) considers a true democratization of leisure, generating well-being and social inclusion.

In this sense, the role of public and private managers in providing options and accessible leisure facilities for all citizens, regardless of age, income, gender, schooling and region is highlighted.

In general, the results obtained corroborate the current theories about the factors influencing leisure. However, one of the main advances in relation to previous studies occurred in the analysis of the gender factor, that showed a higher level of involvement of the female public in leisure during quarantine, and conflict with previous studies (Thrane 2000). One possibility for this distinction lies in the fact that during social isolation, women, historically compelled to handle their time better, have managed to better settle their routine professional activities and domestic tasks than men, thus leaving more time available for leisure activities.



## **5 Final Considerations**

The results indicate that the virtual interests of leisure have been the preferred of Brazilians during the COVID-19 quarantine. The intellectual and social interests were also highlighted. Among the less practiced interests are the tourism, physical and artistic ones.

With regard to leisure influence factors, it was found that individuals over 40 years of age, with higher income and education, are more prone to physical, intellectual and tourism leisure interests, while younger individuals, with lower income and education, more often develop virtual, social and artistic/manual interests. It was also found that during quarantine, women had significantly higher averages than men in four of the six types of leisure activities, which contrasts previous studies in a non-isolation situation.

Thus, among the factors studied, age, gender, schooling and family income appear as those that presented significant differences in terms of leisure interests during the initial period of social isolation in Brazil. In a somewhat less evident perspective, differentiations were found among Brazilian geographic regions, while quarantine time was the factor that presented less as relevant for leisure activities when compared to other elements of analysis.

As study limitations, one can consider the short time of application of the survey and the fact that it occurred at an early moment of the pandemic, when very little was known about its implications, may have caused some sort of influence on the results obtained. In this sense, it is considered that a longer and broader application of this research would enable the formulation of more complex postulates and allow the identification of additional results

In the future, it is proposed to identify correlations between the leisure activities carried out during COVID-19 quarantine, with the minimization of possible harmful effects of social isolation due to this pandemic. In addition, it is intended to develop a new study, addressing gender differentiations in leisure activities after the end of the period of social isolation.

The results obtained allow us to take a new glimpse at the factors influencing leisure activities in the Brazilian scenario, during the period of social isolation of its population. In case of WHO predictions would be confirmed and Brazil really becomes the world epicenter of the COVID-19 pandemic, it is expected that this study can serve as an additional tool for public and private managers, who will need to look for alternatives to provide better access and resources for the development of leisure activities of their citizens.

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