

Review/Update Article

# Mental health of occupational therapy students: scoping review

## *Saúde mental de estudantes de terapia ocupacional: revisão de escopo*

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### Abstract

This study focuses on the mental health of undergraduate occupational therapy students through a scoping review, guided by the question: How does the scientific literature deal with issues related to the mental health of occupational therapy students? *The Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews* (PRISMA-ScR) Checklist was used. Empirical and theoretical studies, published in English, French, Spanish, or Portuguese were included, with no determined time frame. The survey of the studies was carried out in the databases Scopus, Redalyc, Google Scholar, in the Digital Library of Theses and Dissertations, resulting in the analysis of 15 studies. The content analysis of the articles delineated nuclei of meaning that indicated the performance of practical activities and the immersion of the student in the internship field as sources of stress and psychological suffering. In addition, studies indicate that occupational therapy students are more affected in their mental health, compared to students from other areas of health. The importance of investigating the causes underlying this student's psychological distress is emphasized, in addition to the need to consider variables such as gender and socioeconomic situation. It is considered that the study will contribute to the planning of strategies for the promotion of mental health, prevention of psychological distress, and care for these students, in addition to measures aimed at keeping this student at the university and concluding his course with quality.

**Keyword:** Students, Mental Health, Mental Disorder, Occupational Therapy.

### Resumo

Este estudo focaliza a saúde mental de estudantes de graduação de terapia ocupacional por meio de revisão de escopo, norteadas pela pergunta: Como a literatura científica trata as questões relacionadas à saúde mental de estudantes de terapia ocupacional? Utilizou-se o guia de revisão de escopo *Preferred Reporting*

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*Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist.* Foram incluídos estudos empíricos e teóricos, publicados em inglês, francês, espanhol ou português, sem recorte temporal determinado. O levantamento dos estudos foi realizado nas bases de dados *Scopus*, *Redalyc*, Google Acadêmico, na Biblioteca Digital de Teses e Dissertações (BDTD), resultando na análise de 15 estudos. A análise de conteúdo dos artigos delineou núcleos de sentido que indicaram a realização de atividades práticas e a imersão do aluno no campo de estágio como fontes de estresse e sofrimento psíquico. Além disso, estudos apontam as estudantes de terapia ocupacional como mais afetadas em sua saúde mental, se comparadas a estudantes de outras áreas da saúde. Ressalta-se a importância de investigação das causas subjacentes ao sofrimento psíquico deste estudante, além da necessidade de se considerar variáveis, como gênero e situação socioeconômica. Considera-se que o estudo contribuirá para o planejamento de estratégias de promoção de saúde mental, prevenção de sofrimento psíquico e cuidado com esses estudantes, além de medidas que visem manter este aluno na universidade e concluir seu curso com qualidade.

**Palavras-chave:** Estudantes, Saúde Mental, Sofrimento Psíquico, Terapia Ocupacional.

## Introduction

In recent years, the mental health of university students has been the focus of social concern due to the high prevalence of mental disorders among this group of young people (Orellana et al., 2020). Recent studies in Brazil and abroad state that this prevalence is higher than young non-students (Fórum Nacional de Pró-Reitores de Assuntos Estudantis, 2016; Ibrahim et al., 2013; Leão et al., 2018). Research carried out on the socioeconomic and cultural profile of undergraduate students from federal institutions of higher education in 2018 (Fórum Nacional de Pró-Reitores de Assuntos Estudantis, 2019), points out that the percentage of death ideation and suicidal thinking among Brazilian university students is 10.8% and 8.5%, respectively. In the same research in 2014, the percentage of students with the idea of death was 6.1%, while suicidal thinking affected 4%. In this way, they warn that “The red light of mental health care is on” among university students (Fórum Nacional de Pró-Reitores de Assuntos Estudantis, 2019, p. 229).

Some studies indicate that the adaptation to the university may not be successful, leading to a vulnerability of mental health, bringing suffering, emerging different conflicts, traits of mental disorders, and, in sometimes, a suicidal process among students (Anversa et al., 2018; Carleto et al., 2018). Gonçalves & Ambar (2015) highlight that there are signs of violence and psychological, symbolic, and/or physical suffering in students who are ignored by universities. The authors point out that the suffering of the students has effects through stress, anxiety, depression, drug addiction, suicide, and the high rates of failure, take time out, and school dropout. In this sense, we observe the importance of research on the causes of suffering of students to support the effective implementation of actions that promote the mental health of this group of young people or even that prevent such disorders.

Most national and international studies on the mental health of university students are carried out with medicine students (Fond et al., 2019; Grace, 2018). Even though there are many points of intersection with health students, the medical students are not an illustrative model of other courses in the area. Thus, there is an increasing number of studies on the mental health of students linked to the plurality of courses in the health area (Claudino et al., 2019; Kotera et al., 2019; Lima et al., 2019; Murakami et al., 2019).

Regarding the studies on the mental health of the occupational therapy student, the first publications on the topic appeared in the 1990s, focusing mainly on stress<sup>1</sup> and psychological suffering resulting from the demands of the course. In recent years, together with the increase in the prevalence of mental disorders in university students, there has been an increase in the production of studies on the mental health of occupational therapy students. This study deals with a scoping review that aims to analyze the contributions of national and international research on the mental health of occupational therapy students and to identify the epistemological trends of studies on the topic and the concepts that support such research.

## Method

This is a scoping review very useful for synthesizing research evidence and mapping the existing literature in a given field in terms of its nature, resources, and volume (Peters et al., 2015). This review uses the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (Tricco et al., 2018) as a reference. According to the steps in the PRISMA-ScR, the guiding question of the research was elaborated having the population or participants, concepts, and context as key elements. Thus, the question is: *How does the scientific literature deal with issues related to the mental health of occupational therapy students?* The participants of our study are university students, the concept is the mental health of these students and the context is the occupational therapy course.

We included empirical and theoretical studies, published in English, French, Spanish or Portuguese, published until December 2019. They were articles, theses, dissertations, monographs, or books. We excluded interventions because we think that the central theme of such investigations is centered on therapeutic models, methods, and techniques, not addressing the issue of this review.

The survey of the studies was carried out between March and May 2020 in three stages. In the first stage, the research was carried out in the Scopus and Redalyc databases. In the second stage, we examined the reference lists of the articles that appeared in the first stage to ensure the use of the relevant literature on the topic. In the third stage, we searched for studies that were not published in Google Scholar and the Digital Library of Theses and Dissertations (BDTD). In all stages, the keywords were: *Saúde mental; sofrimento psíquico; transtorno mental; estudante de terapia ocupacional; aluno de terapia ocupacional* for national bases and *mental health; psychological distress;*

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<sup>1</sup>Among the studies presented on the theme in this article, which present some conceptual references about stress, it is considered as an adaptation syndrome presented by the individual in the presence of an aggressive stimulus, which can trigger imbalance in bodily functions, causing physical and mental illness and/or emotional (Murakami et al., 2019; Sanches et al., 2018).

*occupational therapy student; occupational therapy* for international bases, as shown in Table 1.

**Table 1.** Databases, search strategy, and references.

Search strategy	Databases/Information resource	Retrieved references
“Occupational Therapy Student” AND “Mental Health”; “Occupational Therapy Student” AND “Psychological Distress”	Scopus	129
“Saúde Mental” AND “Estudante de Terapia Ocupacional” OR “Aluno de Terapia Ocupacional”; “Sofrimento Psíquico” AND “Estudante de Terapia Ocupacional” OR “Aluno de Terapia Ocupacional”; “Transtorno Mental” AND “Estudante de Terapia Ocupacional” OR “Aluno de Terapia Ocupacional”;	Redalyc	07
	Google Scholar	230
	BDTD	144

We found a total of 520 papers, resulting from the sum of 510 references found in the databases and 10 references resulting from the analysis of the referential of selected articles. We excluded 74 duplications, resulting in 446 studies for preliminary analysis. Based on the reading of the title, we excluded 383 studies that did not meet the inclusion criteria. Thus, we selected 63 studies to read the abstract, in which we excluded 42 articles because they did not meet the inclusion criteria. Therefore, we selected 21 articles and two dissertations for reading in full. We also excluded six of the articles because four of them presented themes related to mental health, but did not correlate with the mental health of students of occupational therapy; one of them because it only addressed the theme of students' mental health when comparing two specific curricula for occupational therapy courses at two universities; and one of them for dealing with a case study, more focused on the specific mental disorder of an occupational therapy student without relating to the course. From this process, we included 15 studies for the proposed review. The flowchart (Figure 1) shows the data mapping process based on the Prisma Flow Diagram model.

We exported the 15 studies to Mendeley®. It is a reference manager that classifies articles according to authorship, title, year of publication, and journal. The research results were based on the Thematic Content Analysis (Bardin, 2011). Afterward, the authors coded the data through reading and searching for themes independently. Subsequently, there was a discussion about coding in the researchers, until reaching a consensus in the categorization process, proposing explanatory nuclei of meaning.

## Results

### Characteristics of the studies included in the review

The productions are from 1993 to 2019. Figure 2 shows a greater constancy of production from 2015, that is, in the last four years. We also observed that the productions have increased in the last two years (Figure 2).

Regarding the geographical distribution of the productions, six studies are national (Arantes, 2018; Cavestro & Rocha, 2006; Murakami et al., 2019; Pinho, 2018; Sanches et al., 2018). Countries like the United States had three papers (McCombie, 2019; Mitchell & Kampfe, 1993; Everly et al., 1994); Norway had two papers (Bonsaksen, 2015; Nerdrum et al., 2009); South Africa also had two papers (Govender et al., 2015; Witt et al., 2019); and Australia (Gilbert & Strong, 1997) and the United Kingdom (Kotera et al., 2019) had one paper each.

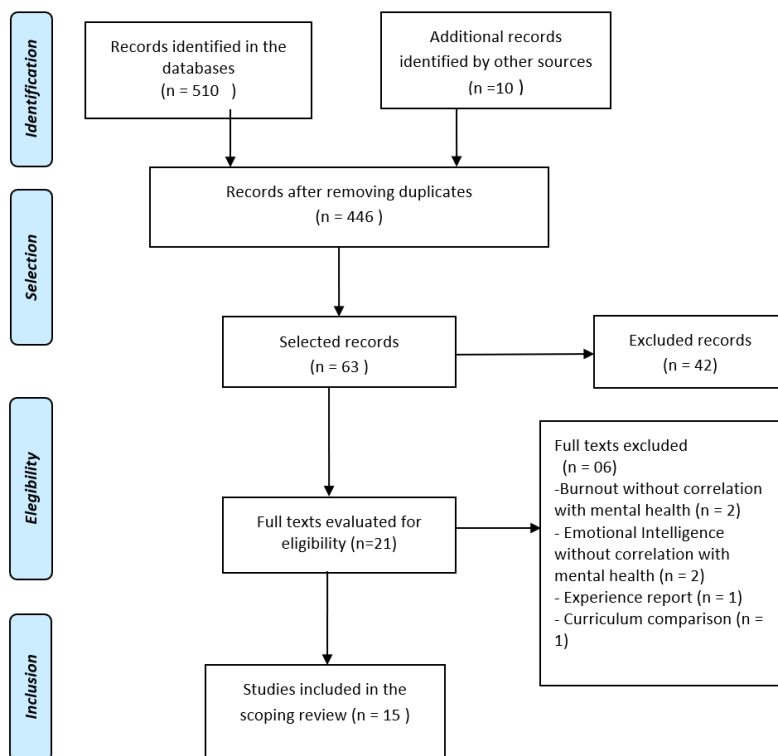


Figure 1. Search flowchart. Source: Moher et al. (2009).

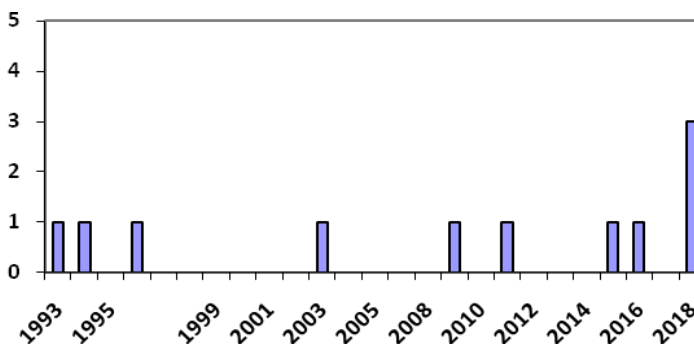


Figure 2. Number of publications distributed in the time interval.

The topics in the mental health of occupational therapy students were: stress, mental disorder, coping, self-esteem, self-criticism, self-pity, self-efficacy, self-confidence, resilience, and alcohol use. Such themes, in some studies, were combined and configure, according to Figure 3, the following proportion:

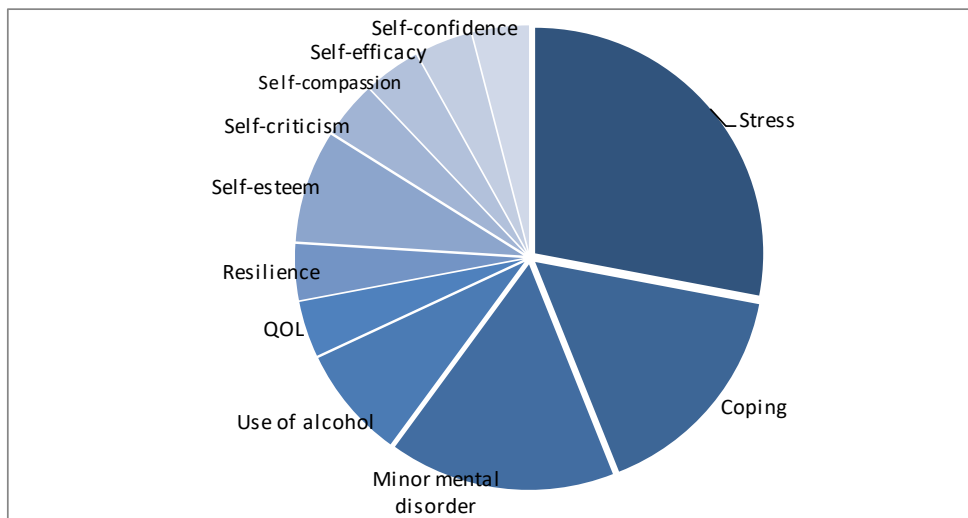


Figure 3. Variables distributed in proportion to studies.

### Analysis of study content

Based on the analysis of the content of the articles, we found regularities that outlined the following explanatory cores: 1. The mental health of occupational therapy students and specificities of the undergraduate course; 2. The mental health of occupational therapy students seen in parallel to the mental health of students in the health area; 3. Variables associated with the mental health of occupational therapy students.

#### *Mental health of occupational therapy students and specificities of the undergraduate course*

The curricular internship is mentioned in these articles (Gilbert & Strong, 1997; Govender et al., 2015; Mitchell & Kampfe, 1993; Sanches et al., 2018; Everly et al., 1994; Witt et al., 2019) as the main source of stress and anxiety among students, which can impact the mental health of these young people. Although they are studies from different countries such as Brazil, South Africa, Australia, and the USA, all curricula for occupational therapy courses in different countries, with variations in the training modalities, between professional master's or bachelor's degree courses, all offer curricular internship in the last semesters, becoming a fundamental stage of academic training for the occupational therapist (World Federation of Occupational Therapists, 2016).

Since the first publications on the topic, the transition to the curricular/professional internships in the occupational therapy course is seen as generating stress in students. Mitchell & Kampfe (1993) carried out research in which they evaluate the strategies of coping with stress and the perception of the experience of passing to the internship field in students of the course. To this end, they applied the Revised Way of coping checklist (WCCL) questionnaire and a questionnaire developed especially for the study, the Transition Questionnaire, to 104 occupational therapy students who were 88 women and 12 men, from 15 universities in the United States of America (USA).

Thus, the authors found that students with stress strive more for positive strategies, as a strategy focused on the problem and the search for social support than for negative strategies, such as negative thoughts, evasion, and self-pity. Regarding the perception of transition, the results showed significant differences between genders, with women perceiving stress more strongly than men. The authors understand that this difference is the result of several variables such as marital status, finances, housing reallocation (if the internship is carried out in a different city), among others (Mitchell & Kampfe, 1993).

Also, Everly et al. (1994) carried out a study in the 1990s to quantify the stressors and coping strategies of occupational therapy students. The researchers used a questionnaire divided into four sessions: demographic, source of stress, coping, courses used, and effects of stress on the student. The participants in this study were 1,095 third- and fourth-year occupational therapy students, including 972 women and 113 men, from 14 US universities. We should highlight that, in the USA, in the 1990s, period of publication of this article, students could also do their training through a four-year bachelor's degree, different from the current training modality, in which, to become an occupational therapist, it is necessary to have a professional master's degree in occupational therapy (American Occupational Therapy Association, 2019), as we observed in the studies presented.

The results of Everly et al. (1994) pointed out that the five major sources of stress in the course were subject evaluations, the amount of work/activities required, little free time, long hours of study, and the grades achieved in the evaluations. As for coping strategies, students reported using perseverance, talking to friends and family, analyzing problems, acting directly on the source of the problems, and studying intensively and constantly. In general, students answer to the high expectations of the course, functionally and productively.

In Brazil, in a more current study, Sanches et al. (2018) sought to assess the prevalence of stress indicators in students graduating from the occupational therapy course. The study had 31 students participating, all women and single, who completed the course and were in a supervised internship. Through the Lipp's Stress Symptoms Inventory for Adults (SSIL) and a semi-structured interview script for socio-demographic characterization, they found that 26 of the 31 participants were in some phase of stress. The results also showed that nine students were in the exhaustion phase. According to Sanches et al. (2018), the results suggest that the activities concentrated in the last year, with emphasis on the curricular internship, the development of a final monograph, the confrontation of its reality, which is generally different, from the reality of the patient, and the uncertainties regarding the professional future, constitute a set of factors that favors student stress. However, the authors did not discuss in their results

the possibility of other variables such as the highest stress rates generally found in Brazilian women of different ages (Matsukura et al., 2007).

Gilbert & Strong (1997) researched with 62 occupational therapy students who were at the beginning of the third year of the course, before the curricular internship, at a university in Australia with four years of training in occupational therapy, seeking to examine strategies for coping and its relationship with anxiety and self-esteem. The Ways of Coping Checklist scale, the Rosenberg Self-esteem Scale, and The Sixteen Personality Factor Questionnaire were used as research instruments.

The results of this study (Gilbert & Strong, 1997) suggest that anxious students use the coping strategy for positive thinking when facing a situation that they consider to be anxiety-provoking. Students without excessive anxiety mainly use the strategy focused on solving the problem, followed by positive thinking and seeking social support. The study suggests the importance of identifying students' characteristics, in particular those that can impede competence in fieldwork, in the curricular internship.

Govender et al. (2015) sought to determine the stressful points of the occupational therapy course and the coping strategies were employed by occupational therapy students in South Africa. Data were collected among 101 occupational therapy students of which 29.3% were in the first year of the course, 29.3% were in the second year, 24.2% in the third year, and 17.2% in the fourth year.

The results showed that the students in the fourth year had the highest level of stress. Thus, considering that in South Africa the training is four years, the last year was the most stressful (Govender et al., 2015). Like Sanches et al. (2018), the authors explained this result by the demands placed on students to meet the expectations of the requirements of this period of the course, such as an almost always full-time internship, research requirements, and other academic commitments. The coping strategies most used by students, and the study by Gilbert & Strong (1997), were strategies focused on the problem, focused on positive thinking, and the search for social support.

Witt et al. (2019) developed a study aimed at determining the level of resilience and stressors of occupational therapy students. To achieve this goal, they used a sociodemographic questionnaire, The Resilience Scale (RS), The Perceived Stress Scale (PPS), and The Health Behavior Questionnaire (HB), participating 118 occupational therapy students.

The results indicate that the students of occupational therapy study from 11 to 20 hours a week, which is considered a high workload since the course is full and the average study time for other courses at the same university is 1 to 10 hours of study. Students consider their level of stress as high and the greatest source of stress is academic. For those attending the last year, in addition to academic stress, they added personal and social stress. Most students have moderate levels of resilience, and high levels of family support to moderate these academic stressors, with the family being the main source of social support for these students (Witt et al., 2019).

The studies of this thematic nucleus correlate the occupational therapy course with the mental health of occupational therapy students through hypotheses about the stress generated by the course. The studies associate the stressors to the internship period or the overhead generated by the academic activities of the course. The curricular internship and the burden from academic activities is also a stress factor, which also happens in other courses in the health area (Murakami et al., 2019; Nerdrum et al.,



2009). The specifics of the occupational therapy course, the particularities of students who choose this training, and the questions brought up by the latter, were not considered variables when relating the course to this student's mental health.

### *Mental health of occupational therapy students observed together with the mental health of students in the health area*

Cavestro & Rocha (2006) developed research to identify and compare the prevalence of depressive disorder and risk of suicide among medical, physical, and occupational therapy students from a private college in the Southeast of Brazil. They interviewed 342 students: 90 from the physiotherapy course, 213 from the medical course, and 39 from the occupational therapy course. The sample was calculated by quota, according to the number of students enrolled in each course. In the occupational therapy course, all participants were female. As an instrument, they used the Mini International Neuropsychiatric Interview (MINI), which is an interview through obtaining the psychiatric diagnosis and risk of suicide.

As a result, the prevalence of depression was 10.5% among students, but occupational therapy students had a higher prevalence (28.2%) than medical students (8.9%) and physical therapy students (6.7%). Regarding the risk of suicide, occupational therapy students were at higher risk (25.6%) compared to medical students (7.5%) and physiotherapy students (7.8%). The chance of occupational therapy students experiencing depression is 3.6 times greater than the chances of medical and physical therapy students. Regarding the chances of suicide, occupational therapy students had a 3.7 times greater risk than other research students. The authors discuss the fact that the objectives of the course influence the student's choice of profession, which could lead to thinking about a selection process of an unknown nature, justifying a greater number of people with depressive disorders among such students. Another explanation for the observed results is that occupational therapy students would have an easier time commenting on aspects of their psychological functioning when compared to students from other courses (Cavestro & Rocha, 2006).

The research of the master's thesis of Arantes (2018) is another study showed that occupational therapy students with a higher prevalence of mental disorder than other undergraduate courses. The author analyzed the influence of Common Mental Disorder (CMD) on the Quality of Life (QOL) of health science undergraduates from a public Brazilian educational institution. This study identified the occupational therapist students with a higher prevalence of CMD than students from the other six courses, participating in the sample.

Arantes' research (2018) was carried out with the participation of 195 students from the Biomedicine course, 235 from the Physical Education course, 308 from Nursing, 311 from Physiotherapy, 511 from Medicine, 251 from Nutrition, and 185 undergraduate students from the occupational therapy course. The sample number per course respected the proportional distribution of students per course in health sciences. The author used a sociodemographic and academic questionnaire developed by him and

the Self Reporting Questionnaire and the World Health Organization Quality of Life-Bref (WHOQOL-Bref).

As a result, the occupational therapy course had the highest prevalence of CMD with 56% among students. The main symptoms reported by students were feelings of nervousness, tension, and concern, followed by the somatic symptom of sleeping poorly and difficulty in making decisions. According to the author, the results point out how the occurrence of CMD can affect the students' QoL, as well as the analysis of the described symptoms, can help interventions that allow the improvement of the student's well-being and his stay at the university (Arantes, 2018).

In a study on psychological stress among students in the health area, Murakami et al. (2019) also found a higher rate in students of occupational therapy than students from other courses. Nine students of occupational therapy, 18 of physiotherapy, 15 of speech therapy, 45 of medicine, and 15 of nutrition from the same public educational institution, located in the Southeast of Brazil participated in this study. The number of students per course was statistically defined in a stratified way, with proportional sharing of the total number of students in each course and each period. Participants answered a questionnaire with social and demographic data and Lipp's Stress Symptoms Inventory for Adults (ISSI).

The occupational therapy course had the highest incidence of stress with 88% of the students, while other courses had an approximate incidence of 60%. There were no statistically significant differences between the courses, highlighting that, in the health area, the presence of stress is independent of the nature of the course (Murakami et al., 2019).

Nerdrum et al. (2009) point out different results than the previous ones for the occupational therapy student. A study was carried out among 126 students, all female, from nursing courses (57.5% of enrolled students), 76 from physiotherapy (85%), and 33 from occupational therapy (85.5%), from a Norwegian university, looking for investigating psychological stress among them. For such research, they used The StudData Questionnaires and General Health Questionnaire 12 as instruments, applied at the beginning and the end of graduation.

Opposite to the results of previous research, the occupational therapy student had a lower level of psychological stress than other courses. The nursing student had the highest level of psychological stress from the beginning to the conclusion of the course. Occupational therapy students reported the lowest level and nursing students reported the highest level of burden. Nerdrum et al. (2009) also point out that the clarity of the structure of the teaching program was a significant variable in explaining the anguish of the students, that is, the structure and the program of the course, when not understood by the students, can be generators of anguish in the students (Nerdrum et al., 2009).

Souza et al. (2011) sought to detect an indicative prevalence of anorexia and bulimia nervosa in university students in nutrition, nursing, psychology, and occupational therapy courses. They evaluate body self-image, taking as a sample 352 female students from a private educational institution in Midwestern Brazil, with 51 (14.49% of students enrolled in the course) nursing, 153 (43.47%) nutrition, 133 (37.78%)

psychology, and 15 (4.26%) occupational therapy. The instruments they used were a sociodemographic questionnaire, the Eating Attitudes Test (EAT-26) - Food Attitudes Test - and the Body Shape Questionnaire (BSQ) - Body Image Questionnaire.

The results showed that the nutrition course had a higher prevalence of indications of symptoms related to ED than the courses in occupational therapy, nursing, and psychology. The authors emphasized the importance of developing preventive programs for ED in universities since students with depression, obese or with a serious concern with body image are at risk for these disorders.

Given the results presented, it is possible to verify that all national studies, except one, indicated higher rates of psychological distress in occupational therapy students, compared with students from other courses in the health area. The only international study brought a different result. The number of participants in the occupational therapy course is lower than other courses in all the research presented, except for the study by Souza et al. (2011) with a number proportional to the number of students enrolled in the course. The discussions of the results are made through hypotheses and, specifically for occupational therapy students. The considerations are still superficial, which indicates the need for further studies that can deepen this identification of aspects of the course and this group of students, that lead to the understanding of the occupational therapy student's psychological distress.

### *Variables associated with mental health in occupational therapy students*

Bonsaksen (2015) researched mental health associated with factors related to sociodemographic data mainly in gender, associated with general self-efficacy and self-esteem in 148 occupational therapy students from Norway. The group of students was divided into three: first year (10 men and 43 women), second-year (12 men and 37 women), and third-year (9 men and 37 women). In Norway, the occupational therapy course lasts for three years. As instruments, the study used a sociodemographic questionnaire, General Self-Efficacy Scale (GSE), and Rosenberg Self-Esteem Scale (RSES).

The results indicated that greater self-efficacy is associated with males and the satisfaction with the course, having more hours of study, and self-esteem. The author points out that such factors seem to be indicators of better mental health and, as they are associated with males, they alert to the possibility that students may be at greater risk for psychological distress. Thus, given that there are close relationships between these results and mental health, we need general attention on self-perceptions, aspects related to the hours spent by students (men and women), and the importance of satisfaction with the course (Bonsaksen, 2015).

Kotera et al. (2019) researched at a university in the United Kingdom and sought to elucidate the relationship between mental health, attitudes towards mental health, self-criticism, self-pity, and the identity of a caregiver. There were 165 full-time students in the occupational therapy and counseling courses<sup>2</sup>, of which 90% were women, aged 17

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<sup>2</sup>Counseling is a profession, non-existent in Brazil, dedicated to helping people with situational and long-term problems.

to 52 years old. The researchers used the following scales as instruments: Depression, Anxiety, and Stress Scale 21 (DASS 21), Attitudes Towards Mental Health Problems (ATMHP), Forms of Self-Criticising Attacking & Self-Reassuring Scale (FSCSR), Self-Compassion Scale- Short Form, and Role Identity Scale (RIS).

The results revealed that mental health was associated with attitudes such as self-criticism, self-confidence, and self-compassion. Self-criticism and shame were significant predictors of mental health problems in these students. Contrary to the authors' hypothesis, mental health was not related to the identity of a caregiver (Kotera et al., 2019).

McCombie (2019) carried out a study aimed at verifying alcohol abuse and risky behavior resulting from alcohol consumption in occupational therapy students. The sample consisted of 285 occupational therapy students associated with the American Occupational Therapy Association (AOTA). The Alcohol Use Disorders Identification Test (AUDIT) was used as an instrument to identify levels of harmful alcohol and dangerous consumption. Also, a checklist of risky behavior items was used, based on a review of the literature on university students and alcohol consumption.

Almost all students reported having a habit of consuming alcoholic beverages. However, the amount and frequency varied between them. The results show that two out of five students tend to abuse alcohol. Based on these results, the AUDIT score advises basic education on alcohol for most (85%) of these students (McCombie, 2019).

Pinho (2018) researched the profile of alcohol and tobacco use and its associated factors in students in the occupational therapy course at a public university in southeastern Brazil. The study had 111 students participating, most of them female (83.8%), between 18 and 24 years old, belonging to economic class B1/B2, and the religion were evangelical/Protestant or Catholic. Participants answered a questionnaire proposed by the National Secretariat for Drug Policy (*SENAD*) for the I National Survey on the Use of Alcohol and Other Drugs among University students from 27 Brazilian capitals, held in 2009.

The results showed that drinking in a binge, that is, drinking a lot in a short period, in the last 12 months or the last 30 days, is more frequent than the national reference study. An association between religion and the outcome variable binge drinking in the year suggests that among university students surveyed who did not have a religion, there is a greater chance of finding those who drank a lot, episodically, in the last 12 months (Pinho, 2018).

On the other hand, the thematic nucleus presents a variety of indicators such as self-efficacy, self-compassion, self-esteem, and associated factors, such as satisfaction with the course, having more hours of study, which are identified as factors that positively contribute to the mental health of this group of students. On the other hand, self-criticism and shame, and alcohol abuse are identified as predictors of mental health problems. Despite being useful information about the mental health of occupational therapy students, we need to carry out studies that indicate the causal direction of such factors, seeking to elucidate, in a more systematic way, the protective factors of occupational therapy student mental health risk.

## Discussion

This review covers 26 years, with initial publication in 1993 until 2019. The increase in publication on the mental health of occupational therapy students in recent years is in line with the increase in rates of mental disorder among university students, highlighting mental health as a growing public health concern in universities (Fórum Nacional de Pró-Reitores de Assuntos Estudantis, 2019; Liu et al., 2019; McLafferty et al., 2017; Tran et al., 2017). In addition to the prevalence and deleterious effects of problems of psychological distress among university students, there is an alert among researchers and society in general, regarding the increase in the suicide rate among this population (Fórum Nacional de Pró-Reitores de Assuntos Estudantis, 2019; Lima et al., 2019), which would justify the increase in the production of research on the university's mental health.

In Brazil during recent years, Brazilian public universities face a precarious process with reduced funds for their basic maintenance, not receiving necessary subsidies for the care of students who are economically, educationally, and/or discriminated against, and victims of social exclusion. Thus, for example, there is a lack of resources for students with these disadvantages, and it is necessary that many of them work, having a double study-work journey, which may bring an overload that affects the mental health of these young people (Tombolato, 2005).

The research in this study includes quantitative investigations, which reinforces the indication that fields of meaning for the occupational therapy student's mental health remain open to be explored, being a fertile field for qualitative research. Another important fact is the variety of questionnaires and scales used. In addition to the sociodemographic questionnaires, the 15 studies presented a variety of 22 scales/questionnaires, with only two of these instruments being repeated. Although this data confirms a wide range of reliable and appropriate measures and instruments for the study of the occupational therapy student's mental health, there is a question regarding the variety of instruments in the research on the same theme, which, among other aspects, hinders to most relevant dialogue between the results.

In these 26 years, there have been several changes in the occupational therapy training courses, for example, mandatory professional master's degree as basic training for the occupational therapist in the USA (American Occupational Therapy Association, 2019), mandatory increase in the length of course completion with more than 3,600 hours for five years, in Brazil (Brasil, 2009), and changes in the curricular matrices of the courses (Barba et al., 2012). However, from the first publications (Gilbert & Strong, 1997; Mitchell & Kampfe, 1993; Everly et al., 1994) to the current publications, even with the changes that have occurred, the transition from an academic environment to a clinical environment can still be stressful and cause damage to students' mental health, as the literature continues to point out (Govender et al., 2015; Sanches et al., 2018).

According to the World Federation of Occupational Therapy (World Federation of Occupational Therapists, 2016), the minimum standard for education in occupational therapy is 1000 hours of practical placements to ensure the integration of theory into

practice and refers to the time each student spends with people such as users/patients/clients who can be an individual, family, group or community, in the fields of practice, which can be varied (public institutions, clinics, schools, etc.), developing a process in occupational therapy. In the national context, the National Curriculum Guidelines (*DCN*) for occupational therapy establish that specific occupational therapy activities should be developed gradually from the beginning of the course. However, it does not seem to be enough to avoid the stress of the student and the student in the transition to the curricular internship, a period that can cause emotional disorders in these students (Sanches et al., 2018). The stress from the professional internship is not exclusive to the student and the occupational therapy student. Studies from other courses in the health field point out this internship moment as stressful also for other students (Pereira et al., 2014; Querido et al., 2016).

Studies suggest that emotional support is given to students by the educational institution, supervisors, and professors (Sanches et al., 2018), that the coping used by them is known, identifying what can be adapted by the programs support for students (Govender et al., 2015), also identifying the personal characteristics of students, which may impede competence in fieldwork and, from there, develop a program to help in deficient skills (Gilbert & Strong 1997).

During the internship, the student who is finishing his/her course also experiences the transition between education and work. Studies show that the most frequent stressor among trainees is the fear of the professional future (Amr et al., 2011; Vicente, 2014). Also, this transition from student to professional involves the loss of student status and university support, and the frequent loss of family influence due to the need for the young person to build his identity, which can generate insecurity, apathy, disorganization, and consequent psychological suffering (Geirdal et al., 2019). Focusing on this period of completion of the course, we can reveal important dimensions that can be addressed with more elements throughout the training. In this sense, future studies can contribute to this broadening of understanding.

High levels of stress in this population are related to the abuse of alcohol and other drugs and the prevalence of mental disorders (Dennhardt & Murphy, 2011; Kenney et al., 2018). The prevalence of mental disorders and the abusive use of alcohol and other psychoactive substances in students of occupational therapy and the risk and protection factors were little explored, despite the negative impact that these disorders have on the life and academic activities of the student.

The sociodemographic variables are significantly associated with the prevalence of mental disorders (Gorn et al., 2005; Klose & Jacobi, 2004). Studies indicate that socioeconomic status and gender are associated with a significantly increased likelihood of mental disorders (Andrade et al., 2012; Schwartz et al., 2011). Regarding gender, the study by Bonsaksen (2015) showed that factors such as greater effectiveness and satisfaction with the occupational therapy course are associated with males. According to the author, such factors would be indicators of better mental health, that is, the male student has a lower risk of psychological distress.

This discussion makes sense when referring to the fact that the vast majority of occupational therapy students are women, as shown in the selected studies, indicating the importance of greater contextualization and deepening on the issue of the female and, beyond (and at par with the reality), with gender issues and their consequences in the life and mental health pathways of occupational therapy students. There is also a need to focus on the diversity of structures, access, and experiences, especially those imposed on different vulnerable groups and/or that are not represented by a normative standard commonly considered in the analysis of research results addressed here.

In national terms, the university currently presents a new configuration, becoming more representative of the society in which it is inserted and, consequently, with several problems faced by it. The expansion of Brazilian higher education through the Program to Support Federal University Restructuring and Expansion Plans (*REUNI*) beginning in 2007, aimed to expand the access of a greater proportion of Brazilian youth to higher education, especially due to the low number of students at that level of education. Also, the democratization and expansion of access, strategies to guarantee the permanence of groups historically discriminated in university institutions, such as blacks, Indians, and people in precarious socioeconomic conditions, were placed on the agenda through the implementation of affirmative action policies in universities. Thus, recognizing the specific conditions of the student and occupational therapy student and considering them in the investigation process is to qualify this student's mental health research.

Some studies indicate that the group of occupational therapy students is more affected in damages to their mental health than students from other courses (Arantes, 2018; Cavestro & Rocha, 2006; Murakami et al., 2019). The studies that bring Occupational Therapy as a course with the largest number of students with a common mental disorder (Arantes, 2018), with depression (Cavestro & Rocha, 2006), or even with psychological stress (Murakami et al., 2019) are the result of national research carried out in a Brazilian context.

This result leads us to the issue related to the social context and the different trajectories of this student, to the characterization of the profile of this group of young people or, to the subjectivation modes of Brazilian students of occupational therapy. These variables are associated with the structure of the course - since, according to studies presented, the occupational therapy course brings overload - and can cause damage to students' mental health. Thus, bringing light to the dimensions of the context of life allows the possibility of addressing mental health more broadly and in dialogue with the psychosocial perspective, among others.

## **Final Considerations**

The scoping review on the mental health of an occupational therapy student points out the workload of practical placements of 1000 hours during the course and the immersion of the student in the internship field as a source of stress and psychological distress among students. Other dimensions were presented and discussed based on identified categories such as the rates of psychological distress among students and

occupational therapy students being higher than those students from other health courses, and indicators and factors associated with mental health in occupational therapy students.

The research in this review is the result of quantitative research that does not include meanings attributed by students for mental health, showing the relevance of qualitative and mixed investigations in studies on the topic. Research in this direction may bring new elements to the understanding of an important and worrying fact, for those involved with the training of occupational therapists, which is the prevalence of psychological distress among students of occupational therapy.

Also, the need to consider some important variables as part of the characterization of this group of students is highlighted: the importance of greater contextualization and deepening on issues involving women, on issues of gender, race/ethnicity, socioeconomic status, diversity of structures, and access to the university, and their reflections on the lives and mental health of these students.

As discussed from the results obtained in this study, there is an urgent need for future studies on the theme to address the specificities of the occupational therapy course, the particularities of the student group, elucidating the different factors and indicators associated with the mental health of this group.

We also highlight the relevance of such studies for those interested in students, in the formation of the occupational therapists, in the professional future, and in the quality of attention and care for the target population of this profession, as well as for the promotion of actions to provide support for students in psychological distress.

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### **Author's Contributions**

Teresinha Cid Constantinidis and Thelma Simões Matsukura also worked on the design, writing of the text, organization of the sources, analysis, and discussion of the results. All authors approved the final version of the text.

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