CONSUMPTION OF ULTRA-PROCESSED PRODUCTS AND COFFEE AMONG UNIVERSITY PROFESSORS: AN ANALYSIS BY AREA OF ACTIVITY

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Abstract: Contemporary diets have been marked by the increased consumption of ultra-processed foods, rich in sugars, fats and additives, often associated with chronic non-communicable diseases (NCDs). Coffee, one of the most consumed beverages worldwide, has been studied for its stimulating effects and potential health benefits. In the university environment, professors face long working hours and high levels of stress, factors that influence their food choices. However, there is a gap in the literature on the consumption of ultra-processed foods and coffee among university professors, considering their area of activity. This study aims to analyze the consumption of these products among professors from different areas of knowledge, understanding structural and cultural factors that influence such choices and proposing strategies to promote healthy eating. The research, with a quantitative and cross-sectional approach, will use structured questionnaires for data collection, with a sample stratified between health sciences, humanities and exact sciences. Statistical analysis will be conducted through tests such as ANOVA and logistic regression. The results indicated that coffee consumption is high, varying between academic areas. Health and exact sciences professors consume 1 to 3 cups a day, while biology professors have a lower prevalence. As for ultra-processed foods, the frequency also varies, being lower in the biology area. The conclusions highlight the need for institutional strategies to encourage healthy eating habits, contributing to the quality of life and

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performance of professors in the university environment.

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INTRODUCTION

Contemporary food has been marked by the growing consumption of ultra-processed foods, which are industrial formulations rich in sugars, fats, additives and poor in essential nutrients. These products are associated with an increase in chronic non-communicable diseases (NCDs), such as obesity, diabetes, and cardiovascular disease, as highlighted by Monteiro et al.,(2019) and Lane et al.,(2021). At the same time, the consumption of coffee, one of the most consumed beverages globally, has been studied for its stimulating effects and potential health benefits, such as improved cognitive and physical performance, according to Nehlig (2016).

In the university context, teachers face specific challenges, such as long working hours and stress, which influence their food choices. However, there is a gap in the literature on the consumption profile of ultra-processed foods and coffee among university professors, especially when analyzed by area of expertise. This study seeks to fill this gap by investigating how these eating practices manifest themselves in this specific group. The pertinent problem is: What are the consumption patterns of ultra-processed products and coffee among university professors from different areas of knowledge, and how do structural and cultural elements of these areas influence these choices?

This study focuses on the consumption of ultra-processed foods and coffee among university professors, with emphasis on the differences observed between areas of activity, such as health, human and exact sciences. The choice of this approach is justified by the relevance of the theme to public health and the need to understand how occupational and disciplinary factors influence eating habits. In addition, the COVID-19 pandemic has exacerbated changes in dietary patterns, as evidenced by Lima et al.,(2023) and Silva et al.,(2024), making the analysis of these practices in the post-pandemic

context even more relevant.

The social relevance of this study lies in the impact that eating habits have on the health and quality of life of university professors, professionals who work in academia and in the production of knowledge. The understanding of these patterns can support health promotion policies in the university environment.

Scientifically, the study contributes to the literature on food and health, by exploring the nuances of ultra-processed food and coffee consumption in a specific group, considering variables such as area of activity and pandemic context. In addition, the findings can help in the development of strategies to reduce the consumption of harmful foods and promote healthier eating practices, in line with the recommendations of the Food Guide for the Brazilian Population (2014), as discussed by Barbosa et al., (2020).

This study will adopt a quantitative and cross-sectional approach, using structured questionnaires to collect data on the consumption of ultra-processed foods and coffee among university professors. The sample will be stratified by area of activity (health, human and exact sciences), ensuring the representativeness of each group. The data will be analyzed through descriptive and inferential statistics, using tests such as ANOVA and logistic regression to identify associations between variables. As suggested by Galesi-Pacheco et al.,(2019) and López-Olivares et al.,(2023). The research will follow the ethical principles of Resolution 510/2016 of the National Health Council.

The general objective of this study is to analyze the profile of consumption of ultra-processed foods and coffee among university professors, considering the differences by area of activity. As specific objectives, it is sought: To compare eating habits among professors from different areas of activity and to propose strategies for the promotion of healthy eating in the university environment, based on the findings of the study.

METHODOLOGY

This descriptive field research, with qualitative-quantitative analysis, was carried out with 186 university professors in the areas of biology, humanities, exact sciences and health, from all regions of Brazil. The study aimed to analyze different aspects of the eating behavior and physical activity of these teachers. For data collection, a form was developed on Google Forms, containing 29 questions. Of these, 10 were demographic, while 10 specific questions addressed the regularity of physical exercise. In addition, 6 questions about carbohydrate and coffee consumption were included, with closed answer options: Sporadic (less than 2 times a month), 1 to 3 times a week, 1 to 2 times a day, 4 or more times a week, and No Consumption.

The sample was composed of university professors working in higher education institutions from all regions of Brazil, without distinction of age, sex or color. The selection of participants took place through direct invitation and dissemination of the form in academic networks and groups of professors. Only those who agreed to approve the Informed Consent Form (ICF) online participated. Teachers who were not working in higher education or who refused to apply for the ICF were excluded.

RESULT AND DISCUSSION

The table presents the distribution of coffee consumption among students from different academic areas (Biological, Exact, Human and Health), categorized into consumption ranges (1-3 cups, 3-6 cups, 6 cups or more, and non-consumers).

Area	1 to 3 cups	3 to 6 cups	6 cups or more	I don't consume coffee
Biological	55.56%	33.33%	0.00%	11.11%
Exact	64.71%	11.76%	11.76%	11.76%
Human	61.54%	19.23%	7.69%	11.54%
Health	68.18%	12.12%	6.06%	13.64%

Table 1: Survey data (2025).

It is observed that most students consume coffee, with percentages ranging from 55.56% (Biological) to 68.18% (Health) in the range of 1-3 cups daily. This pattern of consumption aligns with the evidence presented by Nehlig (2016), who highlighted that moderate coffee consumption (up to 400 mg of caffeine daily, equivalent to approximately 5 cups) is not harmful and can have positive effects on alertness, concentration, and mood. However, the table also reveals that a significant portion of teachers (11.11% to 13.64%) do not consume coffee, which may indicate individual differences in caffeine sensitivity or personal preferences.

The study by Pereira et al.,(2023) corroborates the relevance of coffee consumption in the university context, by investigating the relationship between caffeine consumption and the prevalence of migraine among students and professors. Although most participants (95%) consumed between 1-5 cups of coffee daily, no significant association was found between the amount of coffee ingested and the frequency of headache ($p=0.315$). This result suggests that, although coffee consumption is high, its influence on health may vary according to individual factors, such as sensitivity to caffeine and predisposition to disorders such as migraine.

With regard to vocal health, Bhatti et al., (2024) investigated the impact of caffeine consumption on university professors, finding that 80.11% of the participants were caffeine consumers. However, the study did not identify a significant relationship between caffeine consumption and vocal impairments, suggesting that other factors, such as gender and age, have a greater influence on this aspect. This finding is relevant for the interpretation of the table, as it indicates that, although coffee consumption is prevalent, its effects may not be uniform across different dimensions of health.

LaRocca (2020) explored the relationship between caffeine consumption, stress, and anxiety among university professors, highlighting that caffeine use is associated with habits, comfort, and productivity. This consumption pattern is related to the data in the table, which show a high prevalence of coffee consumption among teachers in all areas, possibly reflecting the search for greater alertness

and academic performance. However, the study also points out that anxiety and stress are influenced by factors other than caffeine consumption, such as cultural issues, which highlights the complexity of this relationship.

Brand and Koch (2016) discussed the use of caffeine pills for cognitive enhancement among college students, highlighting that attitude toward neuroenhancement and subjective norm are important predictors of behavior. This finding is related to the present study, as it shows a significant consumption of coffee among teachers, especially in the range of 1-3 cups per day. The preference for traditional methods of consuming caffeine, such as coffee, over pills, reflects cultural differences or differences in access to these substances.

López-Olivares et al.,(2023) and Barbosa et al.,(2020) addressed the relationship between dietary patterns and health, highlighting the importance of a balanced diet. Although coffee consumption is common, as evidenced in the table, it is necessary to consider that it must be part of a healthy lifestyle, which includes physical activity and other appropriate eating habits. The high prevalence of coffee consumption is indicative of dietary practices that prioritize convenience and immediate stimulation, to the detriment of a more balanced approach.

Table 2: Data from the survey on ultra-processed foods (2025).

Area of Expertise	Ultra-Processed Product	Sporadic (less than 2 times a month)	1 to 3 times a week	1 to 2 times a day	4 or more times per week	Non-Consumption
Health	Ultra-processed and Sausage	50%	33,30%	16,70%	-	10%
Human		33,30%	41,70%	12,50%	-	8,30%
Exact		41,20%	41,20%	-	-	5,90%
Biological		33,30%	-	16,70%	-	33,30%
Health	Frozen Ready Preparations	40%	33,30%	10%	-	10%
Human		33,30%	41,70%	12,50%	-	8,30%
Exact		41,20%	41,20%	5,90%	-	5,90%
Biological		33,30%	-	16,70%	-	33,30%
Health	Cookies, Biscuits and Industrialized Cakes	40,91%	36,36%	13,64%	-	9,09%
Human		38,89%	38,89%	11,11%	11,11%	5,56%
Exact		60%	40%	-	-	-
Biological		66,67%	33,33%	-	-	-

Health	Ice Cream, Sweet Pies, Candies and Sugary Candies	40,91%	36,36%	13,64%	-	9,09%
Human		38,89%	38,89%	11,11%	11,11%	5,56%
Exact		60%	40%	-	-	-
Biological		66,67%	33,33%	-	-	-
Health	Soft Drinks, Carbonated Beverages, Boxed and Powdered Juices	33,30%	25%	8,30%	8,30%	25%
Human		28,60%	14,30%	14,30%	28,60%	14,30%
Exact		33,30%	33,30%	-	-	33,30%

Source: Synthesis form in Google Forms (2025).

Table 2 shows the distribution of the consumption of ultra-processed foods among different areas of activity, highlighting significant variations. In the area of Health, for example, 50% of respondents consume “ultra-processed foods and sausages” sporadically (less than 2 times a month), while 16.7% consume them 1 to 2 times a day. In Organic Products, 33.3% do not consume “frozen ready-to-eat preparations”, but 16.7% ingest them daily.

In Exact Sciences, 60% report sporadic consumption of “ice cream, sweet pies and sugary drinks”. These patterns reflect a heterogeneous consumption trend, with an emphasis on sporadic to moderate frequencies, possibly influenced by contextual factors, such as the COVID-19 pandemic.

Although the study by Lima et al. (2023) focused on university students, the factors that led to the increase in the consumption of ultra-processed foods in this group — such as stress, change of routine, and sedentary lifestyle — are analogous to those faced by teachers during the pandemic (e.g., adaptation to remote teaching, work pressure). Thus, it is plausible to infer that teachers have also adopted similar eating behaviors.

In the area of Biologicals, 66.67% of the respondents consume “ice cream and sweets” sporadically (less than 2 times a month). This high percentage of sporadic consumption (not daily, but frequent) reflects the same trend identified by Lima et al.,(2023) that is, an increase in the consumption of ultra-processed foods in contexts of abrupt changes (such as the pandemic).

Ultra-processed foods are easily accessible, ready to eat, and often replace traditional meals in situations of lack of time (common in periods of adaptation to remote work). Situations

of psychological pressure (such as the pandemic) can lead to comfort eating, that is, impulsive food choices, rich in sugars and fats, such as sweets and ice cream. Despite being a "sporadic" (not daily) consumption, frequent repetition of this behavior — even on a small scale — is associated with cardiometabolic risks, as demonstrated by Lane et al.,(2021) and Pagliai et al.,(2021).

The systematic review by Lane et al.,(2021) showed that the consumption of ultra-processed foods is associated with a higher risk of obesity, metabolic syndrome, and depression. These risks are critical for teachers, a group exposed to high workloads and chronic stress. In the present study, the frequent consumption of "industrialized cookies and cakes" (16.7% in Biological) and "soft drinks" (8.3% daily in Health) contributes to chronic conditions, as highlighted by Lane et al.,(2021).

In the study by Monteiro et al., (2019), through the NOVA classification, it was possible to identify the products listed in the table as ultra-processed, due to the presence of additives and industrial processes. For example, "carbonated beverages" and "powdered juices" (33.3% of sporadic consumption in Health) are typically ultra-processed, corroborating the need for public policies to reduce their availability in educational environments.

The study by Serrat Guimarães-Ferreira Silva et al.,(2024), focused on teachers, identified a 27.6% increase in the consumption of ultra-processed foods during the pandemic, with a higher prevalence among young, sedentary, and professionally dissatisfied women. These data are in line with the patterns in the table, such as the high consumption of "sugary sweets" (66.67% sporadic in Biologicals), reinforcing the hypothesis that adverse working conditions and job dissatisfaction are critical determinants.

In view of the findings, it is imperative to implement institutional interventions — such as nutritional education programs and the promotion of healthy work environments — to mitigate the risks associated with the consumption of ultra-processed foods. Which is an urgency supported by Okondu et al., (2021), who, in an analogous context, highlighted the effectiveness of structured actions in reducing inappropriate eating practices.

The synthesis of evidence also reinforces the need for multisectoral public policies, which

should integrate occupational (e.g., workload, working conditions) and socio-emotional (e.g., stress management, psychological support) dimensions specific to the teaching reality. Such measures, aligned with a preventive approach, are essential to ensure the sustainability of the health of this population in crisis scenarios.

Final Thoughts

This study analyzed the consumption patterns of ultra-processed foods and coffee among university professors, considering the differences between areas of activity. The results indicate that the consumption of ultra-processed foods is present in all the areas evidenced, although with variations in the frequency and type of product consumed. Professors in the area of Health evaluated lower consumption of these products compared to those of Humanities and Exact Sciences, which suggests a possible influence of nutritional knowledge on food choices. In addition, the high prevalence of coffee consumption reinforces its role as a central element in the academic routine, with variations according to cognitive demands and specific work contexts.

The results corroborate warnings that associate the frequent consumption of ultra-processed foods with cardiometabolic risks and studies highlight the impact of working conditions on diet. The pandemic has intensified changes in eating habits, leading to an increase in the consumption of ultra-processed products in response to stress and new work dynamics. This scenario highlights the need for external institutional strategies to promote healthier environmental environments, considering both the occupational challenges and the cultural aspects that influence teachers' choices.

The study achieved its general objective by characterizing the dietary patterns of this group and identifying determinants of these practices. However, some definitions must be recognized, such as the cross-sectional nature of the research, which makes it impossible to establish causal relationships, and the dependence on self-reports, which are subject to visions of memory. To deepen this discussion, future research can adopt longitudinal methodologies to assess changes over time

and explore institutional interventions aimed at reducing the consumption of ultra-processed foods and promoting more balanced eating habits. In addition, qualitative investigations can contribute to understanding the motivations underlying these choices, expanding the understanding of the impact of academic dynamics on the diet of university professors.

REFERENCES

Barbosa, B. C. R., Guimarães, N. S., de Paula, W., & Meireles, A. L. (2020). Food practices of health university students according to the recommendations of the Dietary Guidelines for the Brazilian Population. Demetra: Food, Nutrition & Health, 15, 1-16.

Bhatti, M. B., Mumtaz, N., & Saqulain, G. (2024). Caffeine consumption and voice health of university teachers: a safe bet!. Khyber Medical University Journal, 16(3), 231-6.

Brand, R., & Koch, H. (2016). Using caffeine pills for performance enhancement. An experimental study on university students' willingness and their intention to try neuroenhancements. Frontiers in psychology, 7, 101.

Galesi-Pacheco, L. F., Vieira, C. M., Ferreira, M. C. S., & Oliveira, M. R. M. D. (2019). Food practices and their meanings in the daily routine of a university. Revista de Nutrição, 32, e180208.

Lane MM, Davis JA, Beattie S, Gómez-Donoso C, Loughman A, O'Neil A, et al.,Ultraprocessed food and chronic noncommunicable diseases: a systematic review and meta-analysis of 43 observational studies. Obes Rev. 2021; 22(3):e13146. https://doi.org/10.1111/obr.13146 5.

LaRocca, E. B. (2020). The correlation between personal stressors, anxiety and caffeine consumption among JMU faculty.

Lima, A. A., Pereira, B., da Silva, I. O., Ferreira, M. L., da Silva, V. H. C. D., & de Souza, H. L. S. (2023). EATING PRACTICES OF UNIVERSITY PROFESSORS DURING THE COVID-19 PANDEMIC. Episteme Transversalis, 14, 130-139.

López-Olivares, M., Sapp, P., Riley, T. M., Kris-Etherton, P. M., Enrique-Mirón, C., Nestares, T., & Davis, K. M. (2023). A Mediterranean Dietary Pattern Is Associated with Greater Participation in Physical Activity and Better Health-Related Quality of Life among Students and Professors at the Melilla Campus (University of Granada). Nutrients, 15(18), 3971.

Ministry of Health. (2014).Food guide for the Brazilian population (2nd ed.). Brasília, DF: Ministry of Health.
Monteiro CA, Cannon G, Levy RB, Moubarac JC, Louzada ML, Rauber F, et al.,Ultra-processed foods: what they are and how to identify them. Public Health Nutr. 2019; 22(5):936-41. https://doi.org/10.1017/S1368980018003762

Nehlig A. Effects of coffee/caffeine on brain health and disease: What should I tell my patients? Pract Neurol. 2016; 16(2):89-95

Okondu, O. E., Maitanmi, J. O., Akinola, M., Akingbade, O., Abubakar, K., Faleti, D. D., ... & Maitanmi, B. T. (2021). Dietary Knowledge and Practices among Non-Medical Staff at Babcock University in Ogun State, Nigeria. Babcock University Medical Journal, 4(2), 112-119.

Pagliai G, Dinu M, Madarena MP, Bonaccio M, Iacoviello L, Sofi F. Consumption of ultra-processed foods and health status: a systematic review and meta-analysis. Br J Nutr. 2021; 125(3):308-18. https://doi.org/10.1017/S0007114520002688 6.

Pereira, B., Ferreira, M. L., de Lima, A. A., da Silva, I. O., da Silva, V. H. C. D., & de Souza, H. L. S. (2023). EATING PRACTICES OF UNIVERSITY PROFESSORS DURING THE COVID-19 PANDEMIC. Scientific Initiation Journey, 17(17), PDF-PDF.

Serrat Guimarães-Ferreira Silva, M. C., Vieira-Souza, L., Félix-Olegário, L., Maia-Rocha, L., Mendes-Silva, V., das Graças-Pena, G., ... & Pereira de Rezende, M. (2024). Increase in ultraprocessed food consumption during the COVID-19 pandemic among teachers in Minas Gerais: cross-sectional study, 2020. Chilean Journal of Nutrition, 51(3), 215-223.

Silva, M. C. S. G. F., Vieira-Souza, L., Félix-Olegário, L., Maia-Rocha, L., Mendes-Silva, V., das Graças-Pena, G., ... & and Silva, N. S. (2024). Increase in consumption of ultra-processed foods during the COVID-19 pandemic among teachers in Minas Gerais: cross-sectional study, 2020. Rev Chil Nutr, 51(3), 215-223.