

## Significant changes in occupations among college students: a study carried out on a correlated online social network profile

Alterações significativas em ocupações entre estudantes universitários: um estudo realizado em perfil correlacionado em rede social online

Cambios significativos en las ocupaciones entre los estudiantes universitarios: un estudio realizado sobre un perfil correlacionado en una red social en línea

Sérgio Antônio Mendes Reche<sup>1,a</sup>

[sergio.reche@estudante.ufscar.br](mailto:sergio.reche@estudante.ufscar.br) | <https://orcid.org/0000-0002-8726-6965>

Jair Borges Barbosa Neto<sup>2,b</sup>

[jairbneto@ufscar.br](mailto:jairbneto@ufscar.br) | <https://orcid.org/0000-0003-3358-7613>

Helena de Medeiros Caseli<sup>3,c</sup>

[helenacaseli@ufscar.br](mailto:helenacaseli@ufscar.br) | <https://orcid.org/0000-0003-3996-8599>

Heloísa Cristina Figueiredo Frizzo<sup>4,d</sup>

[heloisa.frizzo@uftm.edu.br](mailto:heloisa.frizzo@uftm.edu.br) | <https://orcid.org/0000-0002-7661-0353>

<sup>1</sup> Universidade Federal de São Carlos, Centro de Ciências Biológicas e da Saúde, Departamento de Terapia Ocupacional. São Carlos, SP, Brazil

<sup>2</sup> Universidade Federal de São Carlos, Centro de Ciências Biológicas e das Saúdes, Departamento de Medicina. São Carlos, SP, Brazil

<sup>3</sup> Universidade Federal de São Carlos, Centro de Ciências Exatas e da Terra, Departamento de Computação. São Carlos, SP, Brazil.

<sup>4</sup> Universidade Federal do Triângulo Mineiro, Instituto de Ciências da Saúde, Departamento de Terapia Ocupacional. Uberaba, MG, Brazil.

<sup>a</sup> Graduating in Occupational Therapy from the Universidade Federal de São Carlos.

<sup>b</sup> Doctoral degree in Psychiatry and Medical Psychology from the Universidade Federal de São Paulo.

<sup>c</sup> Doctoral degree in Computer Science from the Universidade de São Paulo

<sup>d</sup> Doctoral degree in Sciences (Interunits in Nursing) from the Universidade de São Paulo.

### ABSTRACT

This study examines changes in occupational performance as observed in posts by university students on a social network. Depression is prevalent in Brazil, particularly among students, impacting academic and daily functioning. Using CrowdTangle, anonymous Facebook posts were analyzed following American Occupational Therapy Association guidelines. 301 posts revealed occupational changes across seven areas defined by the association. Depressive symptoms hinder academic performance, exacerbating symptoms. Academic stress, loneliness, stigma, loss of leisure interest, and socioeconomic factors contribute to distress. Social engagement and support benefit mental health, while time constraints detrimentally affect academics, especially disadvantaged students. The study underscores the link between occupational changes, academic decline, and depression, proposing six relevant subcategories within the Education domain.

**Keywords:** Online Social Networks; Depression; Occupations; College students; Higher education.

## RESUMO

Este estudo analisa mudanças no desempenho ocupacional observadas em postagens de estudantes universitários em uma rede social. A depressão é prevalente no Brasil, principalmente entre estudantes, impactando o funcionamento acadêmico e diário. Usando o CrowdTangle, as postagens anônimas do Facebook foram analisadas seguindo as diretrizes da American Occupational Therapy Association. 301 posts revelaram mudanças ocupacionais em sete áreas definidas pela associação. Os sintomas depressivos prejudicam o desempenho acadêmico, agravando os sintomas. Estresse acadêmico, solidão, estigma, perda de interesse no lazer e fatores socioeconômicos contribuem para o sofrimento. O envolvimento e o apoio social beneficiam a saúde mental, enquanto as restrições de tempo afetam negativamente os acadêmicos, especialmente para os estudantes desfavorecidos. O estudo destaca a ligação entre mudanças ocupacionais, declínio acadêmico e depressão, propondo seis subcategorias relevantes no domínio educação.

**Palavras-chave:** Redes Sociais Online; Depressão; Ocupações; Estudantes universitários; Educação Superior.

## RESUMEN

Este estudio examina los cambios en el desempeño ocupacional observados en publicaciones de estudiantes universitarios en una red social. La depresión es prevalente en Brasil, particularmente entre los estudiantes, y afecta el funcionamiento académico y diario. Utilizando CrowdTangle, se analizaron publicaciones anónimas de Facebook siguiendo las pautas de la American Occupational Therapy Association. 301 publicaciones revelaron cambios ocupacionales en siete áreas definidas por la asociación. Los síntomas depresivos dificultan el rendimiento académico, exacerbando los síntomas. El estrés académico, la soledad, el estigma, la pérdida del interés por el ocio y los factores socioeconómicos contribuyen al malestar. El compromiso y el apoyo social benefician la salud mental, mientras que las limitaciones de tiempo afectan negativamente a lo académico, especialmente para los estudiantes desfavorecidos. El estudio subraya el vínculo entre los cambios ocupacionales, el deterioro académico y la depresión, y propone seis subcategorías relevantes dentro del dominio de Educación.

**Palabras clave:** Redes Sociales en Línea; depresión; Ocupaciones; Estudiantes universitarios; Educación superior.

---

## ARTICLE INFORMATION

### Author's contributions:

Conceptualization or design of the study: Sérgio Antonio Mendes Reche, Heloisa Cristina Figueiredo Frizzo, Jair Borges Barbosa Neto, Helena de Medeiros Caseli.

Data collection: Sergio Antonio Mendes Reche

Data analysis: Sergio Antonio Mendes Reche, Heloisa Cristina Figueiredo Frizzo, Jair Borges Barbosa Neto.

Interpretation of data: Sergio Antonio Mendes Reche, Heloisa Cristina Figueiredo Frizzo, Jair Borges Barbosa Neto, Helena de Medeiros Caseli.

All authors are responsible for the writing and critical review of the intellectual content of the text, for the final published version, and for all legal and scientific aspects related to the accuracy and integrity of the study.

**Conflict of interest declaration:** None.

**Funding sources:** research grant: 2020/05157-9, Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP); and grant: 2021/08884-1, Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). The funder had no relevant role in the study other than funding.

**Ethical considerations:** None.

**Additional thanks/Contributions:** The authors would like to thank the multidisciplinary team of the AMIVE project, especially Professor Dr. Taís Bleicher for her support throughout the research process.

**Article history:** submitted: 7 Feb. 2024 | accepted: 10 Aug. 2024 | published: 19 Dec. 2024.

**Previous presentation:** None.

**CC BY-NC License Non-commercial Attribution.** This license allows others to access, download, copy, print, share, reuse and distribute the article, provided it is for non-commercial use and with a source citation, checking the due authorship credits and referring to Reciis. In such cases, no permission is required from the authors or publishers.

## INTRODUCTION

Depression is a psychopathological condition that causes, among other problems, impairment in individuals' occupations. The Pesquisa Nacional de Saúde – PNS (a national health survey) conducted by the Instituto Brasileiro de Geografia e Estatísticas (IBGE, 2019), showed a significant increase in the number of cases of depression in Brazil. According to the PNS, 16.3 million people over the age of 18 suffer from depression, an increase of 34.2% from 2013 to 2019. Another study investigating students, demonstrated that anxiety and depression are frequently reported and the rate of reported cases remain high throughout academic life. Around 40% of the undergraduate population presents suspected cases of mood, anxiety, and somatization disorders (Gomes *et al.*, 2020).

In the university environment, the setting chosen for profile screening in this work, studies demonstrate a higher incidence of depression than in the rest of the population. A study carried out in 2020 states that students have a disproportionately higher prevalence of depression than the general population (Lauckner; Hill; Ingram, 2020).

Prevalence rates of mental health problems have been explored in various student groups. It is estimated that 15% to 25% of college students experience some type of psychiatric disorder during their academic training (Cavestro; Rocha, 2006).

Studies that investigated college students on health courses concluded that around 72% of them had depressive symptoms (Cubero Alpízar; Rojas Valenciano, 2018; Cruz *et al.*, 2020). Belletati demonstrated that the most common symptoms were: fatigue (56.4%), irritability (49.8%), somatic concerns (49.7%) and sleep disorders (56%). (2011)

Furthermore, the findings demonstrated that the most common psychopathological conditions in Hong Kong universities were anxiety and depressive disorder and that there is a strong association between symptoms of anxiety and depressive symptoms (Lam *et al.*, 2018).

In a study conducted with college students in Australia, they concluded that the majority of students (83.9%), significantly higher than that found in the general population (29%), presented some depressive symptoms (Stallman, 2011). Another study carried out with college students concluded that academic performance was impaired among students who presented depressive symptoms. Moderate to severe depression almost always results in missed classes, interpersonal problems among colleagues, and decreased academic performance (Heiligenstein *et al.*, 1996).

Studies that investigated the correlation between depressive symptoms and occupational difficulties showed that individuals who presented depressive symptoms reported difficulties completing daily activities and interacting socially. Furthermore, they concluded that depressive symptoms classified by the study as cognitive and affective (for example, depressed mood, feelings of guilt, suicidal ideation, among others) resulted in greater losses in the participants' performance, and were described by the participants as a disabling symptom. Depressive symptoms classified as vegetative (for example, low energy, difficulty thinking or concentrating, problems related to rest and sleep) had smaller impacts on performance. They were presented by participants as symptoms that made it difficult to carry out activities (Hanson; Young, 2017).

A study carried out with 118 people aged between 18 and 65 years in Sweden showed that participants with depression or anxiety disorders rated their occupational performance at a low level and their satisfaction with this performance was even lower. Study participants reported that the main occupational difficulties were related to a lack of motivation to start or complete an activity (Gunnarsson *et al.*, 2023).

Considering the impact of depressive symptoms on academic performance and the daily occupations of college students, it becomes relevant to investigate this phenomenon by monitoring depressive symptoms in posts on Online Social Networks (OSN) as they are one of the means of communication most used by this

population. In a study conducted by the National YangMing University in China, OSN posts were analyzed, and it was detected that, among the 579 volunteers of that study, 37% had a major depressive disorder. (Lin *et al.*, 2007) Furthermore, the study concluded that individuals with depression have striking linguistic characteristics, such as the more frequent use of negative words and negative pronouns, accounting for 60% of the words used in the authors' posts (Xu; Zhang, 2016). This finding is consistent with psychological experiments and indicates that writing styles are maintained both online and offline.

To the best of our knowledge, no studies have been conducted in Brazil or abroad on the use of technologies to identify occupational changes related to depressive symptoms in OSN posts, which justifies the need for research in this area. Furthermore, our research has an important social impact within the university context since this population has a high burden and a higher prevalence of depressive symptoms. The data collected as well as the conclusions of this study will serve as inputs to develop an intervention strategy focused on college students.

Based on notes and analysis of posts by college students on the Online Social Network (OSN) Facebook, this study aims to correlate significant life occupations with possible depressive profiles (PDPs).

## METHOD

This article is the result of a scientific initiation project (an undergraduate scientific project) that aimed to annotate and analyze the content of posts by Brazilian college students on an Online Social Network (OSN). The OSN chosen as a test platform was Facebook. This undergraduate project is part of a broader project that hopes to investigate an online computational solution that can support the identification of Brazilian users with a Possible Depressive Profile (PDP) as well as providing and clinically testing an autonomous, specialized and personalized intervention via OSN.

The activities described in this work are part of this broader project and involve the annotation of occupational changes expressed in the corpus of posts produced by college students from Brazilian public universities. This material will subsequently be used for the supervised training of a machine learning model which aims to identify occupational changes expressed in OSN that are related to a possible depressive profile.

The notes were made using posts published anonymously on previously selected pages on OSN Facebook, which publish outbursts from college students. It is important to emphasize that in addition to the posts being anonymous, an additional check was also carried out, before the annotation, to replace any mention of the name of a course, university or person with generic tags such as COURSE, UNIVERSITY, PERSON. After this careful check, a committee of experts was created with the purpose of producing a manual with guidelines for annotators, helping them to identify text snippets of interest for the broader research. The guidelines were developed based on the Framework for Occupational Therapy Practice: Domain and Process, version 2021 (AOTA, 2021).

The collection of posts was carried out using the [CrowdTangle](#) tool, which is a Facebook tool that extracts data from public posts. The researcher is therefore not required to access Facebook through their personal account to extract data directly from the posts.

The annotation task was to identify excerpts from these posts that indicate occupational changes, according to the American Occupational Therapy Association (AOTA, 2021), and also to identify which type(s) of change(s) was or were identified by the annotator in that post.

As this was qualitative research, all posts in which possible occupational changes were identified were selected to be analyzed. To achieve the objective of our research, a content analysis was carried out, following the steps described by Bardin (Bardin, 2011), using the [INCEpTION](#) tool. To this end, after selecting the posts, a pre-analysis of the collected data was conducted, through a floating and exhaustive reading of

the material. Then, the coding was carried out, using meaning cores, and the data was categorized. Thus, the content of the posts was grouped according to the formulated categories with the aim of correlating the occupational changes expressed in the OSN with a possible depressive profile.

## RESULTS

To fulfill the objective of this research, 301 posts were analyzed and content was found on the OSN that indicates occupational changes in 7 of the 9 major areas of AOTA (2021). No content was found in the areas of Instrumental Activities of Daily Living (IADLs) and Play. Table 1 specifies the quantity (frequency) in which each occupational change was noted in the analyzed posts.

**Table 1 – Number (frequency) of corpus notes for each of the 7 occupational changes identified**

Category	Frequency
Social participation	124
Education	111
Rest and sleep	19
Work	16
Activities of daily living (ADLs)	15
Health management	10
Leisure	6

Caption: source, study authors; category, occupational changes in 7 (out of 9) major areas of AOTA (2021); frequency, quantity (frequency) in which each occupational change was noted in the analyzed posts.

Source: Elaborated by the authors.

Subsequently, all the notes were read and classified within the subcategories presented in the AOTA document (Gomes et al., 2020). As a result, Table 2 was produced with all the information:

**Table 2 – Number (frequency) of corpus annotations of the subcategories of annotated occupational changes**

(continua)

Subcategory	Frequency	Description
Education: Formal educational participation	111	Participate in academic (e.g., math, reading, graduate coursework), non-academic (e.g., recess, cafeteria, hallway), extracurricular (e.g., sports, band, dance), technological (e.g., completing online assignments, distance learning), and vocational (including pre-vocational) educational activities (AOTA, 2021).
Social Participation: Friendships	72	Engaging in activities that support “a relationship between two people based on mutual liking in which partners provide support to each other in times of need” (AOTA, 2021).
Social Participation: Family participation	24	Engaging in activities that result in “interaction in specific required and/or desired familial roles” (Gomes et al., 2020).
Social Participation: Community participation	17	Engaging in activities that result in successful interaction at the community level (e.g., neighborhood, organization, workplace, school, digital social network, religious or spiritual group) (AOTA, 2021).

(continuação)

Subcategory	Frequency	Description
Rest and Sleep: Sleep participation	17	Taking care of personal needs for sleep, such as ceasing activities to ensure onset of sleep, napping, and dreaming; sustaining a sleep state without disruption; meeting night time toileting and hydration needs, including negotiating the needs of and interacting with others (e.g., children, partner) within the social environment, such as providing nighttime caregiving (e.g., breastfeeding) and monitoring comfort and safety of others who are sleeping (AOTA, 2021).
Work: Employment seeking and acquisition	9	Advocating for oneself; completing, submitting, and reviewing application materials; preparing for interviews; participating in interviews and following up afterwards; discussing job benefits; finalizing negotiations (AOTA, 2021).
Work: Job performance and maintenance	7	Creating, producing, and distributing products and services; maintaining required work skills and patterns; managing time use; managing relationships with coworkers, managers, and customers; following and providing leadership and supervision; initiating, sustaining, and completing work; complying with work norms and procedures; seeking and responding to feedback on performance (AOTA, 2021).
Social Participation: Intimate partner relationships	5	Engaging in activities to initiate and maintain a close relationship, including giving and receiving affection and interacting in desired roles; intimate partners may or may not engage in sexual activity (AOTA, 2021).
Activities of Daily Living (ADLs): Feeding	5	Setting up, arranging, and bringing food or fluid from the vessel to the mouth (includes self-feeding and feeding others) (AOTA, 2021).
Social Participation: Peer group participation	4	Engaging in activities with others who have similar interests, age, background, or social status (AOTA, 2021).
Health Management: Symptom and condition management	4	Managing physical and mental health needs, including using coping strategies for illness, trauma history, or societal stigma; managing pain; managing chronic disease; recognizing symptom changes and fluctuations; developing and applying strategies for managing and regulating emotions; planning time and establishing behavioral patterns for restorative activities (e.g., meditation); using community and social supports; navigating and accessing the health care system (AOTA, 2021).
Leisure: Leisure participation	3	Planning and participating in leisure activities; maintaining a balance of leisure activities with other occupations; obtaining, using, and maintaining equipment and supplies (AOTA, 2021).
Leisure: Leisure exploration	3	Identifying interests, skills, opportunities, and leisure activities (AOTA, 2021).
Activities of Daily Living (ADLs): Functional mobility	3	Moving from one position or place to another (during performance of everyday activities), such as in-bed mobility, wheelchair mobility, and transfers (e.g., wheelchair, bed, car, shower, tub, toilet, chair, floor); includes functional ambulation and transportation of objects (AOTA, 2021).

(conclusão)

Subcategory	Frequency	Description
Activities of Daily Living (ADLs): Personal hygiene and grooming	2	Obtaining and using supplies; removing body hair (e.g., using a razor or tweezers); applying and removing cosmetics; washing, drying, combing, styling, brushing, and trimming hair; caring for nails (hands and feet); caring for skin, ears, eyes, and nose; applying deodorant; cleaning mouth; brushing and flossing teeth; removing, cleaning, and reinserting dental orthotics and prosthetics (AOTA, 2021).
Health Management: Communication with the health care system	1	Expressing and receiving verbal, written, and digital communication with healthcare and insurance providers, including understanding and advocating for self or others (AOTA, 2021).
Health Management: Physical activity	1	Completing cardiovascular exercise, strength training, and balance training to improve or maintain health and decrease risk of health episodes, such as by incorporating walks into daily routine (AOTA, 2021).
Health Management: Nutrition management	1	Implementing and adhering to nutrition and hydration recommendations from the medical team, preparing meals to support health goals, participating in health-promoting diet routines (AOTA, 2021).
Activities of Daily Living (ADLs): Bathing, showering	1	Obtaining and using supplies; soaping, rinsing, and drying body parts; maintaining bathing position; transferring to and from bathing positions (AOTA, 2021).
Activities of Daily Living (ADLs): Dressing	1	Selecting clothing and accessories with consideration of time of day, weather, and desired presentation; obtaining clothing from storage area; dressing and undressing in a sequential fashion; fastening and adjusting clothing and shoes; applying and removing personal devices, prosthetic devices, or splints (AOTA, 2021).
Activities of Daily Living (ADLs): Sexual activity	1	Engaging in the broad possibilities for sexual expression and experiences with self or others (e.g., hugging, kissing, foreplay, masturbation, oral sex, intercourse) (AOTA, 2021).

Caption: source, study authors; subcategory, occupational changes in 7 (out of 9) major areas of AOTA (2021); frequency, quantity (frequency) in which each occupational change was noted in the analyzed publications; description: Description carried out according to the AOTA, 4th edition, 2021.

Source: Elaborated by the authors based on AOTA (2021) and Gomes *et al.* (2020).

In the Education category, the AOTA (2021) reference does not provide details of subcategories. Given the 111 occurrences identified within this category, it was highly significant within our research and warranted further scrutiny. Therefore, we decided to propose subcategories for the Education category of AOTA that fit the university context in which this work was developed. Based on the AOTA reference, it was possible to create and describe an appropriate classification for a complete and thorough analysis of the data, presented below:

**Drop in academic performance due to psychological distress:** This category includes all excerpts from posts that report some type of psychological distress as the cause of reduced academic performance.

**University environment as a cause of psychological suffering:** In this category, we selected all the excerpts that explicitly reported that the academic environment and everything that it encompasses (such as demands from professors, abuses of power and bureaucracy) were causes of psychological suffering.

**Lack of motivation in relation to the content studied:** In this category we selected excerpts that contained complaints of academic impairment due to feeling a lack of motivation and tiredness to study and fulfill academic duties.

Lack of social support, empathy from teachers and classmates: In this category, we selected excerpts that contained complaints of a lack of empathy and social and emotional support from both teachers and classmates, or from friends within and outside the university environment.

Difficulty in reconciling study and work activities, due to financial demands, resulting in overload: In this category we selected excerpts that contained complaints of work and study overload due to the need to maintain financial conditions, and/or lack of financial resources to be able to participate in extracurricular, leisure or other activities, mainly related to the academic and university experience.

Concerns about future career and identity, to the detriment of academic performance: In this category we selected excerpts that contained complaints about a lack of professional perspective, concerns related to future careers, feeling unable to practice their profession and a lack of preparation for the job market.

After creating these subcategories for the Education category, the notes were read and the occurrences were distributed in a table with the frequencies of each one, as shown in the Table 3:

**Table 3 – Number (frequency) of notes in the subcategories proposed in this work for the Education category**

Subcategory	Frequency
Drop in academic performance due to psychological distress	49
University environment as a cause of psychological suffering	36
Lack of motivation in relation to the content studied	12
Lack of social support, empathy from teachers and classmates	8
Difficulty reconciling study and work activities, due to financial demands, resulting in overload	4
Concerns about future career and identity, with impairment in academic performance	2

Caption: source, study authors; subcategory, created by the authors to facilitate data analysis; frequency, quantity (frequency) in which each occupational change was noted in the analyzed posts.

Source: Elaborated by the authors.

During data collection, the greatest occurrence of notes was in the large area of Education, as expected, due to the target audience being college students and the posts being extracted from university pages featuring anonymous student testimonials. When we analyzed the frequency with which each subcategory occurred, we noticed that the biggest complaint is related to a drop in academic performance (49 occurrences) due to psychological distress, followed by the university environment as a major cause of related problems (36 occurrences).

In the Social Participation category, excerpts with content related to friendships, family participation and community participation were found. Among these, the most frequent was the friendships subcategory (72 occurrences), with excerpts containing complaints of loneliness, exclusion, lack of support and stigmatization related to psychological suffering. Among the notes classified in this category, the most frequent complaints were related to loneliness (35 notes), with several posts presenting dense content about the feeling of exclusion and loneliness within the university environment, in addition to the stigmatization of psychological suffering, with complaints of exclusion and even bullying experienced among peers.

In the Family participation subcategory (24 occurrences), the notes found were related to toxic relationships with family members and increasing family pressure to complete the course and obtain a diploma. Several college students reported experiencing constant pressure from their families to graduate and get a job. In addition, there were complaints related to toxic relationships with their parents, with reports of

family attitudes which resulted in traumatic experiences. With a lower frequency (5 occurrences), notes appear related to the feeling of missing family members and fear of moving to another city, a fact that can lead to an increase in the psychological suffering of these students and could culminate in academic dropout.

In the Community participation subcategory (17 occurrences), the main expressions indicated the feeling of exclusion from peer groups due to the stigma related to psychological suffering, in addition to regular complaints about difficulties in maintaining a relationship with classmates in person or online, totaling 13 occurrences.

Furthermore, students reported complaints regarding the Rest and Sleep category (17 occurrences). Among these complaints, the one that stood out the most was the constant use of stimulants, such as energy drinks, caffeine, and other drugs, in order to stay awake during classes or in the early hours of the morning to study for tests and/or carry out work. This category had a strong relationship with work, since the changes identified were about overload of these college students due to working double or triple shifts: working, studying, and taking care of the home.

Furthermore, in the Health Management category, students reported difficulties in maintaining a good eating routine due to financial problems, work and study overload or a lack of motivation to carry out activities without support from friends. Furthermore, there were reports of students who did not seek medical help even though they had symptoms, including serious symptoms. As a medical certificate does not cover absences, the students considered the negative impact of being absent from classes in significant moments of the semester, with the risk of failure due to absence, and a consequent drop in academic performance and preferred not to seek assistance.

Another relevant category, which was identified in few notes, but which implies a considerable weight in psychological suffering was Leisure activities. The low frequency (6 occurrences) in this category was due to the fact that the posts did not explicitly contain complaints about changes in this occupation, however, when we analyzed them in more detail, we realized that several students reported not having time to carry out activities outside the university environment, thus implying a lack of leisure activities, since leisure is:

culture – understood in the broadest sense – experienced in the time available. One does not seek, at least fundamentally, another reward other than the satisfaction caused by the situation. The availability of time means the possibility of opting for practical or contemplative activity. (Marcellino, 1998 p. 31<sup>1</sup>, own translation)

Turning to Activities of Daily Living (ADLs), most occupational changes in this subcategory were related to food (5 occurrences). Predominantly this was due to a lack of motivation and/or money, as well as a lack of interest in maintaining a personal care routine. Furthermore, students mentioned a lack of motivation to dedicate time to preparing and providing food, including having difficulty getting out of bed for this purpose. This category may be directly related to carrying out activities involving other people, since being in contact and performing affective exchanges with other people could help to encourage the other to engage in meaningful activities for life. In this sense, food is not restricted to just being a survival need, but also a socially relevant activity.

## DISCUSSION

The impact caused by depressive symptoms on the academic performance of college students has been explored for years and a significant drop is noticeable when compared to those without symptoms (Heiligenstein, 1996). In more recent studies it was concluded that a higher level of difficulty can generate symp-

---

<sup>1</sup> “cultura – compreendida no sentido mais amplo – vivenciada no tempo disponível. Não se busca, pelo menos fundamentalmente, outra recompensa além da satisfação provocada pela situação. A disponibilidade de tempo significa a possibilidade de opção pela atividade prática ou contemplativa”. (Marcellino, 1998 p. 31)

toms of anxiety and depression. Consequently, these symptoms cause a decrease in academic performance, which according to the study increases anxiety levels and the severity of depressive symptoms, causing a vicious cycle of events (Lun *et al.*, 2018).

Furthermore, greater involvement in academic activities implies overload and a lack of time, which leads to an increase in the psychological suffering of these students (Adlaf *et al.*, 2001). According to a study conducted with college students, as soon as they enter university, they suffer considerably greater pressure, and this leads directly to reduced mental well-being and an increase in psychological suffering. Furthermore, this study also points out that the beginning of the year is a time when anxiety levels in students are highest. They also concluded that students' levels of well-being decreased throughout the school year (Cooke *et al.*, 2006). In a study carried out with students with depression, it was concluded that students who presented symptoms of moderate or severe depression were absent from classes more frequently, showed reduced academic performance and suffered from significant interpersonal problems in college (Guo *et al.*, 2006).

Loneliness was detected in 46.7% of college students and among these students, those who were lonelier had more depression indicators (Barroso; Oliveira; Andrade, 2019). According to a study carried out in 2001, participation in social recreational activities has a great impact on reducing psychological distress (Adlaf *et al.*, 2001). Loneliness is a risk factor for depression, suicidal ideation, and behavior, as well as a variety of other negative psychological and physiological outcomes (Barroso; Oliveira; Andrade, 2019).

Furthermore, another factor that can influence the mental health of college students is social support, which can be defined as the process in which the person can count on emotional, financial, or instrumental assistance (Siqueira, 2008). Considering here that social support is the perception of having someone to count on when we need help. Students with less social support also showed a higher risk of depression, confirming, once again, the relationship between loneliness, low social support, and an increased risk of developing a depressive disorder (Barroso; Oliveira; Andrade, 2019; Belletati, 2011; Ellwardt *et al.*, 2013).

Added to this, the presence of stigmas surrounding psychological suffering is still exceedingly high within the university environment. Stigma can be defined as: "...a deeply burdensome attribute..." whose bearer "...is reduced, in our minds, from a complete and normal person to a tainted, diminished person" (Goffman, 2009). The stigmatization of those already suffering amplifies that suffering, in addition to representing an obstacle to the realization of personal projects and full social integration (Xavier, 2014). Among students in the health field (medicine, psychology, occupational therapy, social work, and nursing) the presence of stigma is accentuated, with the predominance of stereotypes of pity, coercion, dangerousness, avoidance, and fear, as well as segregation. The study also demonstrated that the presence of stigma was greater during the first years of the course and lower as the degree progressed (Marques; Barbosa; Queirós, 2010).

It is noteworthy that in the present study there were reports about the lack of motivation and time to carry out leisure activities. Depression causes people to lose pleasure in activities in general, in addition to inhibiting psychomotricity, reducing or making access to leisure impossible (Pondé; Caroso, 2003). Furthermore, a study carried out in the United States concluded that students who had a negative perception of their mental health, presented a greater "boredom in leisure" which, according to the authors, can be defined as the feeling of having little to do during free time, presenting a subjective understanding that the leisure experiences available are not enough to provoke a positive stimulation (Pondé; Caroso, 2003).

In a study conducted with college students, it was concluded that those who participated more in leisure activities reported a lower perception of academic stress (Ragheb; McKinney, 1993). Other studies demonstrate that in addition to being involved in leisure activities, carrying them out with loved ones and in groups has a greater impact on mental health than activities carried out alone (Pondé; Caroso, 2003; Wheeler; Frank, 1988). These studies corroborate to demonstrate the importance of social support and maintaining activities in society for the preservation of mental health.

Last but not least, several reports of complaints about socioeconomic status and overload from working and studying appeared in the posts analyzed in the present study. According to a study conducted in Brazil, several undergraduate students reported complaints of a lack of time to carry out academic activities due to the large workload and that all of these students had financial demands that made it impossible for them to give up their paid work. Furthermore, the study also demonstrated that students from the less favored socioeconomic group had lower academic performance due to a lack of time to study (Belletati, 2011).

## CONCLUSION

The findings of this study in relation to the occupational changes experienced by college students indicate a causal link between these and a drop in academic performance, with possible depressive manifestations, intensifying the psychological suffering of these students, in an often-sickening cycle.

In this context, it is important and necessary to rethink the way academic community members act and relate with each other, developing strategies to combat institutional violence, curbing practices of moral harassment on the part of teachers and technicians, in addition to promoting the fight against bullying and stigma related to mental suffering. To achieve this, it is necessary for the university to promote psychoeducation and harm reduction measures within the campuses and to the external community.

Furthermore, flexibility should be encouraged in order to reduce work overload, especially for those students who need to work to finance their degree. Strategies to mitigate the overload of assessment activities should be considered, such as negotiating the activity delivery schedule among teachers for the same semester so that activities do not accumulate in a given period.

Moreover, promoting support for quality student retention, which really makes it possible for students from financially disadvantaged backgrounds. Supporting students to exercise their right to quality education. In addition to ensuring that students support themselves financially, offering comprehensive health support, listening to their demands and taking measures to mitigate losses.

Finally, creating spaces and programs for students to carry out leisure, art, culture and coexistence activities, to ensure that they have social interaction, carry out pleasurable and healthy activities and thus minimize the effects of academic stress, as well as enabling students to have time to enjoy these spaces.

We also consider that it is important to rethink the rules and norms of research funding agencies focused on academic and scientific productivity, which results in intense competition between peers, and represents yet another factor that intensifies psychological suffering among students.

A limitation of this study is that the collected posts were filtered with keywords selected for another study that aimed to identify possible depressive symptoms in publications made at OSN. Therefore, it is believed that these data do not represent the totality of possible common college posts, only the totality of publications that already presented some depressive symptoms. Thus, looking at this data separately does not characterize the occupational life of these people. As it is a public and spontaneous report and is inserted in the online environment, we find it difficult to characterize the occupational life of these students, since we believe that in order to understand the occupational characteristics more deeply it would be necessary to analyze the context in which they are inserted.

Finally, we stress that the main contributions of this work are the detailed analysis of occupational changes identified in college students' posts and the proposed detailing for the Educational category of AOTA (2021).

## REFERENCES

- ADLAF, Edward M. *et al.* The prevalence of elevated psychological distress among Canadian undergraduates: Findings from the 1998 Canadian Campus Survey. **Journal of American College Health**, Washington, DC, v. 50, n. 2, p. 67-72, 2001. DOI: <https://doi.org/10.1080/07448480109596009>. Available from: <https://www.tandfonline.com/doi/abs/10.1080/07448480109596009>. Accessed: Nov 26, 2024.
- AMERICAN OCCUPATIONAL THERAPY ASSOCIATION (AOTA). AOTA 2021 standards for continuing competence in occupational therapy. **The American Journal of Occupational Therapy**, Bethesda, MD, v. 75, n. Supplement 3, p. 7513410040, 2021. DOI: <https://doi.org/10.5014/ajot.2021.75S3009>. Available from: [https://research.aota.org/ajot/article-abstract/75/Supplement\\_3/7513410040/23126/AOTA-2021-Standards-for-Continuing-Competence-in?redirectedFrom=fulltext](https://research.aota.org/ajot/article-abstract/75/Supplement_3/7513410040/23126/AOTA-2021-Standards-for-Continuing-Competence-in?redirectedFrom=fulltext). Accessed: Nov 25, 2024.
- BARDIN, Laurence. **Análise de conteúdo**. São Paulo: Edições 70, 2011.
- BARROSO, Sabrina Martins; OLIVEIRA, Nadyara Regina de; ANDRADE, Valéria Sousa de. Solidão e depressão: Relações com características pessoais e hábitos de vida em universitários. **Psicologia: Teoria e Pesquisa**, Brasília, DF, v. 35, e35427, 2019. DOI: <https://doi.org/10.1590/0102.3772e35427>. Available from: <https://www.scielo.br/j/ptp/a/gb4WHV8F5XW7XmrjyC5gPfg/?lang=pt>. Accessed: Nov 26, 2024.
- BELLETATI, Valéria Cordeiro Fernandes. **Dificuldades de alunos ingressantes na universidade pública**: alguns indicadores para reflexões sobre a docência universitária. 2011, 237 f. Dissertation (Doctoral Degree in Education) – Universidade de São Paulo, São Paulo, 2011. DOI: <https://doi.org/10.11606/T.48.2011.tde-04082011-115006>. Available from: <http://www.teses.usp.br/teses/disponiveis/48/48134/tde-04082011-115006/>. Accessed: Nov 21, 2024.
- CAVESTRO, Julio de Melo; ROCHA, Fabio Lopes. Prevalência de depressão entre estudantes universitários. **Jornal Brasileiro de Psiquiatria**, Rio de Janeiro, v. 55, p. 264-267, 2006. DOI: <https://doi.org/10.1590/S0047-20852006000400001>. Available from: <https://www.scielo.br/j/jbpsiq/a/VFXLNXwthbSHsz8cnGkH3DG/#>. Accessed: Nov 21, 2024.
- COOKE, Richard *et al.* Measuring, monitoring and managing the psychological well-being of first year university students. **British Journal of Guidance & Counselling**, London, v. 34, n. 4, p. 505-517, 2006. DOI: <https://doi.org/10.1080/03069880600942624>. Available from: <https://www.tandfonline.com/doi/full/10.1080/03069880600942624>. Accessed: Nov 26, 2024.
- CRUZ, Maria Cristina Natasha Lima *et al.* Ansiedade em universitários iniciantes de cursos da área da saúde. **Brazilian Journal of Health Review**, São José dos Pinhais, v. 3, n. 5, p. 14644-14662, 2020. DOI: <https://doi.org/10.34119/bjhrv3n5-259>. Available from: <https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/18335>. Accessed: Nov 21, 2024.
- CUBERO ALPÍZAR; Consuelo María; ROJAS VALENCIANO, Ligia. Intervenciones de enfermería para mejorar la calidad de vida de las personas con pie diabético/Nursing interventions to improve the quality of life of people with diabetic foot/Intervenções de enfermagem para melhorar a qualidade de vida das pessoas. **Journal Health NPEPS**, Tangará da Serra, v. 3, n. 2, p. 566-582, 2018. Available from: <https://periodicos.unemat.br/index.php/jhnpeps/article/view/3127>. Accessed: Nov 21, 2024.
- ELLWARDT, Lea *et al.* Does loneliness mediate the relation between social support and cognitive functioning in later life?. **Social Science & Medicine**, Oxford, v. 98, p. 116-124, 2013. DOI: <https://doi.org/10.1016/j.socscimed.2013.09.002>. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S027795361300508X>. Accessed: Nov 26, 2024.
- GOFFMAN, Erving. **Stigma**: Notes on the management of spoiled identity. New York: Simon & Schuster, 2009.
- GOMES, Carlos Fabiano Munir *et al.* Transtornos mentais comuns em estudantes universitários: abordagem epidemiológica sobre vulnerabilidades. **Revista Eletrônica Saúde Mental Álcool e Drogas**, Ribeirão Preto, v. 16, n. 1, p. 1-8, 2020. Available from: [https://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1806-69762020000100009](https://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1806-69762020000100009). Accessed: Nov 21, 2024.
- GUO, Ying *et al.* An exploratory factor analysis of the Children's Depression Rating Scale–revised. **Journal of Child & Adolescent Psychopharmacology**, v. 16, n. 4, p. 482-491, 2006. DOI: <https://doi.org/10.1089/cap.2006.16.482>. Available from: <https://www.liebertpub.com/doi/10.1089/cap.2006.16.482>. Accessed: May 29, 2024.

GUNNARSSON, Anna Birgitta *et al.* Occupational performance problems in people with depression and anxiety. **Scandinavian Journal of Occupational Therapy**, Oslo, v. 30, n. 2, p. 148-158, 2023. DOI: <https://doi.org/10.1080/11038128.2021.1882562>. Available from: <https://www.tandfonline.com/doi/full/10.1080/11038128.2021.1882562>. Accessed: Nov 22, 2024.

HANSON, Bjorn; YOUNG, Michael A. Understanding the impairment associated with depressive symptoms. **The Journal of Nervous and Mental Disease**, Hagerstown, v. 205, n. 8, p. 600-604, 2017. DOI: <https://doi.org/10.1097/nmd.0000000000000644>. Available from: [https://journals.lww.com/jonmd/fulltext/2017/08000/understanding\\_the\\_impairment\\_associated\\_with.3.aspx](https://journals.lww.com/jonmd/fulltext/2017/08000/understanding_the_impairment_associated_with.3.aspx). Accessed: Nov 22, 2024.

HEILIGENSTEIN, Eric *et al.* Depression and academic impairment in college students. **Journal of American College Health**, Washington, DC, v. 45, n. 2, p. 59-64, 1996. DOI: <https://doi.org/10.1080/07448481.1996.9936863>. Available from: <https://pubmed.ncbi.nlm.nih.gov/8908879/>. Accessed: Nov 22, 2024.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICAS (IBGE). **Pesquisa Nacional de Saúde 2019**. [Rio de Janeiro], 2019. Available from: <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>. Accessed: May 29, 2021.

LAM, Linda Chiu-Wa *et al.* Prevalence, psychosocial correlates and service utilization of depressive and anxiety disorders in Hong Kong: the Hong Kong Mental Morbidity Survey (HKMMS). **Social Psychiatry and Psychiatric Epidemiology**, Berlin, v. 50, p. 1379-1388, 2015. DOI: <https://doi.org/10.1007/s00127-015-1014-5>. Available from: <https://pubmed.ncbi.nlm.nih.gov/25660760/>. Accessed: Nov 22, 2024.

LAUCKNER, Carolyn; HILL, Miranda; INGRAM, Lucy Annang. An exploratory study of the relationship between social technology use and depression among college students. **Journal of College Student Psychotherapy**, London, v. 34, n. 1, p. 33-39, 2020. DOI: <https://doi.org/10.1080/87568225.2018.1508396>. Available from: <https://www.tandfonline.com/doi/full/10.1080/87568225.2018.1508396>. Accessed: Nov 21, 2024.

LIN, Chao-Cheng *et al.* Web-based tools can be used reliably to detect patients with major depressive disorder and subsyndromal depressive symptoms. **BMC Psychiatry**, London, v. 7, n. 1, p. 1-9, 2007. DOI: <https://doi.org/10.1186/1471-244x-7-12>. Available from: <https://bmcpsy psychiatry.biomedcentral.com/articles/10.1186/1471-244x-7-12>. Accessed: Nov 22, 2024.

LUN, Kevin W. C. *et al.* Depression and anxiety among university students in Hong Kong. **Hong Kong Medical Journal**, Hong Kong, v. 24, n. 5, p. 466, 2018. DOI: <https://doi.org/10.12809/hkmj176915>. Available from: <https://www.hkmj.org/abstracts/v24n5/466.htm>. Accessed: Nov 26, 2024.

MARCELLINO, Nelson Carvalho. **Lazer e educação**. 4. ed. Campinas: Papirus, 1998.

MARQUES, António; BARBOSA, Tânia; QUEIRÓS, Cristina. **O estigma na doença mental perspectivado por futuros profissionais de saúde mental**. 17-19 jun. 2010. Poster presented at III Congreso de la Federación Española de Asociaciones de Rehabilitación Psicosocial. Available from: <https://hdl.handle.net/10216/44483>. Accessed: Nov 26, 2024.

PONDÉ, Milena Pereira; CAROSO, Carlos. Lazer como fator de proteção da saúde mental. **Revista de Ciências Médicas**, Campinas, v. 12, n. 2, p. 163-172, 2003. Available from: <https://seer.sis.puc-campinas.edu.br/cienciasmedicas/article/view/1268>. Accessed: Nov 26, 2024.

RAGHEB, Mounir G.; MCKINNEY, Jennifer. Campus recreation and perceived academic stress. **Journal of College Student Development**, Baltimore, v. 34, n1, p. 5-10, 1993. Available from, <https://eric.ed.gov/?id=EJ459068>. Accessed: Nov 26, 2024.

SIQUEIRA, Mirlene Maria Matias. Construção e validação da escala de percepção de suporte social. **Psicologia em Estudo**, Maringá, v. 13, p. 381-388, 2008. DOI: <https://doi.org/10.1590/S1413-73722008000200021>. Available from: <https://www.scielo.br/j/pe/a/ws8mnBytsC6GFQ7pdMMQbgl/?lang=pt#>. Accessed: Nov 26, 2024.

STALLMAN, Helen M. Psychological distress in university students: A comparison with general population data. **Australian Psychologist**, Melbourne, v. 45, n. 4, p. 249-257, 2011. DOI: <https://doi.org/10.1080/00050067.2010.482109>. Available from: <https://aps.onlinelibrary.wiley.com/doi/abs/10.1080/00050067.2010.482109>. Accessed: Nov 22, 2024.

WHEELER, Robert J.; FRANK, Monica A. Identification of stress buffers. **Behavioral Medicine**, New York, v. 14, n. 2, p. 78-89, 1988. DOI: <https://doi.org/10.1080/08964289.1988.9935128>. Available from: <https://www.tandfonline.com/doi/abs/10.1080/08964289.1988.9935128>. Accessed: Nov 26, 2024.

XAVIER, Salomé *et al.* O estigma da doença mental: que caminho percorremos?. **Psilogos**, Amadora, v. 11, p. 10-21, 2014. DOI: <https://doi.org/10.25752/psi.4102>. Available from: <https://revistas.rcaap.pt/psilogos/article/view/4102>. Accessed: Nov 26, 2024.

XU, Ronghua; ZHANG, Qingpeng. Understanding online health groups for depression: social network and linguistic perspectives. **Journal of Medical Internet Research**, Toronto, v. 18, n. 3, p. e63, 2016. DOI: <https://doi.org/10.2196/jmir.5042>. Available from: <https://www.jmir.org/2016/3/e63/>. Accessed: Nov 22, 2024.