

IMPACT OF EXPOSURE TO COVID-19 RELATED NEWS ON THE SENSATION OF FEAR AMONG BRAZILIANS

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Abstract

Seventeen months after the decree of the COVID-19 pandemic and in a scenario of greater certainty and knowledge about the disease and its behavior, a survey was carried out with the objective of investigating the Impact of exposure to Covid-19 related News on the sensation of fear among Brazilians. For that, a self-administered electronic questionnaire was applied to 246 social network users selected through the snowball method. Data interpretation was performed using descriptive statistics and the use of a correlation matrix. The results pointed to a significant relationship between nervousness and anxiety when hearing news about COVID-19 and the physical and psychological sensations of fear Fear of COVID-19, Discomfort when thinking about COVID-19 and Fear of die from COVID-19 is in line with other research. Contrary to the academic literature, a significant reference to Sleep trouble from worry about contracting COVID-19 was not found in this study. In this study, questions were not asked about the influence of different means of communication in this process or the role of moderators such as gender and age, gender or age, being this information (at the same time) limitations of this work and suggestions for future studies. Because it was conducted seventeen months after the pandemic was declared, the results reflect the consequences of prolonged and frequent exposure to the subject.

Keywords: News Exposure, Fear, COVID-19, Pandemic, Brazil.

Introduction

Excessive exposure to information (especially when it is inconclusive) may be one of the factors responsible for the increase in negative sensations and fear in health crises (GARFIN et al., 2020) and, since we live in a universe in which access to information is broad and diverse like the contemporary world, such problems tend to be exacerbated.

Since the World Health Organization (WHO) decreed a global pandemic of the coronavirus disease 2019 (COVID-19) on March 11th 2020 studies had being conducted in different countries and with different perspectives to try to lighten this scenario of lack of knowledge.

As it is a global and unprecedented health crisis in recent modern history, the general population also sought to understand the new reality that was emerging by searching for information through traditional media and digital platforms and this consumption of COVID-19–related news has forced changes in all aspects of social life, giving rise to negative feelings and sensations in a part of the population. (LINA et al., 2022).

After 17 months of the official declaration of the SARS-CoV-2 virus pandemic, people are no longer suffering from little information and there is already a prospect of improvement, yet the Covid-19–related news continue to influence people’s behavior.

Based on the above, this article aims to analyze and discuss the existence of a relationship between the expose to news about the pandemic and the sensation of fear among Brazilians in a scenario of greater knowledge about the disease, comparing the results of this research (when possible) with those of others carried out at the outbreak of the pandemic.

This research is justified since Brazil had become an emerging epicenter of the pandemic been the third country with the highest number of cases of the disease and the second in number of deaths (Our World in Data, 2023) and has experienced a complex communication environment throughout the pandemic, full of fake News and misinformation, which makes so important the understanding of the effect of such messages on population behavior.

Theoretical Reference

After the initial papers selection, a preliminary exam of the texts was carried out, cutting out those belonging to subareas that were not interesting to this study and keeping only those published in the subareas Social Sciences, Psychology, Business, Management and Accounting and Neuroscience, resulting in a total of 174 articles.

Finally, the studies that was not specifically address the topic of this research (relationship between the expose to news about the pandemic and the sensation of fear among Brazilians) were removed from the database, resulting in a final quantitative of 109 articles, used as a reference for this research.

Relationship between Covid-19 related News and negative feelings

On March 11th 2020, the World Health Organization (WHO) decreed a global pandemic of the coronavirus disease 2019 (COVID-19) (WHO, 2022). Arised in the city of Wuhan (China), the SARS-CoV-2 virus: COVID-19 arriving in Brazil in February 2020 and victimized until now (January 11, 2023) 664,985,863

million people with 6.71 million deaths; of which 36.6 million cases and 694,985 deaths were Brazilian (OUR WORLD IN DATA, 2023).

The sudden arrival of this unknown disease, without treatment and with high levels of transmission and lethality, led the general population to seek information in order to try to understand this new and clouded reality. At the beginning of the pandemic, social networks were extremely useful, as they allowed users to share news and personal experiences with the disease with each other (Fatimah; Santoso; Budi & Putra, 2021), but at the same pace that the internet was supplied with content of public interest, social networks and the media were also flooded with a flood of information, sometimes incomplete, sometimes false and almost all inconclusive, such a phenomenon was named infodemic.

Despite belonging to a fairly common family, the mutations observed in the SARS-CoV-2 virus: COVID-19 provoke physical and psychological reactions in their hosts that are different from those observed in other similar viruses, which causes their contagion to generate even more concern and anxiety. (PERES et al., 2021)

This context of uncertainties forced changes in all aspects of social life, including the consumer habits, such as online shopping, stockpiling, smaller stores buying, drive-thru picking out or purchasing processes requiring (Sheth, 2020; Szymkowiak et al., 2021 & Zwanka & Buff, 2021) and made part of the population experience negative feelings of fear and anguish. (SPARGERT et al., 2022).

Part of the justification for the development of these unwanted feelings related to the pandemic can be found in the great ease of access to information on the subject, which was concentrated, in large part, on the bad aspects of the pandemic, as pointed out by the research carried out by González-Padilla e Tortolero-Blanco (2020) and who (when investigating videos about the pandemic posted on the Youtube platform) attested that less than 30% of the videos presented the recommended prevention measures and less than half pointed out

the most frequent symptoms while almost 90% showed deaths and they talked about anxiety and the negative situation of the quarantine.

In this sense, this massive and (sometimes) biased coverage of the pandemic by the media, the lack of knowledge about the duration of this state and the consequences of the disease associated with the vigorous volume of fake news and out-of-context messages that characterized the COVID-19 infodemic form the ideal mixture for creating generalized fear and panic. (NAEEN, 2021).

An example that proves this statement was a study conducted in Wuhan and which pointed to an association between the appearance of symptoms related to anxiety and depression during the pandemic outbreak and exposure to information on the subject conveyed on social networks (more specifically the platforms WeChat and Weibo). (GAO et al., 2020).

Other researches indicated similar results (MERTENS et al., 2020 & HART et al., 2022) having concluded that frequent exposure to news about COVID-19 significantly affected the emergence of negative emotions of fear, worry, and anxiety being that digital media exerted more significant influence on the construction of this feeling compared to other media.

Specifically investigating the elderly population, Fhon et al.,(2022) characterized and identified depressive symptoms, anxiety and stress associated with the COVID-19 Infodemic in Brazilian elderly people from a sample containing 411 respondents, mostly female. Using a descriptive, exploratory and cross-sectional methodology, the results of this research indicated that 33.1% of respondents had anxiety and 39.7% had depressive symptoms and that the greater the number of people living with the elderly, the greater the symptoms.

Contrary to these results, work carried out by Merlo, Giraldi e Berto (2023) identified differences between youngest and oldest respondents, and among the youngest there is a strong perception of fear and an intense nervousness with news related to COVID while the oldest became more bothered by the situation but showed less fear during the pandemic.

In order to understand how the fear of SARS-CoV-2 virus: COVID-19 affected social behavior Ahorsu et al. (2020) developed the Fear of COVID-19 Scale (FCV-19S) from the interview of 717 Iranians. In this study the collected data was analyzed by multiple psychometric tests to assess their reliability and validity and the conclusion was the creation of a seven reliable and valid items scale to determine the fear of COVID-19 among the general population.

Based on this previous study different works proposed translating and validating of the FCV-19S scale: Martínez-Lorca et al. (2020), with Spanish university students; Lins & Aquino (2020), Peres et al. (2021) and Merlo, Giraldi & Berto (2023), with Brazilian social network users; Reznik et al. (2021), young adults from Russia and Belarus and Pang et al. (2022) with Malaysian university participants.

All the studies proved the scale is psychometrically acceptable, that so the FCV-19S sentences were used in this survey.

Methodological aspects

This is an exploratory, descriptive study that aims to investigate the influence of the COVID-19-related news on the feeling of fear among Brazilians by a simple cross-sectional method based on a single collection of information from a given sample.

The survey universe was people over 18 years old with frequent online use habits. A survey was proposed with five sentences extracted from the literature evaluate the fear of COVID-19 among Brazilians e duas utilizadas para caracterização da amostra.

The answers given to the fear of COVID-19 sentences were measured by the seven-point Likert scale with anchors of 1. Strongly Disagree and 7. Strongly Agree, and the sample characterization sentences were opens. How questions and authors are correlated in the construction of the instrument used for data collection is shown in Table 1.

Table 1 - Relation between questions and authors

Fear of COVID-19 questions	Authors
I feel discomfort thinking about COVID-19	Ahorsu et al. (2020) & Martínez-Lorca et al. (2020)
I am afraid of COVID-19	
I have trouble sleeping because I am worried about contracting COVID-19	Ahorsu et al. (2020) & Martínez-Lorca et al. (2020)
I am afraid to die of COVID-19	Ahorsu et al. (2020) & Martínez-Lorca et al. (2020)
I get nervous and anxious when hearing the news about COVID-19	Ahorsu et al. (2020) & Martínez-Lorca et al. (2020)
Sample Characterization questions	
	What is your age?
	What is your gender?

Source: Prepared by the authors.

The sentences were originally written in English and translated into Portuguese by the authors. Before the application a pre-test stage of the questionnaire was carried out with 25 people to assess the quality of the translations and the general construction of the questionnaire.

Since the instrument was approved, the data were collected using a self-administered electronic questionnaire. The decision of using this method is justified by the facility to access interviewees, low costs, quick collection of information and minimizes typographical errors since answers are sent directly to the database.

The questionnaire was made available by Google Forms platform and sent to respondents via email and WhatsApp message alongside an invitation letter. The survey was conducted between August 10 and 31, 2021, and had 246 respondents. Data were analyzed by descriptive statistics and a correlation matrix using, respectively, Microsoft Excel® and IBM® SPSS Statistics software.

As a sample selection methodology, a non-probabilistic method was adopted with participants being selected through the snowball method. This methodology was chosen since the objective of this work is to investigate the relationship between consumption and fear of COVID-19 in general and not among a specific group.

The data analyses was made using the regression coefficient analyses using the sentence “I get nervous and anxious when hearing the news about COVID-19” as the dependent variable and the others as independents variables. The resulting model equation is:

$$A = 0,253 + 0,443X1 + 0,133X2 + 0,215X3 + 0,163X4$$

In witch:

A= I get nervous and anxious when hearing the news about COVID-19

X1 = I feel discomfort thinking about COVID-19

X2 = I am afraid of COVID-19

X3 = I am afraid to die of COVID-19

X4 = I have trouble sleeping because I am worried about contracting COVID-19

With R = 0,739 and R2 (adjusted) = 0,538

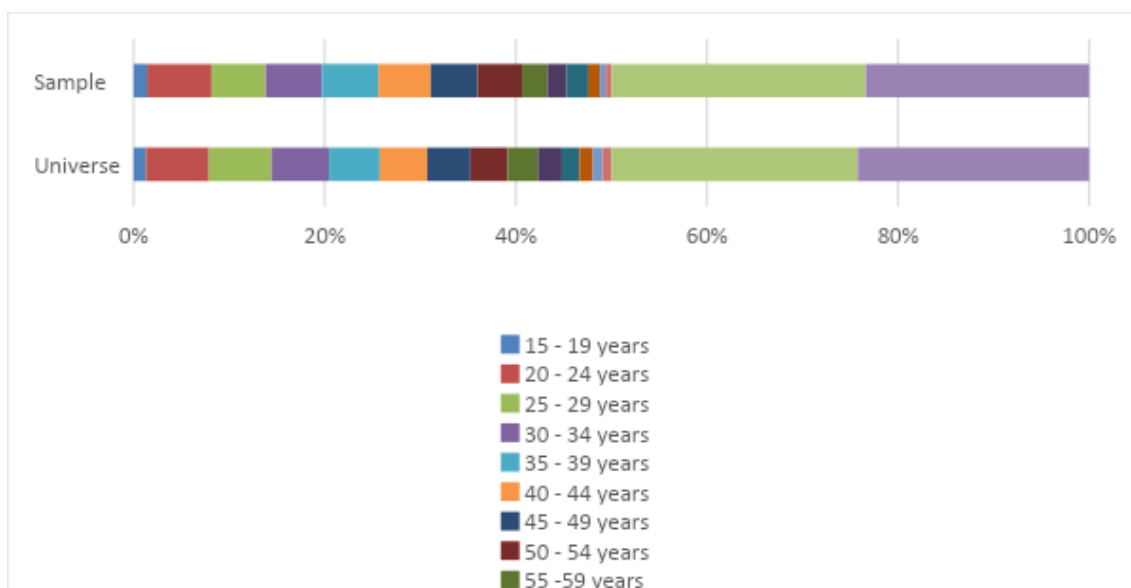
The Variance Inflation Factor (VIF) test was carried out on the variables and no adjustment problems were found (X1 = 1,754, X2 = 2,141, X3 = 1,919, X4 = 1,841).

Sample Characterization

The survey was carried out with people who indicated having done purchases in virtual stores in the 30 days before the survey and were over 18 years old. The research sample is made up of 246 respondents, 115 (46.75%) male and 131 (53.25%) female, aged between 18 and 89 years, with the majority of respondents aged between 20 and 44 years (146 respondents, 59.34% of the sample). The identification of the respondents profile was based on the answers to two questions: " How old are you?" and "What is your gender?"

The sample characterization is similar to the researched universe (Brazilian population) for both variables, gender and age, as seen in graphic 1. These data indicate that the research results can be extrapolated to the universe.

Graphic 1 - Relationship between universe and sample



Source: Prepared by the authors (2023).

Table 2 - Sample Characterization

Sample Characterization (years)	Universe						Sample					
	Male		Female		Total		Male		Female		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
15 - 19	1,767,792	2.80	1,599,380	2.36	3,367,172	2.58	4	3.48	3	2.29	7	2.85
20 - 24	8,630,229	13.6	8,614,963	12.7	17,245,192	13.1	16	13.9	17	12.9	33	13.4
25 - 29	8,460,995	13.4	8,643,419	12.7	17,104,414	13.0	12	10.4	16	12.2	28	11.3
30 - 34	7,717,658	12.2	8,026,854	11.8	15,744,512	12.0	17	14.7	12	9.16	29	11.7
35 - 39	6,766,664	10.7	7,121,915	10.5	13,888,579	10.6	13	11.3	16	12.2	29	11.7
40 - 44	6,320,568	10.0	6,688,796	10.0	13,009,364	10.0	10	8.70	17	12.9	27	10.9
45 - 49	5,692,014	9.02	6,141,338	9.08	11,833,352	9.05	11	9.57	13	9.92	24	9.76
50 - 54	4,834,995	7.66	5,305,407	7.84	10,140,402	7.76	8	6.96	15	11.4	23	9.35
55 a 59	3,902,344	6.18	4,373,877	6.46	8,276,221	6.33	8	6.96	5	3.82	13	5.28
60 - 64	3,041,035	4.82	3,468,085	5.13	6,509,120	4.98	3	2.61	7	5.34	10	4.07
65 - 69	2,224,065	3.52	2,616,745	3.87	4,840,810	3.70	6	5.22	5	3.82	11	4.47
70 - 74	1,667,372	2.64	2,074,264	3.07	3,741,636	2.86	3	2.61	3	2.29	6	2.44
75 - 79	1,090,517	1.73	1,472,930	2.18	2,563,447	1.96	2	1.74	1	0.76	3	1.22
80 - 89	979,382	1.55	1,507,073	2.23	2,486,455	1.90	2	1.74	1	0.76	3	1.22
Total	63,095,630	100	67,655,04	100	130,750,67	100	11	100	13	100	24	100

Source: Prepared by the authors (2023).

Results

In order to further analyze the impact of exposure to Covid-19 related News on the sensation of fear among Brazilians, a data correlation matrix was created, and the results can be seen below.

Table 3 - Correlation matrix: the relationship between exposure to Covid-19 related News on the sensation of fear

	1	2	3	4	5
1 - Nervousness and anxiety when hearing news news about COVID-19	1,00 0				
2 - Fear of COVID-19	0,56 6	1,00 0			
3 - Discomfort when thinking about COVID-19	0,66 6	0,75 8	1,00 0		
4 - Fear of die from COVID-19	0,60 7	0,74 8	0,61 8	1,00 0	
5 - Sleep trouble from worrieness about contracting COVID-19	0,48 6	0,33 6	0,43 7	0,37 9	1,00 0

Source: Prepared by the authors (2023).

The matrix resulting from the analysis indicated a large number of moderate ($0.40 \leq \rho \leq 0.69$) and strong (above 0.7) relationships, pointing to a significant relationship between the exposure to Covid-19 related News and the emergence of physical and psychological sensations: 1 - Nervousness and anxiety when hearing news news about COVID-19 Fear of COVID-19; Discomfort when thinking about COVID-19; Fear of die from COVID-19 and Sleep trouble from worrieness about contracting COVID-19.

Among the intersections, the relationship between Nervousness and Anxiety when hearing news about COVID-19 with the emergence of discomfort when thinking about COVID-19 ($p=0.666$) and the fear to die of COVID-19 ($p=0.607$) and the relationship between the Fear of COVID-19 and the emergence of discomfort when thinking about COVID-19 ($p=0.758$) and the fear to die of COVID-19 ($p=0.748$).

Discussion

As the scale has seven points, the maximum possible value is 35 points – top behavior level – and its minimum 5 points – minimum behavior level (since

seven questions were asked to assess this point). The frequency given in each answer can be seen in Table 4.

Table 4 - Answer Frequency

Scale Points	Frequency	Percentage	Valid Percentage	Accumulating Percentage
Fear of COVID-19				
1	14	5,69	5,69	5,69
2	13	5,28	5,28	10,98
3	9	3,66	3,66	14,63
4	16	6,50	6,50	21,14
5	35	14,23	14,23	35,37
6	51	20,73	20,73	56,10
7	108	43,90	43,90	100,00
Total	246	100,0	100,0	
Discomfort when thinking about COVID-19				
1	17	6,9	6,9	6,9
2	14	5,7	5,7	12,6
3	18	7,3	7,3	19,9
4	28	11,4	11,4	31,3
5	38	15,4	15,4	46,7
6	47	19,1	19,1	65,9
7	84	34,1	34,1	100,0
Total	246	100,0	100,0	
Fear of die from COVID-19				
1	37	15,0	15,0	15,0
2	22	8,9	8,9	24,0
3	21	8,5	8,5	32,5
4	21	8,5	8,5	41,1
5	30	12,2	12,2	53,3
6	28	11,4	11,4	64,6
7	87	35,4	35,4	100,0
Total	246	100,0	100,0	
Nervousness and anxiety when hearing news news about COVID-19				
1	39	15,9	15,9	15,9
2	24	9,8	9,8	25,6
3	20	8,1	8,1	33,7
4	27	11,0	11,0	44,7
5	48	19,5	19,5	64,2
6	46	18,7	18,7	82,9
7	42	17,1	17,1	100,0
Total	246	100,0	100,0	
Sleep trouble from worrieness about contracting COVID-19				
1	128	52,0	52,0	52,0
2	35	14,2	14,2	66,3
3	19	7,7	7,7	74,0
4	29	11,8	11,8	85,8
5	20	8,1	8,1	93,9
6	6	2,4	2,4	96,3
7	9	3,7	3,7	100,0
Total	246	100,0	100,0	

Source: Prepared by the authors (2023).

The collected data suggest that the Covid-19 related News produced negative feelings and psychological discomfort since 194 respondents (78,86% of total) indicated respostas acima dos 5 pontos ao falar sobre fear of COVID-19, 169 (68,70%) discomfort when thinking about COVID-19, 145 (58,94%) fear of

die from COVID-19 and 136 (55,28%) nervousness and anxiety when hearing news about COVID-19.

These values are similar to the findings of other surveys, such as Mertens et al. (2020); Hart et al. (2022) and Merlo, Giraldi e Berto (2023), which indicated that the frequency of media use in the search for information about COVID-19 increased negative emotions of fear, worry, and anxiety and that digital platforms exerted a more significant influence on the construction of this feeling compared to other media.

Coming to these findings study identified that social platforms had a significant impact on the development of panic regarding the COVID-19 pandemic and that there is a strong correlation between COVID-19 fear and social media. According to the survey, the impacts can differ depending on their age and gender (Lelisho; Pandey; Pandey & Tareke, 2022).

Although this specific study has not investigated the channel used by respondents to find out about COVID-19, it can be imagined that they also enjoy most digital social networks once the sample corresponds to users of such platforms, which makes the results exposed here also corroborate the results of the other studies presented.

Regarding the relationship between the fear of contracting COVID-19 and exposure to news related to COVID-19 indicated by this work is similar to others found in the literature. A study carried out during the Covid-19 Outbreak in Korea with 1,500 respondents identified a direct association between the appearance of negative feelings of fear about contracting COVID-19 and increased exposure to Covid-19 related News and the receipt of Nationwide Emergency Text Alerts (Lee et al., 2021).

Although the relationship between the exposure to news about COVID-19 and sleep disorder proved to be significant, this problem was rarely referred to since only 35 respondents reported answers above 5 points for this question. Such results contradict other studies found in the literature.

A study carried out by Kennedy et al. (2022) identified that the excess of information and news about the pandemic produced different sleep disorders in respondents, such as nightmares about confinement, in addition to feelings such as a feeling of failure, helplessness and anxiety in the same sense as the research by Léger et al. (2020) concluded the existence of poor sleep associated with overuse of media during the COVID-19 lockdown.

Complementing this data, works such as Choi et al. (2020); Okechukwu et al. (2020) indicated anxiety, sleep disorders and depression as common symptoms associated with the COVID-19 pandemic.

Final Considerations

The primary objective of this investigation was to scrutinize alterations in the fear of COVID-19 and consumer behavior by comparing studies conducted at the onset of the pandemic with more recent ones. It is evident from our findings that a discernible shift has taken place; notably, our respondents contradicted the notion posited in Hypothesis 1 by asserting a reluctance to engage in food stockpiling, a departure from prior research outcomes.

Our data further underscores the persistence of a tangible association between the apprehension of SARS-CoV-2 infection (COVID-19) and shifts in the purchasing patterns of Brazilian consumers. This correlation remains pertinent, largely attributable to the increased prevalence of e-commerce and visits to local establishments during the ongoing pandemic. Although the magnitude of this impact is somewhat diminished compared to the initial stages of the pandemic, as indicated by earlier studies.

Predicting the enduring societal and consumer changes post-pandemic is challenging. However, it is conceivable that market adaptation and consumer acclimatization to the evolving landscape of sales and delivery mechanisms will perpetuate the observed trends outlined in this study.

It is important to acknowledge a limitation in our study methodology, specifically the categorization of questions according to product types to identify the most pronounced changes. Furthermore, future research could benefit from

a sales-oriented perspective, examining how the pandemic has impacted businesses, particularly those accustomed to exclusively physical retail transactions. We recommend that subsequent studies explore moderating factors such as gender and age for a more comprehensive understanding of the dynamics at play.

References

CHOI, Edmond Pui Hang; HUI, Bryant Pui Hung; WAN, Eric Yuk Fai. Depression and anxiety in Hong Kong during COVID-19. **International journal of environmental research and public health**, v. 17, n. 10, p. 3740, 2020.

GAO, Junling et al. Mental health problems and social media exposure during COVID-19 outbreak. **Plos one**, v. 15, n. 4, p. e0231924, 2020.

GARFIN, Dana Rose; SILVER, Roxane Cohen; HOLMAN, E. Alison. The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. **Health psychology**, v. 39, n. 5, p. 355, 2020.

GONZÁLEZ-PADILLA, Daniel A.; TORTOLERO-BLANCO, Leonardo. Social media influence in the COVID-19 Pandemic. **International braz j urol**, v. 46, p. 120-124, 2020.

HART, Chelsie M. et al. Task-unrelated thought increases after consumption of COVID-19 and general. 2022.

KENNEDY, Kathryn ER et al. Nightmare content during the COVID-19 pandemic: Influence of COVID-related stress and sleep disruption in the United States. **Journal of Sleep Research**, v. 31, n. 1, p. e13439, 2022.

LEE, Ju-Yeon et al. Factors associated with a negative emotional response to news media and nationwide emergency text alerts during the covid-19 outbreak in Korea. **Psychiatry investigation**, v. 18, n. 9, p. 825, 2021.

LÉGER, Damien et al. Poor sleep associated with overuse of media during the COVID-19 lockdown. **Sleep**, v. 43, n. 10, p. zsa125, 2020.

MERLO, Edgard; GIRALDI, Janaina de Moura Engracia; BERTO, Matheus. Relation Between Consumption and Fear of Covid-19: a Brazilian Post-Vaccine Perspective. **Journal of Globalization, Competitiveness and Governability**, v. 17, n. 1, 2023.

MERTENS, Gaëtan et al. Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. **Journal of anxiety disorders**, v. 74, p. 102258, 2020.

NAEEM, Muhammad. Do social media platforms develop consumer panic buying during the fear of Covid-19 pandemic. **Journal of Retailing and Consumer Services**, v. 58, p. 102226, 2021.

OKECHUKWU, E. Chidiebere; TIBALDI, L.; LA TORRE, G. The impact of COVID-19 pandemic on mental health of Nurses. **La Clinica Terapeutica**, v. 171, n. 5, 2020.

Our World in Data. 2023. Coronavirus Pandemic (COVID-19) - Our World in Data accessed 11.01.2023. <https://ourworldindata.org/coronavirus>.

PERES, Rodrigo Sanches et al. Evidências de validade de uma versão brasileira da Fear of COVID-19 Scale. **Ciência & Saúde Coletiva**, v. 26, p. 3255-3264, 2021.

SHETH, Jagdish. Impact of Covid-19 on consumer behavior: Will the old habits return or die?. **Journal of business research**, v. 117, p. 280-283, 2020.

Spagert, L., Janssen, C., & Geigl, C. Mental health indicators and their lifestyle associations in German students: a gender-specific multivariable analysis. **BMC public health**, 22(1), 1-13, 2022.

SZYMKOWIAK, Andrzej et al. The impact of emotions on shopping behavior during epidemic. What a business can do to protect customers. **Journal of Consumer Behaviour**, v. 20, n. 1, p. 48-60, 2021.

TAREKE, Seid Ali et al. The prevalence and predictors of depressive, anxiety, and stress symptoms among Tepi town residents during the COVID-19 pandemic lockdown in Ethiopia. **Journal of racial and ethnic health disparities**, p. 1-13, 2022.

ZWANKA, Russell J.; BUFF, Cheryl. COVID-19 generation: A conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic. **Journal of International Consumer Marketing**, v. 33, n. 1, p. 58-67, 2021.