



**LEISURE PRACTICES AND MENTAL HEALTH OF UNIVERSITY  
STUDENTS: IMPACTS BEFORE, DURING AND AFTER THE COVID-19  
PANDEMIC**

**PRÁTICAS DE LAZER E SAÚDE MENTAL DE ESTUDANTES  
UNIVERSITÁRIOS: IMPACTOS ANTES, DURANTE E DEPOIS DA  
PANDEMIA DE COVID-19**

**PRÁCTICAS DE OCIO Y SALUD MENTAL DE ESTUDIANTES  
UNIVERSITARIOS: IMPACTOS ANTES, DURANTE Y DESPUÉS DE LA  
PANDEMIA DEL COVID-19**

**Marcos Gonçalves Maciel**


<https://orcid.org/0000-0002-8357-491X> 

<http://lattes.cnpq.br/1376277321226755> 

University of the State of Minas Gerais (Belo Horizonte, MG – Brasil)

[marcos.maciel@uemg.br](mailto:marcos.maciel@uemg.br)


**Aurora Madariaga Ortuzar**


<https://orcid.org/0000-0002-8369-2780> 

University of Deusto (Bilbau, Espanha)

[aurora.madariaga@deusto.es](mailto:aurora.madariaga@deusto.es)

**Cynara Cristina Domingues Alves Pereira**


<https://orcid.org/0000-0001-6597-9991> 


<http://lattes.cnpq.br/4400018935997887> 

State University of Campinas (Campinas, SP – Brasil)

[cynara.cristina@live.com](mailto:cynara.cristina@live.com)

**Valquiria Aparecida de Lima**


<https://orcid.org/0000-0002-3611-1760> 


<http://lattes.cnpq.br/2253444763324791> 

Support Education & Health at Work (Guarulhos, SP – Brasil)

[valquiria@supportesaude.com.br](mailto:valquiria@supportesaude.com.br)

**Leonardo Calix Soares**


<https://orcid.org/0009-0005-5046-5791> 


<http://lattes.cnpq.br/4337140137484348> 

Social Service of Commerce (São Paulo, SP – Brasil)

[calixleo@hotmail.com](mailto:calixleo@hotmail.com)

**Isabella Cristina Barboza Almeida**

<https://orcid.org/0009-0000-0227-2411> 



<http://lattes.cnpq.br/2880449991781239> 

University of São Paulo (São Paulo, SP – Brasil)

[isabella\\_almeida@usp.br](mailto:isabella_almeida@usp.br)



Ricardo Ricci Uvinha

<http://orcid.org/0000-0003-2936-9453> <http://lattes.cnpq.br/9022429185170882> 

University of São Paulo (São Paulo, SP – Brasil)

uvinha@usp.br

**Abstract**

Understanding the relationship between leisure and the mental health of university students during health crises is crucial to inform public policies. This study analyzed how transitions between pre-pandemic (2019), pandemic (2020-2022), and post-pandemic (2023) periods affected leisure practices and possibly the mental health of university students. A convenience sample of 242 students (43% men, 57% women; mean age  $30.3 \pm 10.2$  years) was surveyed using a structured questionnaire, applied in digital and printed formats, with the snowball sampling technique. Results indicated that the weekly frequency of leisure days remained stable ( $p = 0.25$ ), but leisure hours significantly decreased during the pandemic ( $p = 0.02$ ), with partial recovery in the post-pandemic period ( $p = 0.03$ ). These findings suggest that the pandemic impacted students' leisure practices, possibly influencing their mental health.

**Keywords:** Behavior Change; Public Policy; Physical Activity; Physical Education; Sport.

**Resumo**

Compreender a relação entre o lazer e a saúde mental de estudantes universitários em crises sanitárias é crucial para subsidiar políticas públicas. Este estudo analisou como as transições entre os períodos pré-pandêmico (2019), pandêmico (2020-2022) e pós-pandêmico (2023) afetaram as práticas de lazer e possivelmente a saúde mental de estudantes universitários. Uma amostra por conveniência de 242 estudantes (43% homens, 57% mulheres; média de idade de  $30,3 \pm 10,2$  anos) foi pesquisada por meio de um questionário estruturado, aplicado em formato digital e impresso, utilizando a técnica de amostragem em bola de neve. Os resultados indicaram que a frequência semanal de dias de lazer permaneceu estável ( $p = 0,25$ ), mas as horas de lazer diminuíram significativamente durante a pandemia ( $p = 0,02$ ), com recuperação parcial no período pós-pandêmico ( $p = 0,03$ ). Esses achados sugerem que a pandemia impactou as práticas de lazer dos estudantes, possivelmente influenciando sua saúde mental.

**Palavras-chave:** Mudança de Comportamento; Política Pública; Atividade Física; Educação Física; Esporte.

**Resumen**

Comprender la relación entre el ocio y la salud mental de los estudiantes universitarios durante crisis sanitarias es fundamental para respaldar políticas públicas. Este estudio analizó cómo las transiciones entre los períodos pre-pandémico (2019), pandémico (2020-2022) y post-pandémico (2023) impactaron las prácticas de ocio y posiblemente la salud mental de los estudiantes universitarios. Se encuestó a una muestra por conveniencia de 242 estudiantes (43% hombres, 57% mujeres; edad promedio de  $30,3 \pm 10,2$  años) mediante un cuestionario estructurado, aplicado en formatos digital e impreso, utilizando la técnica de muestreo en bola de nieve. Los resultados indicaron que la frecuencia semanal de días de ocio se mantuvo estable ( $p = 0,25$ ), pero las horas de ocio disminuyeron significativamente durante la pandemia ( $p = 0,02$ ), con una recuperación parcial en el período post-pandémico ( $p = 0,03$ ). Estos hallazgos sugieren que la pandemia impactó las prácticas de ocio de los estudiantes, posiblemente influyendo en su salud mental.

**Palabras clave:** Cambio de Comportamiento; Política pública; Actividad Física; Educación Física; Deporte.

**INTRODUCTION**

Leisure practices serve as a source of rest, social interaction, human development, and the maintenance and promotion of health. They shape leisure styles, reflecting how individuals organize their activities in terms of frequency, duration, and type. These styles are influenced by behavioral, social, cultural, and economic factors, adapting to each person's unique life context (Gunter; Gunter, 1980).





The onset of the COVID-19 pandemic in 2020 profoundly impacted leisure activities, as social distancing and lockdowns reshaped options worldwide. In-person activities like sports and cultural events were replaced by solitary digital alternatives, such as streaming platforms and online games. Barre *et al.* (2020) highlight that these shifts led to new forms of leisure adapted to health restrictions. In Brazil, cultural leisure activities during the pandemic were primarily virtual, intellectual, and manual, largely due to social distancing requirements, while traditional in-person activities like tourism, physical-sport, and social gatherings became less common in daily life (Teodoro *et al.*, 2021).

During the pandemic, an increase in the number of individuals reporting mental health issues was observed. While some reported having more free time, those with less free time were more likely to experience physical and mental health problems. Among these, anxiety and depression emerged as the most frequently reported conditions (Teixeira *et al.*, 2023).

Various academic publications have discussed the importance of leisure for maintaining and promoting mental health in the general population (Datillo, 2022; Menezes, 2021; Santos, Rocha, Kishimoto, 2024) and among university students (Castilho, Ribeiro, Ungheri, 2020; Deng *et al.*, 2021; Lopez-Vencio *et al.*, 2021; Oliveira *et al.*, 2022). University students were particularly affected by changes in leisure patterns during this period, largely due to their vulnerable situation. Factors such as the transition to adulthood, the pursuit of financial and emotional independence, and academic demands heightened stress and anxiety within this group (Vieira *et al.*, 2018; Zapata-Ospina *et al.*, 2021). Moreover, the stigma surrounding mental health, along with social isolation and professional uncertainty, further intensified this vulnerability during the pandemic (Tsouloupas *et al.*, 2023; Zhang *et al.*, 2022).

Before the COVID-19 pandemic, leisure was already a key component in relieving academic stress and promoting well-being among university students, providing essential social interaction and physical activity for emotional balance (Vieira *et al.*, 2018). However, social restrictions replaced collective leisure with solitary and digital activities, such as online games and consumption of audiovisual content (Yan *et al.*, 2023). Although useful, these activities did not provide the same benefits, exacerbating feelings of isolation and anxiety (Ding *et al.*, 2021). The combination of sedentary leisure and lack of outdoor activities contributed to the deterioration of mental health in this population (Tsouloupas *et al.*, 2023; Ribeiro; Mondini, 2022).



Following the relaxation of restrictions in 2023, there was an attempt to return to in-person leisure activities. Recent studies indicate that, even with the resumption of physical and social activities, many students still face readjustment difficulties, negatively affecting their mental health (Yumuk *et al.*, 2023; Chen *et al.*, 2023). This gradual return highlights the importance of re-engaging students in collective activities, which are fundamental for the recovery of mental health and quality of life.

These changes underscore the importance of understanding different types of leisure and their impacts on the mental health of university students. In this sense, this research seeks to answer the question: How did the COVID-19 pandemic affect the leisure practices of university students? The objective was to analyze how transitions between the pre-pandemic (2019), pandemic (2020-2022), and post-pandemic (2023) periods affected leisure practices and potentially impacted the mental health of university students.

This study is significant as it sheds light on the specific mental health challenges faced by university students during the pandemic. Social isolation, academic pressures, and financial uncertainty intensified this group's vulnerabilities, highlighting the role of adaptive leisure activities as essential for mental resilience. By examining leisure as a coping mechanism in times of elevated stress, this study fills a critical gap in understanding how targeted leisure interventions can support students' mental health. The findings can inform the development of public policies focused on expanding accessible leisure options, integrating mental health resources within educational settings, and promoting initiatives that reinforce the mental resilience of students, both in times of crisis and in their daily lives.

## MATERIALS AND METHODS

This is a quantitative, cross-sectional, and exploratory study. The sample was selected using a non-probabilistic convenience sampling method, employing the snowball sampling technique, which facilitates access to participants through peer and social network referrals. While practical, this sampling choice may introduce bias, limit diversity, and reduce data representativeness, preventing the generalization of findings to the broader population. The study included university students of male and female genders, aged 18 to 60, who were enrolled in undergraduate or graduate programs at higher education institutions. To ensure sample homogeneity and result validity, only questionnaires completed in full were included in the analysis, with partially completed questionnaires excluded from the study.





The data presented in this study are part of a broader "umbrella" research project, whose questionnaire on leisure habits was developed by the authors based on existing literature on the topic. To validate the instrument semantically, a pilot study was conducted with 149 participants (38.3% male, 61.7% female; mean age  $32.4 \pm 11$  years). The final questions, adjusted after the pilot study, were: "In a normal week, approximately how many hours do (did) you dedicate to leisure? [before the COVID-19 pandemic (2019), during (2020-2022), and after (2023)]", with responses on a scale from zero to more than five weekly hours, and "In a normal week, approximately how many days do (did) you dedicate to leisure? [before the COVID-19 pandemic (2019), during (2020-2022), and after (2023)]", using a scale ranging from zero to seven days. Sociodemographic variables (age, gender, marital status, education level, and income) were collected through multiple-choice questions.

Data collection took place between July and August 2023 and was carried out through a structured questionnaire, made available both digitally (via Google Forms) and in printed format (at a university in the metropolitan region of Belo Horizonte, Minas Gerais). The questionnaire was widely disseminated on social media and at higher education institutions through direct invitations and promotion by professors, aiming to reach as many students as possible.

The study was approved by the Research Ethics Committee under opinion number 6.790.635, in accordance with the guidelines of Resolution 510/2016 of the National Health Council, which regulates research involving human subjects in Brazil. All participants were informed of the study's objectives and formally consented to participate by digitally signing the Informed Consent Form before data collection began.

The data were initially described using descriptive statistics to characterize the sample and leisure styles. Continuous variables (age, leisure hours, and leisure days) were presented as means and standard deviations. For categorical variables (such as gender, income, education level, and marital status), means were used. To assess significant differences in leisure practices between the periods before, during, and after the pandemic, a One-Way ANOVA was employed. This test was chosen for its effectiveness in comparing means across multiple groups. Tukey's post-hoc tests were then applied to conduct pairwise comparisons and identify specific group differences. Additionally, the Shapiro-Wilk test was used to assess data normality, ensuring that the assumptions for ANOVA were met, thereby enhancing the



reliability of the results (Field, 2018; Howell, 2013). A significance level of  $p < 0.05$  was adopted for all analyses.

## RESULTS

A total of 246 individuals participated in the study, with a mean age of  $30.3 \pm 10.2$  years. The sociodemographic characteristics of the sample are described in Table 1.

**Table 1** – Sociodemographic data of the sample

Variable	Categories	(%)
Gender	Male	43
	Female	57
Marital status	Single	60.7
	Married	26.7
	Widower	0.4
	Divorce	4.9
	Other	7
Education level	Graduation	78.5
	Post-graduation	21.5
Income	Up to R\$ 2.899,00	38.21
	Between R\$ 2,900.00 and R\$ 7,099.00	46.34
	Between R\$ 7,100.00 and R\$ 21,999.00	13.82
	Above R\$ 22,000.00	1.63

**Source:** Survey data.

Table 2 presents the statistical results with p-values, referring to the hours and weekly frequency dedicated to leisure, in relation to the periods analyzed.

**Table 2** – Statistical Results for Leisure Hours and Weekly Leisure Frequency Across Analyzed Periods

Periods	Leisure hours		Leisure frequency	
	average	<i>p</i>	average	<i>p</i>
Before	2.8	-	2.2	-
During	2.5	0.02	2.2	0.25
After	2.6	0.03	2.0	0.25

**Source:** Survey data.

Data analysis revealed that the weekly frequency of leisure days did not show significant changes across the three periods analyzed: before the pandemic ( $M = 2.2$  days), during the pandemic ( $M = 2.2$  days), and after the pandemic ( $M = 2.0$  days). The analysis of



variance (ANOVA) indicated that the differences between periods were not statistically significant  $\{F(2, 244) = 1.37; p = 0.25\}$ , suggesting that students maintained the regularity of their leisure activities over time, regardless of the restrictions imposed by the pandemic.

On the other hand, the number of weekly hours dedicated to leisure underwent significant changes over the three periods investigated. Before the pandemic, students dedicated, on average, 2.8 hours per week to leisure. This number dropped significantly to 2.5 hours during the pandemic ( $p = 0.02$ ), highlighting the decrease in opportunities and available time for leisure during the most restrictive phases of the health crisis. After the pandemic, a partial recovery was observed, with participants reporting an average of 2.6 weekly hours dedicated to leisure ( $p = 0.03$ ). However, this recovery was insufficient to return to pre-pandemic levels. Tukey's post-hoc test confirmed that the most significant difference occurred between the periods before and during the pandemic ( $p < 0.05$ ).

An analysis of the variables based on age, divided into the following categories — 18-25, 26-35, 36-45, and 46-60 years — was conducted. This choice was based on life cycles that may reflect different leisure experiences. The analyses indicated that the greatest change in average leisure hours occurred in the 46-60 age group, with a significant reduction during the pandemic  $\{F(2, 52) = 3.19, p = 0.04\}$ . Leisure hours fell from 3.0 hours before the pandemic to 2.4 hours during, with a partial recovery to 2.6 hours after the pandemic. The intermediate age groups (26-35 and 36-45 years) remained stable, with no significant changes in leisure hours ( $p > 0.5$ ).

The results by gender showed that men experienced a significant reduction in leisure hours during the pandemic  $\{F(2, 120) = 3.08, p = 0.05\}$ , with an average of 2.5 hours compared to 2.9 hours before the pandemic. For women, there was no significant difference  $\{F(2, 123) = 1.12, p = 0.33\}$ , indicating stability in leisure hours over the periods. For both genders, the weekly frequency of leisure days was similar, with no significant variations across periods  $\{F(2, 243) = 1.37, p = 0.25\}$ .

Education level also influenced leisure practices. Undergraduate students reported a significant reduction in leisure hours during the pandemic compared to the previous period ( $p = 0.04$ ). However, participants enrolled in graduate programs did not show significant changes in the number of hours dedicated to leisure across the periods  $\{F(2, 244) = 0.47; p = 0.62\}$ .





Regarding income, the lower-income group (up to R\$ 2,899.00) and the intermediate-income group (R\$ 7,100.00 - R\$ 21,999.00) showed reductions in leisure hours over the periods, with the intermediate-income group experiencing a statistically significant reduction. For the lower-income group, leisure hours decreased from 2.9 hours before the pandemic to 2.4 hours after the pandemic, though this change was not statistically significant  $\{F(2, 177) = 2.13, p = 0.12\}$ . In the intermediate-income group, the reduction was significant  $\{F(2, 85) = 3.65, p = 0.03\}$ , with a sharp decline during the pandemic ( $M = 2.4$  hours) compared to the previous period ( $M = 3.3$  hours), followed by a partial recovery after the pandemic ( $M = 3.1$  hours). The analysis of leisure hours across different income groups reveals some fluctuations during the pandemic period, though none reached statistical significance.

For individuals within the income range of R\$ 2,900.00 to R\$ 7,099.00, there was a slight reduction in leisure hours during the pandemic, averaging 2.4 hours, followed by a partial recovery to 2.6 hours post-pandemic. However, this variation did not present a statistically significant difference across the periods analyzed  $F(2,193) = 1.50, p = 0.22, F(2,193) = 1.50$

## DISCUSSION

The results of this study provide a clear view of how the COVID-19 pandemic affected the leisure practices of university students, revealing significant changes in the number of weekly hours dedicated to leisure, though not in the weekly frequency of leisure days. These changes align with previous studies indicating a shift from interactive, in-person leisure activities to more solitary, digital forms, often with negative effects on mental health (Menezes, 2021; Zhang *et al.*, 2022).

Overall, the findings suggest that, despite maintaining a routine of leisure activities, students experienced substantial shifts in the quality and duration of these practices. In particular, certain groups, such as older students and men, exhibited greater reductions in leisure time, likely due to increased social responsibilities, including family and work obligations, and traditional gender roles that often prioritize productivity over personal leisure. These factors appear to have amplified barriers to maintaining leisure during the pandemic, an issue that will be further explored throughout the discussion.

The results indicate a significant reduction in the number of weekly hours dedicated to leisure during the pandemic ( $M = 2.5$  hours) compared to the pre-pandemic period ( $M = 2.8$  hours), with a partial recovery after the pandemic ( $M = 2.6$  hours), with  $p = 0.021$ . These







findings are consistent with those of Matos *et al.* (2020), who investigated the leisure experiences of physical education students at the Federal University of Pará, identifying that 73.1% of students reported a reduction in the time dedicated to leisure during the period of social isolation. The main barriers identified in that study were financial and psychological difficulties, including anxiety, which contributed to this reduction. Considering the reduction in leisure hours in this study, even with the weekly frequency maintained, suggests that students replaced time-consuming leisure activities with those that require fewer hours.

During the COVID-19 pandemic, several studies identified a significant shift toward virtual leisure activities among university students. In a study by Montenegro *et al.* (2020) conducted in Macapá, 89.9% of participants reported intensive internet use as their primary leisure activity, with 67.3% watching movies and 49.8% following live streams. Similarly, Ribeiro and Mondini (2022) found that 69% of students from the University of Campinas replaced in-person leisure with virtual activities, while 46% used digital platforms to maintain social connections. Further, Menezes (2021) and Santana *et al.* (2022) observed increased usage of platforms like YouTube, Netflix, and social networks, alongside tools such as Zoom and Google Meet for recreational activities. Although Barre *et al.* (2020) did not provide specific statistical data, their findings corroborate this trend, noting a rise in digital leisure, especially through social networks and streaming, as physical interactions diminished. Together, these findings underscore the dominant role of virtual leisure during social isolation, effectively replacing traditional physical and social leisure.

However, this type of leisure had negative effects on students' health (Montenegro *et al.*, 2020; Ribeiro, Mondini, 2022). These studies pointed out that although digital leisure was an alternative during the pandemic, it exacerbated problems of digital exclusion, especially among students with limited internet access, and increased emotional overload. The merging of leisure time, study, and work in the virtual environment made it difficult to separate leisure activities from academic obligations, resulting in higher levels of stress and anxiety among university students. The literature review conducted by Yumuk *et al.* (2023) suggests that these virtual practices, which were adapted during the restriction period, are likely to remain part of participants' leisure routines after the pandemic.

The significant reduction in leisure hours during the pandemic can be explained by a combination of factors, including the increase in academic responsibilities and the emotional overload experienced by students. Previous studies indicate that during the pandemic,





university students experienced elevated levels of anxiety, stress, and depression, which directly affected their ability to engage in recreational activities (Deng *et al.*, 2021). The replacement of traditional leisure forms with digital alternatives, which require less time and provide fewer benefits for physical and mental health, may have contributed to this decrease in leisure hours (Ribeiro; Mondini, 2022).

During the COVID-19 pandemic, a significant reduction in leisure hours was observed among men ( $p = 0.04$ ), with an average of 2.5 hours compared to 2.9 hours before the pandemic. For women, however, no significant difference was observed ( $p = 0.25$ ). This reduction among men aligns with previous studies indicating that men generally engage more in physical and social leisure activities, which were particularly affected by pandemic restrictions (Bureau of Labor Statistics, 2019). In contrast, women's leisure practices remained more stable, possibly due to cultural and social factors. Research suggests that women traditionally have less leisure time due to domestic and caregiving responsibilities, limiting variations in their recreational activities during the pandemic (Pew Research Center, 2013).

However, specific leisure activities, such as physical exercise, saw a decline among women, largely due to the increase in domestic and caregiving duties during school closures (Santana *et al.*, 2022). These circumstances highlight the disproportionate burden placed on those managing household duties, especially during times of crisis (Bavel *et al.*, 2020).

This gender difference reflects the inequality in leisure time distribution, which, under normal conditions, tends to favor men. During the pandemic, this difference was mitigated, as many common leisure activities among men, such as sports and in-person socialization, were restricted. This scenario also underscores the need for further analysis on how social and cultural pressures shape men's and women's leisure practices differently (Zhang *et al.*, 2022).

The findings of this study indicated that while undergraduate students experienced a significant reduction in leisure time between the pre-pandemic and pandemic periods ( $p = 0.04$ ), graduate students did not show significant changes in leisure time across the analyzed periods ( $p = 0.62$ ). Although previous studies have not directly compared changes in leisure time across these educational levels, the results can be interpreted in light of research by Corrêa *et al.* (2022) and Assunção-Luiz *et al.* (2021), which examined the mental health of undergraduate and graduate students during the pandemic. This suggests a potential link between psychological impact and leisure behaviors in these groups.





Corrêa *et al.* (2022) found that 45% of graduate students reported high levels of anxiety and stress during the pandemic, largely due to productivity demands and academic deadlines. This pressure may explain the stability in leisure time among graduate students; despite the psychological strain, their overloaded academic routines left little room for change in leisure time. Similarly, Assunção-Luiz *et al.* (2021) reported that 87% of Brazilian university students, both undergraduate and graduate, experienced elevated anxiety and stress. However, graduate students, in particular, faced greater academic pressure and challenges adapting to remote learning, often without adequate institutional support. These conditions may have limited their flexibility in reducing or adjusting leisure time, resulting in stability despite the adversities of the pandemic.

These findings suggest that the pandemic's impact on mental health and academic demands was experienced differently by undergraduate and graduate students, influencing their leisure practices. Undergraduate students appeared to reduce leisure time in response to adaptation challenges and heightened anxiety, while graduate students maintained consistent leisure routines, albeit under considerable academic pressure. This emphasizes the need to explore how varying academic levels affect students' ability to balance academic responsibilities with emotional well-being.

The results of this study showed a significant reduction in leisure hours among university students aged 46-60, with a decrease from 3.0 to 2.4 hours during the pandemic ( $p = 0.04$ ). This age group, along with their academic responsibilities, also handles family and professional duties, likely contributing to this more pronounced decline in leisure time. In contrast, younger students (18-45 years) maintained more stable leisure hours, possibly due to their greater flexibility and adaptability to digital leisure options during confinement.

The age groups used (18-25, 26-35, 36-45, and 46-60 years) reflect distinct life stages that influence leisure opportunities and responsibilities. Students in the older age group (46-60 years) tend to carry a higher accumulation of responsibilities, explaining the significant reduction in leisure time. Meanwhile, the intermediate age groups (26-35 and 36-45 years) demonstrated more stability, suggesting they were better able to balance their responsibilities with leisure and adapt to the new forms of leisure introduced by the pandemic.

No studies were identified in the literature that specifically address this age-based division among university students, highlighting a gap in existing research. These results offer insights into how age, responsibility, and leisure interact in this population. In particular, the





greater flexibility of younger students allowed them to rely on digital leisure as a way to sustain recreational activities during confinement, underscoring the role of adaptability in mitigating the pandemic's impact on leisure.

The analysis by income groups reveals a heterogeneous pattern in the pandemic's impact on leisure hours. The middle class (R\$ 7,100.00 — R\$ 21,999.00) was the most affected ( $p = 0.029$ ), followed by a slight reduction in the income range between R\$ 2,900.00 and R\$ 7,099.00 ( $p = 0.224$ ). The upper class (above R\$ 22,000.00) showed a less pronounced and non-significant variation ( $p = 0.512$ ).

These differences can be explained by disparities in access to resources and leisure opportunities between income groups. Lower and middle-income individuals may have faced more financial difficulties and restrictions during the pandemic, resulting in a greater reduction in their leisure hours. Additionally, economic responsibilities and the direct impact of confinement measures on more vulnerable occupational sectors may have further limited the time available for leisure, especially compared to higher-income groups, who were less affected and had more access to leisure alternatives, such as digital or outdoor options, which remained viable during confinement.

Although there are no direct references that fully support these findings in the specific context of university students from different income groups, the inferences made based on socioeconomic inequalities are consistent with the literature, which points out that lower-income populations generally face more difficulties in maintaining a balance between work, study, and leisure, especially in times of crisis. The absence of specific research in this niche makes comparisons more challenging, but the analysis conducted here offers a plausible justification for the observed reductions, given the disproportionate socioeconomic impact of the pandemic on lower and middle-income classes.

As with the differences observed between age groups, the variations in leisure hours by income group suggest that the pandemic exacerbated pre-existing inequalities, resulting in a greater reduction in leisure activities among the more financially vulnerable groups. On the other hand, higher-income groups, less affected by economic restrictions, were able to maintain their leisure activities more stably, reinforcing the importance of considering both economic aspects and life stages when analyzing the pandemic's impact on leisure.

The findings of this study have important implications for the development of intervention strategies aimed at promoting the mental health of university students. The





maintenance of leisure practices, even in crisis contexts, proves to be fundamental for emotional resilience and for mitigating the negative impacts of social isolation. Public policies that promote equitable access to leisure, especially for low-income students, should be a priority, ensuring that all students have opportunities to engage in recreational activities, both physical and digital (Appleby *et al.*, 2022; Crochemore-Silva *et al.*, 2020).

Moreover, universities can play a central role in promoting programs that encourage diverse and accessible leisure practices, directly contributing to students' mental health. The creation of leisure spaces within universities, as well as the development of extension activities focused on leisure, are essential measures to ensure that students have access to safe and inclusive leisure forms, especially in times of health crises.

## CONCLUSION

This research aimed to analyze how transitions between the pre-pandemic (2019), pandemic (2020–2022), and post-pandemic (2023) periods affected leisure practices and potentially impacted the mental health of university students. The findings demonstrated that the number of hours dedicated to leisure significantly decreased during the pandemic, with partial recovery afterward. The stability in the weekly frequency of leisure days suggests that students maintained leisure activities, albeit adjusted to the constraints imposed by social isolation and lockdowns. These results highlight the flexibility of leisure practices in health crises and their role in students' adaptation to challenging circumstances.

The analysis by age and sociodemographic groups showed that older individuals, men, and those with lower incomes were the most affected, experiencing significant reductions in leisure hours due to factors such as family responsibilities, limited access to leisure spaces, and a greater reliance on in-person activities. Conversely, women and participants with higher levels of education and income demonstrated greater resilience, likely due to their ability to transition to digital leisure activities or access more resources for recreational activities at home. These findings emphasize the importance of considering sociodemographic variables when analyzing leisure practices, especially in the context of a global health crisis.

Despite its contributions, this study has limitations that should be acknowledged. The absence of direct mental health measures, such as validated scales for anxiety, depression, or subjective mental health, limits the strength of the evidence connecting leisure practices to mental health outcomes. However, the observed changes in leisure patterns and the





vulnerabilities identified among certain groups align with existing research on the role of leisure in promoting psychological resilience and mental health. Additionally, the sample consisted exclusively of university students within a specific age range, which may restrict the generalizability of the results to other populations. Finally, the reliance on self-reported data introduces potential biases, such as selective memory or subjective interpretation of the questions.

Future research should address these limitations by incorporating validated mental health instruments, enabling a more robust and detailed analysis of the relationship between leisure practices and mental health. Expanding the sample to include students from diverse regions, age groups, and countries would allow for more comprehensive comparisons of how the pandemic impacted leisure practices across various social and cultural contexts. Furthermore, investigating not only the quantity but also the quality of leisure activities — such as digital, physical, and cultural practices — could provide deeper insights into their psychological and emotional impacts. Developing leisure quality scales and exploring leisure as a mediator of emotional resilience in crisis situations are promising directions for further research.

These findings have important implications for public policies and institutional programs aimed at promoting the mental health of university students. Considering that leisure is intrinsically linked to mental health, universities could benefit from implementing diverse and accessible leisure initiatives. Programs that encourage both in-person and digital or remote leisure activities could better meet the varying needs of students, especially in times of social restrictions. Additionally, creating accessible leisure spaces within universities, such as outdoor activities that comply with social distancing guidelines, is an essential measure. Promoting extension activities focused on leisure can also help students develop social support networks, which are crucial for their mental health, as suggested by studies on the importance of social belonging.

For low-income and lower-education students, who were most affected by the reduction in leisure hours during the pandemic, the creation of policies that ensure equitable access to leisure is even more urgent. This includes developing initiatives that provide free or subsidized access to digital leisure platforms, which were widely used during the pandemic. Governments and higher education institutions should recognize leisure as an essential right



for the promotion of mental health, particularly in times of crisis, and ensure that resources for leisure activities are accessible to all students, regardless of their socioeconomic status.

## REFERENCES

ASSUNÇÃO LUIZ, Alan Vinicius Assunção *et al.* Impactos da covid-19 em alunos da pós-graduação. **Olhares & trilhas**, v. 23, n. 2, p. 538-554, 2021.

APPLEBY, Jennifer A. *et al.* Impact of the covid-19 pandemic on the experience and mental health of university students studying in Canada and the UK: a cross-sectional study. **BMJ Journal**, v. 12, n. 1, p. 1-13, 2022.

BARRE, Sezane *et al.* Thinking about leisure during a global pandemic. **Leisure studies journal**, v. 62, n. 4, p. 306-310, 2020.

BAVEL, Jay J. Van *et al.* Using social and behavioural science to support covid-19 pandemic response. **Nature human behaviour**, n. 4, p. 460-471, 2020.

BUREAU OF LABOR STATISTICS. American Time Use Survey. U.S. Department of Labor, 2019. Available at: <<https://www.bls.gov/news.release/atus.nr0.htm>>. Accessed: 10 oct. 2024.

CASTILHO, César Teixeira; RIBEIRO, Sheylazarth Presciliana; UNGHERI, Bruno Ocelli. Distanciamento social e tempo livre: paradoxos vivenciados por estudantes da Universidade Estadual de Minas Gerais no âmbito do lazer. **Revista brasileira de estudos do lazer**, v. 23, n. 3, p. 93-125, 2020

CORRÊA, Roberta Pires. **A pandemia de covid-19: impactos e desafios em comunidades acadêmicas e de saúde brasileiras**. 2022. 268f. Tese (Doutorado em Ensino em Biociências e Saúde). Instituto Oswaldo Cruz, Fundação Oswaldo Cruz, Rio de Janeiro, 2022.

CROCHEMORE-SILVA, Inácio *et al.* Promoção de atividade física e as políticas públicas no combate às desigualdades: reflexões a partir da lei dos cuidados inversos e hipótese da equidade inversa. **Cadernos de saúde pública**, v. 36, n. 6, p. 1-9, 2020.

DATILLO, John. Global leisure debate: responses to challenges on leisure, mental health and well-being, **World leisure journal**, v. 64, n. 3, p. 304-305, 2022.

DENG, Jiawen *et al.* The prevalence of depressive symptoms, anxiety symptoms and sleep disturbance in higher education students during the covid-19 pandemic: a systematic review and meta-analysis. **Psychiatry research**, v. 301, P. 1-20, 2021.

DING, Kele *et al.* Mental health among adults during the covid-19 pandemic lockdown: a cross-sectional multi-country comparison. **International journal of environmental research and public health**, v. 18, n. 5, p. 1-16, 2021.







GUNTER, Bruce G.; GUNTER, Nancy C. Leisure styles: a conceptual framework for modern leisure. **The sociological quarterly**, v. 21, n. 3, p. 361-374. 1980.

HOWELL, David C. **Statistical methods for psychology**. 8. ed. Belmont, USA: Cengage Learning, 2013.

LOPEZ-VALENCIANO, Alejandro *et al.* Impact of covid-19 pandemic on university students' physical activity levels: an early systematic review. **Frontiers in psychology**, v. 11, p. 1-10, 2021.

MATOS, Lucília da Silva *et al.* Vivências do lazer para discentes do curso de educação física da Universidade Federal do Pará no contexto da pandemia da covid-19. **Licere**, v. 23, n. 3, p. 251-258, 2020.

MENEZES, Suzy Kamylla de Oliveira. Lazer e saúde mental em tempos de covid-19, **Licere**, v. 24, n. 1, p. 408-446, 2021.

MONTENEGRO, Gustavo Meneschy; QUEIROZ, Bruno da Silva; DIAS, Mairna Costa. Lazer em tempos de distanciamento social: impactos da pandemia de covid-19 nas atividades de lazer de universitários na cidade de Macapá (AP), **Licere**, v. 23, n. 3, p. 1-26, 2020.

OFFICE FOR NATIONAL STATISTICS. **Gender differences in unpaid work**. United Kingdom. 2016. Available at: <<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/women>>. Accessed: 10 oct. 2024.

OLIVEIRA, Eliany Nazaré *et al.* Saúde mental de estudantes do ensino superior durante a pandemia da covid-19: revisão de escopo. **Revista saúde em redes**, v. 8, n. 3, p. 405-221, 2022.

PEW RESEARCH CENTER. **Time in work and leisure, patterns by gender and family structure**. United States of America 2013. Available at: <https://www.pewresearch.org/social-trends/2013/03/14/modern-parenthood/>. Accessed: 10 oct. 2024.

RIBEIRO, Olívia Ferreira; MONDINI, Dario Rosa. Lazer e barreiras sociais para universitários da FEF/UNICAMP durante a pandemia de Covid-19, **Revista brasileira de estudos do lazer**, v. 9, n. 3, p. 55-75, 2022.

SANTANA, Willian Ferraz *et al.* The decrease in the physical activity levels during the covid-19 social distancing period. **Motriz**, v. 28, p. 1-10, 2022.

SANTOS, Ellen Jane Barbosa; ROCHA, Nicolás; KISHIMOTO, Simone Thiemi. Práticas de lazer e sua influência na saúde mental da população brasileira durante a pandemia da covid-19, **Revista brasileira de estudos do lazer**, v. 27, n. 1, p. 67-82, 2024.

TEODORO, Maycoln Leôni Martins *et al.* Saúde mental em estudantes universitários durante a pandemia de covid-19. **Revista família, ciclos de vida e saúde no contexto**, v. 9, n. 2, p 372-383, 2021.





TSOULOUPAS, Costas N.; KOKKINOS, Constantinos M. Mind, body, and pandemic: understanding the complex relationships between subjective well-being, physical activity, and perceived multi-dimensional covid-19 impact. **Sage open**, v. 13, n. 4, p. 1-12, 2023.

VIEIRA, Júlia Lelis; ROMERA, Liana Abrão; LIMA, Maria Cristina Pereira. Lazer entre universitários da área da saúde: revisão de literatura, **Ciência & saúde coletiva**, v. 23, n. 12, p. 4221-4229, 2018.

YAN, Yihan *et al.* The relationship between leisure activities and the mental health of college students during the covid-19 pandemic. **World leisure journal**, v. 63, n. 1, p. 119-142, 2023.

YUMUK, Elvan Deniz; SALTIMIS, Sinan Erdem; HAMDI, Alper Güngörmüş. Back to the leisure: covid scene vs. the post-covid era in leisure activity participation. **Journal of sports for all and recreation**, v. 5, n. 1, p. 22-26, 2023.

ZAPATA-OSPINA, Juan Pablo *et al.* Intervenciones para la salud mental de estudiantes universitarios durante la pandemia por covid-19: una síntesis crítica de la literatura. **Revista colombiana de psiquiatría**, v. 50, n. 3, p. 199-213, 2021.

ZHANG, Stephen X. *et al.* Mental disorder symptoms during the covid-19 pandemic in latin america – a systematic review and meta-analysis. **Epidemiology and psychiatric sciences**, v. 31, n. e23, p. 1-13, 2022.

#### Dados do primeiro autor:

Email: marcos.maciel@uemg.br

Endereço: Avenida São Paulo, 3.996, Vila Rosário, Ibirité, MG, CEP: 32400-000, Brasil.

Recebido em: 27/10/2024

Aprovado em: 28/11/2024

**Como citar este artigo:** MACIEL, Marcos Gonçalves *et al.* Leisure practices and mental health of university students: impacts before, during and after the covid-19 pandemic. **Corpoconsciência**, v. 28, e.18622, p. 1-17, 2024.

