

## Procrastinação acadêmica entre estudantes universitários brasileiros

*Joene VIEIRA-SANTOS<sup>1</sup>*

*Vivian Nathalia Rodrigues MALAQUIAS<sup>2</sup>*

### Resumo

Procrastinação acadêmica refere-se ao atraso ou adiamento voluntário de atividades, mesmo que tal atitude cause dificuldades maiores a longo prazo. O presente estudo consiste em uma revisão sistemática da literatura para examinar a procrastinação acadêmica entre estudantes universitários brasileiros. Buscas foram realizadas em setembro de 2020 utilizando a expressão “procrastinação acadêmica” nas bases Periódicos CAPES, BVS, DOAJ, Scielo e Google Acadêmico. Foram selecionados 16 artigos empíricos cujo foco era a procrastinação acadêmica em estudantes universitários brasileiros. Verificou-se que procrastinação é um fenômeno frequente entre estudantes universitários e pode ser motivado por diferentes fatores (sentimentos de ansiedade e incapacidade diante da tarefa, percepção de dificuldade da tarefa, quantidade de tarefas a serem realizadas e significado atribuído à tarefa). Os resultados apresentados podem contribuir para subsidiar ações destinadas a auxiliar estudantes universitários a lidar com esse problema

**Palavras-chave:** Educação Superior. Procrastinação. Revisão sistemática.

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<sup>1</sup> Psychologist, Master in Theory and Research of Behavior, Doctor in Psychology. Centro Universitário Adventista de São Paulo, Hortolândia, SP, Brazil. ORCID <https://orcid.org/0000-0001-9529-8417>.

E-mail: joenesantos@yhao.com.br

<sup>2</sup> Graduate of Psychology. Adventist University Center of São Paulo, Hortolândia, SP, Brazil. ORCID <https://orcid.org/0000-0003-2155-358X>.

E-mail: vivian\_malaquias@hotmail.com

## **Academic procrastination among Brazilian university students**

*Joene VIEIRA-SANTOS*

*Vivian Nathalia Rodrigues MALAQUIAS*

### **Abstract**

Academic procrastination refers to the delay or voluntary postponement of activities, even if such an attitude causes greater difficulties in the long term. The present study consists of a systematic review of the literature to examine academic procrastination among Brazilian university students. The searches were carried out in September 2020 using the expression “academic procrastination” in the CAPES, BVS, DOAJ, Scielo and Google Scholar databases. Sixteen empirical articles were selected, focusing on academic procrastination in Brazilian university students. It was found that procrastination is a frequent phenomenon among university students and can be motivated by different factors (feelings of anxiety and incapacity in the face of the task, perception of difficulty of the task, number of tasks to be performed and meaning attributed to the task). The results presented can contribute to subsidize actions aimed at helping university students to deal with this problem.

**Keywords:** Higher Education. Procrastination. Systematic review.

## **Procrastinación académica entre estudantes universitarios brasileiros**

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### **Resumen**

La procrastinación académica se refiere al retraso o aplazamiento voluntario de actividades, incluso si tal actitud causa mayores dificultades a largo plazo. El presente estudio consiste en una revisión sistemática de la literatura para examinar la procrastinación académica entre los estudiantes universitarios brasileños. Las búsquedas se realizaron en septiembre de 2020 utilizando la expresión “procrastinación académica” en las bases de datos CAPES, BVS, DOAJ, Scielo y Google Académico. Se seleccionaron 16 artículos empíricos, centrados en la procrastinación académica en estudiantes universitarios brasileños. Se encontró que la procrastinación es un fenómeno frecuente entre los estudiantes universitarios y puede estar motivada por diferentes factores (sentimientos de ansiedad e incapacidad ante la tarea, percepción de dificultad de la tarea, número de tareas a realizar y significado atribuido a la tarea). Los resultados presentados pueden contribuir para subsidiar acciones dirigidas a ayudar a los estudiantes universitarios a enfrentar este problema.

**Palabras clave:** Educación Superior. Procrastinación. Revisión sistemática.

## Introduction

Pursuing a higher education degree can involve numerous challenges (ALMEIDA, 2019) and lead to changes in various life domains (MAYHEW et al., 2016). One such challenge is time management and handling academic activities (ALMEIDA, 2019), which, compared to those in Basic Education, become more complex, extensive, and demand a higher level of autonomy and critical thinking to be effectively accomplished. As Oliveira et al. (2016) highlight, effective time management requires the development of several competencies, including setting goals and priorities, establishing action plans, creating task lists, managing unforeseen events, and meeting deadlines.

Within the academic context, a widely studied issue related to time management is academic procrastination (GAREAU et al., 2019; PALO et al., 2017; PATRZEK et al., 2015). Steel (2007) defines procrastination as “voluntarily delaying an intended course of action despite expecting the delay to worsen the situation” (p. 66). Solomon and Rothblum (1984) suggest that academic procrastination involves more than poor time management and study skills deficits, being associated with a complex array of factors, such as anxiety triggered by evaluation situations, difficulty making decisions, task aversion, excessively perfectionistic performance standards, among others. According to Steel (2007), procrastination is extremely prevalent among university students and depends on: (a) task characteristics, (b) individual differences related to personality traits, (c) effects on mood and performance, and (d) demographic characteristics impacting procrastination (age and gender).

The international literature on the subject is vast. A search conducted in September 2020 using the phrase “academic procrastination” (in quotes) in databases such as CAPES Journals, Virtual Health Library (BVS), Directory of Open Access Journals (DOAJ), and Scielo found 980 articles related to the topic. These studies investigate the relationship of academic procrastination with various variables: (a) psychological factors, such as personality traits (LJUBIN-GOLUB et al., 2019; MOSLEMI et al., 2020), test anxiety (FURLAN et al., 2014), perfectionism (ODACI; KAYA, 2019), self-efficacy (GRAFF, 2019; GUO et al., 2019), among others; (b) academic factors, such as grades (GAREAU et al., 2019) and self-regulation of learning (GONZÁLEZ-BRIGNARDELLO; SÁNCHEZ-ELVIRA-PANIAGUA, 2013; LOEFFLER et al., 2019; PALO et al., 2017); (c) sociodemographic and family factors, such as gender (DOMINGUEZ-LARA et al., 2019) and parenting style (BATOOL, 2020; KHALID et al., 2019); (d) internet and electronic device use (AZNAR-DÍAZ et al., 2020; HAYAT et al., 2020), among others.

Analyzing the impact of academic procrastination on university students' performance reveals varied outcomes. For instance, Gareau et al. (2019) found that academic procrastination in university students was a negative predictor of academic performance (in terms of end-of-semester grades), even after controlling for high school performance and working memory capacity. Palo et al. (2017) observed that beliefs in procrastination as a useful strategy to enhance performance could directly encourage the tendency to delay decisions. Furthermore, students' difficulties in planning and managing the time required to complete academic tasks resulted in decisional procrastination.

Divergent results were also identified in the international literature regarding the relationship between self-efficacy and procrastination. Guo et al. (2019) found a negative relationship between self-efficacy and procrastination, while Graff (2019) identified that students with high levels of self-efficacy also exhibited high levels of procrastination. According to Graff, this may be linked to a distorted perception of the time required and the amount of tasks to be completed compared to the actual time spent and the number of academic tasks completed. Graff suggests that these results indicate that such students may rely on cognitive processes more rooted in fantasy rather than realistic assessment of academic demands and outcomes, which can prevent the activation of necessary resources to achieve goals, ultimately leading to procrastination.

Despite the extensive international literature focused on understanding the phenomenon of academic procrastination among university students, no review studies were found specifically assessing how this phenomenon manifests among Brazilian university students. Thus, the primary aim of this study was to examine academic procrastination among Brazilian university students. Systematic literature reviews are relevant because they provide an overview of research on a particular phenomenon of interest, highlighting both advances in understanding and gaps that need further exploration. In this direction, the specific objectives of the present study are: (a) to identify sample characteristics and research design, as well as psychometric instruments used in the Brazilian context; and (b) to examine the main findings of the studies and the relationships established with other constructs.

## Method

This study consisted of a systematic literature review (COSTA; ZOLTOWSKI, 2014). The search for articles was conducted in September 2020 using the phrase “academic procrastination” (in quotes and only in Portuguese), without any time restriction, across the following databases: (a) CAPES Journals (<http://www.periodicos.capes.gov.br/>), (b) Virtual Health Library (BVS,

Academic procrastination among Brazilian university students (<https://bvsalud.org/>), (c) Directory of Open Access Journals (DOAJ, <https://doaj.org/>), (d) Scielo (<https://scielo.org/>), and (e) Google Scholar (<https://scholar.google.com.br/>). These databases were selected because the objective of the review was to find studies with samples consisting of university students enrolled in Higher Education Institutions (HEIs) located in Brazil.

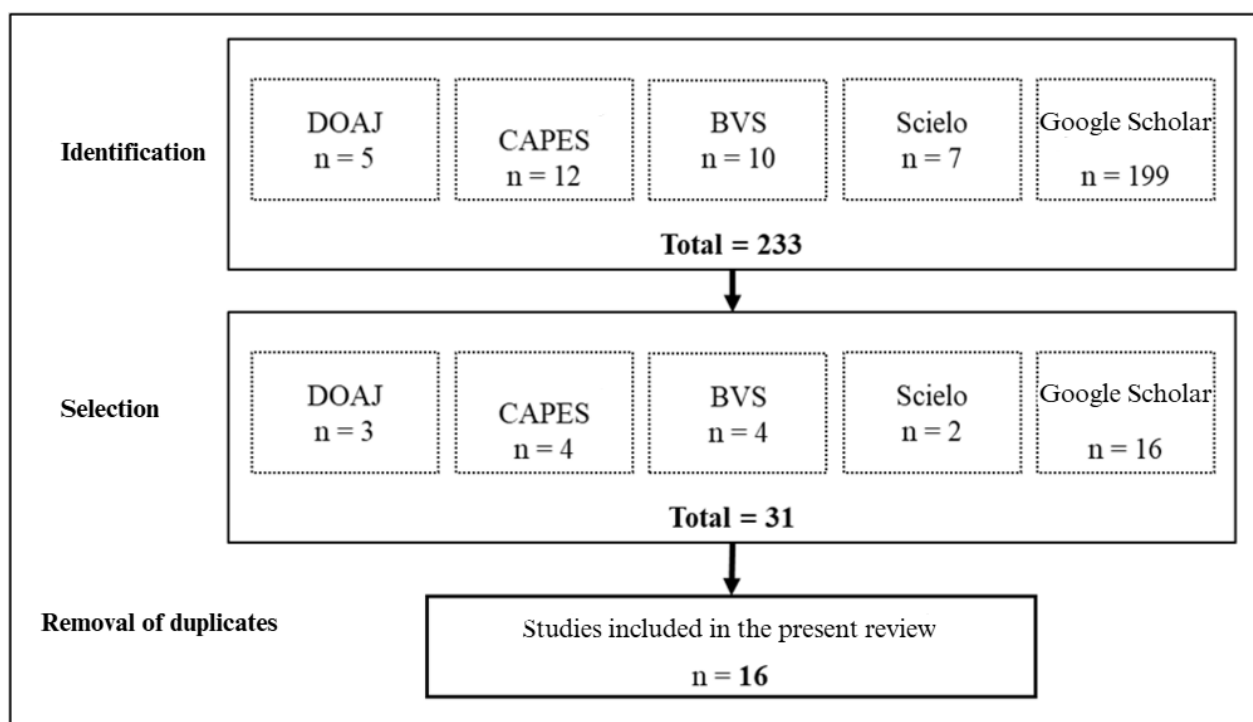
The selection process for the articles that would compose the corpus of this review involved three steps. First, a search was conducted in each database, and articles focusing primarily on academic procrastination among Brazilian university students, based on the title and abstract, were selected. Then, duplicate articles (i.e., those indexed in more than one database) were removed, ensuring each appeared only once in the review corpus. Finally, after a preliminary reading of the introduction and method sections, articles meeting the established inclusion and exclusion criteria for this study were selected. The selection criteria included empirical scientific articles (i.e., involving direct data collection from participants) with open access to the full text and a primary focus on academic procrastination among Brazilian university students. Excluded from this review corpus were: (a) texts that were not scientific articles (monographs, dissertations, theses, books, book chapters, and conference abstracts); (b) articles without full text available online; (c) texts referring to students from other education levels or nationalities; (d) articles that did not focus primarily on academic procrastination; and (e) theoretical articles, as they did not rely on data collected from students enrolled in Brazilian HEIs.

The selected articles were read in full, and two types of data were analyzed. The first pertains to publication information: (a) year of publication, (b) journal in which the article was published, and (c) number of authors. The second type relates to the phenomenon of interest (academic procrastination), using the following categories of analysis: (a) definition of the construct, (b) research objective, (c) characteristics of the students, (d) data collection method, (e) instrument used to assess the construct, (f) main study results, and (g) relationship with other constructs.

## Results

As shown in Figure 1, the database searches yielded a total of 233 articles. Applying the inclusion and exclusion criteria led to the selection of 31 articles. Finally, removing duplicate articles resulted in a set of 16 texts focused on academic procrastination, which comprised the corpus of this review.

**Figura 1** - Fluxograma da seleção do corpus da presente revisão



Source: Authors (2020).

To assess how academic procrastination has been investigated among Brazilian university students, the articles were examined based on four distinct aspects. The first aspect concerns the bibliometric information of the articles, including the year of publication, the field of the journal in which the article was published, and authorship. The second aspect focused on the definition of the construct adopted by the article authors. The third aspect addressed methodological issues, including the analysis of the research objective, sample characteristics (sampling type, sample size, nature of the HEI where participants were enrolled, region of the country, academic degree, and stage of the course), and research design characteristics (type of design, instrument application method, and instruments used). Finally, the main findings described in the articles and their relationship with other constructs were examined.

### 3.1. BIBLIOMETRIC INFORMATION

The searches were conducted without time restrictions, aiming to locate articles addressing academic procrastination among Brazilian university students regardless of their publication date. The oldest article found was published in 2008, and the most recent in 2020, with the highest number of publications occurring in 2019 (n=4). The articles were published in journals across various fields,

Academic procrastination among Brazilian university students with 37.50% of the studies appearing in Psychology journals (*Revista Brasileira de Terapias Cognitivas*, *Revista Brasileira de Psicoterapia*, *Avaliação Psicológica*, *Psico*, *Temas em Psicologia*, *Psico-USF*, *Estudos Interdisciplinares em Psicologia*, *Psicología Conocimiento y Sociedad*), 31.25% in Accounting journals, 12.50% in Education journals, 18.50% in Administration journals, and 6.25% in Sustainable Development journals.

Regarding authorship, the studies vary from 1 to 5 authors per study, with 31.25% of the studies authored by three researchers. Some authors stand out with two or more contributions to the literature on Academic Procrastination, namely: Gabriela Ballardin Geara, Marco Antonio Pereira Teixeira, Nelson Hauck Filho, Rita Karina Nobre Sampaio, Hugo Dias Amaro, Elder Semprebon, and Ilse Maria Bauren.

### 3.2. DEFINITION OF ACADEMIC PROCRASTINATION

Several definitions for the construct were identified in the reviewed studies, but two were the most recurrent. The first suggests that procrastination should be understood as a behavior of task delay due to multifactorial aspects, which can be psychological, affective, environmental, and motivational (AMARO et al., 2016; GEARA et al., 2017; GOUVEIA et al., 2014; KAVESKI; BEUREN, 2020; MACHADO; SCHWARTZ, 2018; MEDEIROS et al., 2019; PEREIRA et al., 2019; RIBEIRO et al., 2014; SAMPAIO; BARIANI, 2011; SEMPREBON et al., 2017; SILVA et al., 2020; TONELLI et al., 2019). The second definition emphasizes cognitive processes, particularly those related to errors in self-regulation processes, strategies, or action planning (BRITO; BAKOS, 2013; FORMIGHIERI et al., 2019; GEARA; TEIXEIRA, 2017; SAMPAIO et al., 2012).

### 3.3. METHODOLOGICAL ISSUES

Regarding research objectives, the studies were classified, following Gil (2002), as exploratory, descriptive, and explanatory. Additionally, a fourth category labeled construction or adaptation of instruments was included due to a specificity found within the review corpus. The findings revealed that: (a) 56.25% of the studies were descriptive (primarily aimed at describing characteristics of a specific population or establishing relationships between procrastination and other variables); (b) 25.00% focused on describing the process of instrument construction or adaptation and provided evidence of validity and reliability; (c) 12.50% were exploratory (aimed at gaining familiarity with the phenomenon of interest to support the formulation of future research hypotheses); and (d) only one study (6.25%) was classified as explanatory (aimed at identifying factors that determine or

contribute to procrastination occurrence).

As for sample characteristics, as shown in Table 1, 81.25% of the studies employed convenience sampling. Sample sizes varied from 5 to 604 students, with 43.75% of studies using samples of 300 or more participants. Overall, participants included students from both public and private HEIs, with 37.50% of samples composed exclusively of students from public HEIs and 31.25% including students from both public and private institutions. Regarding geographic regions, 56.25% of samples involved students enrolled in HEIs located in the Southeast or South of Brazil, or both.

The studies also examined the courses in which participants were enrolled. Among the 16 empirical articles, it was observed that: (a) 31.25% of studies did not specify the participants' courses (GEARA; TEIXEIRA, 2017; GOUVEIA et al., 2014; MACHADO; SCHWARTZ, 2018; SAMPAIO et al., 2012; SILVA et al., 2020); (b) 25.00% of studies focused on students enrolled in a single course, specifically Accounting (KAVESKI; BEUREN, 2020; PEREIRA et al., 2019; RIBEIRO et al., 2014; SILVA et al., 2016); (c) the remaining studies involved students from eight different courses, with the majority enrolled in humanities (Sociology, History, Psychology) and applied social sciences (Administration, Accounting, Economics, Marketing, Tourism). Additionally, 62.5% of studies did not specify the stage of the course (beginning, middle, or end) in which participants were enrolled.

Concerning research design, 93.75% of the articles employed survey procedures, involving the application of instruments and questionnaires to the target population (COSTA, 2013). Only one article used a case study design (MACHADO; SCHWARTZ, 2018). As shown in Table 1, in 56.25% of the studies, data collection was conducted through collective application of instruments, typically in the classroom. Regarding the format of the applied instruments, 62.50% of the studies used pencil-and-paper (printed) instruments).

**Table 1** - Participant Characteristics and Research Design of Empirical Articles

Analysis Categories	Frequency	%
<i>Sample Type</i>		
Convenience Sample	13	81.25
Voluntary Response Sample	2	12.50
Not Specified	1	6.25
<i>Sample Size</i>		
Up to 100	1	6.25
Between 101 and 200	4	25.00
Between 201 and 300	4	25.00
300 or more	7	43.75
<i>Nature of HEI</i>		
Private	4	25.00
Public	6	37.50
Public and Private	5	31.25
Not Specified	1	6.25
<i>Region of the country</i>		
Midwest	1	6.25
Northeast	2	12.50
Southeast	4	25.00
South	4	25.00
South and Southeast	1	6.25
Not Specified	4	25.00
<i>Momento do curso</i>		
Beginning, Middle, and End	5	31.25
Middle and End	1	6.25
Not Specified	10	62.50
<i>Data Collection Procedure</i>		
Case Study	1	6.25
Survey	15	93.75
<i>Instrument Application</i>		
Collective	9	56.25
Individual	3	18.75
Not Specified	4	25.00
<i>Instrument Format</i>		
Semi-structured Interview	1	6.25
Printed	10	62.50
Not Specified	3	18.75
On-line	2	12.50

Source: Authors (2020).

University students' procrastination was assessed in three distinct ways in the analyzed studies. Machado and Schwartz (2018) evaluated procrastination through an open interview beginning with the question, "How do you manage your academic tasks?" Two studies used questionnaires specifically developed for the research (PEREIRA et al., 2019; SAMPAIO; BARIANI, 2011). However, although the authors stated that these questionnaires were constructed based on available literature on the topic, they did not describe analyses conducted to assess the instruments' validity and reliability. Finally, 81.25% of the studies used psychometric instruments with evidence of validity and/or reliability. Validity evidence was considered based on information about content analysis or

the instrument's internal structure, while reliability evidence was based on information about the instrument's internal consistency analysis. Table 2 presents the psychometric instruments identified.

**Table 2 - Psychometric Instruments for Assessing Procrastination in Brazilian University Students**

<b>Instrument (Author)</b>	<b>Corpus Articles that Used the Instrument</b>	<b>n</b>
Academic Procrastination Motives Scale (EMPA - GEARA et al., 2017)	Geara, Hauck Filho and Teixeira (2017)	1
Procrastination Scale (LAY, 1986)	Medeiros, Antonelli and Portulhak (2019); Silva, Silva and Vilela (2016); Ribeiro et al. (2014)	3
Active Procrastination Scale (EPA - CHOI; MORAN, 2009)	Gouveia et al. (2014)	1
Psychometric Instrument (unnamed) developed by the authors for this research	Kaveski e Beuren (2020)	1
Brief Academic Procrastination Inventory (GEARA et al., 2019)	Geara et al. (2019)	1
Academic Procrastination Questionnaire – Negative Consequences (GEARA; TEIXEIRA, 2017)	Geara e Teixeira (2017)	1
Procrastination in Study Questionnaire (COSTA, 2007)	Amaro et al. (2016); Semprebon, Amaro and Beuren (2017); Sampaio, Polydoro and Rosário (2012); Formighieri et al. (2019)	4
Tuckman Procrastination Scale (TPS - TUCKMAN, 1990)	Silva et al. (2020)	1

Source: Authors(2020).

The most frequently used psychometric instruments, as shown in Table 2, were the Procrastination in Study Questionnaire (COSTA, 2007) and the Procrastination Scale (LAY, 1986; adapted for the Brazilian population by RIBEIRO et al., 2014). Additionally, it is noteworthy that some of the analyzed studies aimed primarily to describe the process of (a) constructing instruments to assess aspects related to procrastination among university students (GEARA et al., 2017, 2019; GEARA; TEIXEIRA, 2017) or (b) adapting foreign instruments for the Brazilian population (GOUVEIA et al., 2014).

### 3.4 MAIN RESULTS AND RELATIONSHIP WITH OTHER VARIABLES

The analysis of the main results presented by the articles provides relevant insights into understanding how procrastination affects Brazilian university students. The discussion of these findings will be divided into four topics: (a) the profile of students who procrastinate, (b) reasons for procrastination, (c) the impact of procrastination on academic performance, and (d) its relationship with other variables.

Some studies indicate that approximately 82% of university students exhibit procrastination behavior (GEARA et al., 2017; SAMPAIO; BARIANI, 2011), with younger generations (Y and Z) tending to procrastinate more than older generations (X) (FORMIGHIERI et al., 2019). Additionally,

Academic procrastination among Brazilian university students  
Kaveski and Beuren (2020) found that students who procrastinate the most are those who struggle to start tasks (even if they wish to), are easily distracted, have difficulty meeting deadlines, engage in activities outside the university, find academic tasks unattractive, and/or lack motivation to complete their tasks.

Regarding reasons for procrastination, Geara et al. (2017), through a factorial analysis of the Academic Procrastination Motives Scale, identified two groups of motives. The first group, termed Procrastination-Demotivation, refers to "aspects related to laziness, perceived difficulty associated with the task, fatigue, lack of energy, and time to complete the task" (p. 145). The second group, called Procrastination-Anxiety, concerns "the feeling of inability to complete the task alone, fear of not doing the task well, and difficulty starting the task due to high expectations of how well the student hopes to perform it" (p. 145). Sampaio and Bariani (2011) observed that the most cited reasons by the students in their research were related to lack of time, dissatisfaction with the task, and difficulty completing it, which appear to align with the Procrastination-Demotivation category described by Geara et al. (2017).

Still on motivation, Machado and Schwartz (2018) found that another reason for procrastination is the number of academic tasks students need to complete; as the number of tasks increases, so does the likelihood of students engaging in procrastination. When facing a high workload, students reported prioritizing activities based on the significance of the academic task. The authors identified four factors that influence task prioritization: (a) course requirements, (b) instructor flexibility, (c) the ability to relate the task to prior knowledge, and (d) understanding the future implications of completing the task. Activities in mandatory courses and/or courses taught by "less" flexible professors were less likely to be postponed. Additionally, the more difficulty students had in connecting the task to their prior knowledge and/or recognizing its future implications, the higher the likelihood of procrastination.

In terms of the academic impacts of procrastination, three aspects stand out. The first concerns the impact on students' grades. Students who procrastinate tend to have lower grades compared to those who do not (RIBEIRO et al., 2014; SILVA et al., 2016). Furthermore, procrastination is negatively correlated with students' self-assessment of their academic performance (AMARO et al., 2016; SEMPREBON et al., 2017).

The second aspect relates to the consequences of procrastination. Geara and Teixeira (2017) developed the Academic Procrastination Questionnaire – Negative Consequences, comprising six scales. The Procrastinated Academic Tasks Scale includes five items, each related to a specific

activity (1. academic readings, 2. academic exercises, 3. reviewing and studying course materials, 4. studying for scheduled exams, and 5. completing academic assignments with set deadlines). The General Impact Scale consists of eight items grouped into a single dimension (Cronbach's  $\alpha = 0.84$ ). The Academic Consequences Scale has two dimensions: (a) Academic Outcomes (7 items,  $\alpha = 0.88$ ) and (b) Academic Task Management (11 items,  $\alpha = 0.91$ ). The Physical Consequences Scale includes two dimensions: (a) Substance Use (5 items,  $\alpha = 0.72$ ) and (b) Reduced Self-care (13 items,  $\alpha = 0.91$ ), covering "items related to time spent resting and exercising, food quality, personal care, and overall health" (p. 64). The Psychological Consequences Scale has two dimensions: (a) Psychological Exhaustion (8 items,  $\alpha = 0.92$ ) and (b) Personal Disesteem (5 items,  $\alpha = 0.94$ ). The Behavioral Change Scale also has two dimensions: (a) Need for Change (4 items,  $\alpha = 0.87$ ), which includes items related to "perceptions of the need and/or intention to reduce the frequency of procrastinating academic tasks" (p. 65), and (b) Interest in Being Helped (4 items,  $\alpha = 0.92$ ), referring to students' interest in receiving help to procrastinate less.

Geara and Teixeira's (2017) study reveals that procrastination can lead to various negative consequences, affecting multiple aspects of a student's life (academic, emotional, and physical). The authors found a significant negative correlation between self-reported academic performance and academic, psychological, and physical consequences.

The third aspect of academic impacts relates to the type of academic task. Students tend to procrastinate more on daily study activities (such as completing exercises and reading for class) than on studying for exams (AMARO et al., 2016; GEARA et al., 2017; SAMPAIO; BARIANI, 2011; SEMPREBON et al., 2017).

Finally, the analysis of the main results indicates the relationship between procrastination and several variables. Kaveski and Beuren (2020) found that students who procrastinated more also showed greater academic misconduct, which the authors characterized as behaviors like copying work from peers, spending excessive time on the internet, engaging in side conversations during class, and/or neglecting to read materials suggested by instructors.

Medeiros et al. (2019) examined the relationship between the use of Information and Communication Technologies (ICT) and procrastination. They found that students who used ICT more for leisure (rather than for professional and/or academic purposes) procrastinated more. Furthermore, they observed that the more students used ICT for study purposes and the less for leisure, the higher their overall academic performance.

Procrastination is also negatively correlated with learning self-regulation (FORMIGHIERI et al., 2019; SAMPAIO et al., 2012) and self-efficacy (AMARO et al., 2016). Geara and Teixeira (2017)

Academic procrastination among Brazilian university students identified a significant negative correlation between self-regulation and the negative academic consequences of procrastination. Semprebon et al. (2017) observed that “procrastination accounts for 78% of the academic performance variance among students with a low sense of power” (p. 15). Social power, as understood by Semprebon et al., is a construct that synthesizes an individual's personal and social power, contributing to greater potential for action and improved performance on tasks requiring “planning and execution of actions according to set goals” (p. 8).

Silva et al. (2020) examined the relationship between motivation for reading and academic procrastination. The results indicated that academic procrastination positively correlates with controlled motivation (oriented toward seeking rewards) and negatively correlates with intrinsic motivation (related to the pleasure of reading) and identified motivation (determined by the value of the action) for reading. The regression analysis conducted by the authors indicated that: (a) the higher the level of controlled motivation for reading, the higher the level of student procrastination; and (b) the higher the level of intrinsic motivation for reading, the lower the level of procrastination.

## Discussion

This study consisted of a systematic literature review aiming to understand how academic procrastination occurs among Brazilian university students. Database searches and the application of inclusion and exclusion criteria resulted in the selection of 16 empirical articles, which were analyzed across four distinct aspects: (a) bibliometric information, (b) construct definition, (c) methodological issues, and (d) main findings.

The analysis of bibliometric information indicated that empirical studies on procrastination with university students in Brazil have been conducted over the past 12 years, primarily published in Psychology and Accounting journals. Publications in Psychology journals were expected, as Psychology addresses issues related to the learning process. However, publication in Accounting journals suggests that this topic has also attracted interest among educators and researchers in that field. As seen in the analysis of the courses in which study participants were enrolled, procrastination is not exclusive to Accounting students; however, within the Brazilian context, some studies have focused specifically on investigating the phenomenon among this group (KAVESKI; BEUREN, 2020; PEREIRA et al., 2019; RIBEIRO et al., 2014; SILVA et al., 2016). Similar research targeting this specific group is also found internationally (ROTENSTEIN et al., 2009, 2013).

Two definitions of academic procrastination were identified among the analyzed studies. One focuses more on describing the behavior (delaying the completion of a task), while the other

emphasizes the cognitive processes involved in this behavior. Theoretical studies evaluating procrastination from a cognitive-behavioral model perspective highlight: (a) the role that irrational beliefs and cognitive distortions may play in procrastination and (b) the dysfunctional emotions (fear of failure, anxiety in demanding situations, etc.) that lead to procrastination as a temporary relief or an attempt to avoid an aversive situation (BRITO; BAKOS, 2013; FORTES; BARBOSA, 2018).

Concerning methodological issues, three aspects were analyzed: (a) research objectives, (b) sample characteristics, and (c) research design. Of the 16 articles analyzed, 68.75% corresponded to descriptive or exploratory studies and 25.00% to studies focused on instrument construction or adaptation, suggesting that, in the Brazilian context, research has concentrated on characterizing the phenomenon and developing psychometric measures to assess procrastination among university students. This represents an initial stage in the investigation of a phenomenon (Gil, 2002), indicating a need to move forward with experimental studies that identify factors related to procrastination and intervention studies that assist students in better managing the factors triggering procrastination.

Regarding sample characteristics, 81.25% of the studies employed convenience sampling, indicating that results should be generalized with caution, as this sampling technique is more susceptible to sampling error (MOORE et al., 2017). However, 68.75% of the studies included samples of more than 200 students, which can enhance sample representativeness and allows for the use of more robust statistical tests (DANCEY; REIDY, 2013). Furthermore, although there was a balanced proportion of studies involving students from both public and private HEIs, 56.25% of studies involved students enrolled in HEIs in the Southeast and/or South regions of the country. This may be partly due to a higher concentration of HEIs and greater research funding availability in these regions.

Data collection was most frequently conducted through collective administration of instruments, and 81.25% of the studies used psychometric instruments. The two most commonly used instruments - the Procrastination in Study Questionnaire (COSTA, 2007) and the Procrastination Scale (LAY, 1986; adapted for the Brazilian population by RIBEIRO et al., 2014) - were originally developed outside Brazil. However, instruments with psychometric properties created in the Brazilian context were also identified, including the Academic Procrastination Motives Scale (EMPA; GEARA et al., 2017), Academic Procrastination Questionnaire - Negative Consequences (GEARA; TEIXEIRA, 2017), and the Brief Academic Procrastination Inventory (GEARA et al., 2019). These instruments, being relatively recent, have not yet been widely used.

The analysis of key findings indicated that procrastination is a frequent phenomenon among university students and can be driven by various factors, such as feelings of anxiety and inadequacy

Academic procrastination among Brazilian university students regarding the task, perceived task difficulty, the number of tasks to be completed, and the significance attributed to the task. Gil Flores et al. (2020), through an analysis of procrastination motives among Spanish university students, identified four student profiles. Profile 1 students primarily procrastinate due to fear and insecurity, experiencing high levels of anxiety related to evaluation and perfectionism, low self-confidence and assertiveness, decision-making difficulties, and fear of success. Profile 2 consists of students who procrastinate due to the thrill of meeting a deadline, relying on others for help or as behavioral references. Profile 3 corresponds to students who respond inadequately to task demands, characterized by feelings of being overwhelmed, poor time management, resistance to control, task aversion, and laziness. Profile 4 includes students who procrastinate but do not identify with any specific motive (fear/insecurity, thrill-seeking, or inadequate response). Among the 405 participants, the percentage of students in each profile (1, 2, 3, and 4) was 23.95%, 13.82%, 35.55%, and 26.68%, respectively, indicating a higher percentage of students who procrastinate due to an inadequate response to task demands. In line with these findings, interventions to help students who procrastinate should prioritize developing skills and tools for handling academic tasks within the university context (GODA et al., 2015).

The findings also highlighted three types of impacts of procrastination on academic performance: (a) lower grades (RIBEIRO et al., 2014; SILVA et al., 2016) and poorer self-assessment of performance (AMARO et al., 2016; SEMPREBON et al., 2017), (b) negative academic, psychological, and physical consequences (GEARA; TEIXEIRA, 2017), and (c) higher levels of procrastination related to daily study activities than exam preparation (AMARO et al., 2016; GEARA et al., 2017; SAMPAIO; BARIANI, 2011; SEMPREBON et al., 2017). International studies have also indicated that procrastination tends to negatively impact academic performance (e.g., GAREAU et al., 2019; GODA et al., 2015).

Finally, procrastination was found to be negatively correlated with learning self-regulation (FORMIGHIERI et al., 2019; SAMPAIO et al., 2012) and self-efficacy (AMARO et al., 2016) and positively correlated with improper ICT use (KAVESKI; BEUREN, 2020). These results have also been identified in international studies. For example, González-Brignardello and Sánchez-Elvira-Paniagua (2013) found moderate positive correlations between poor self-regulation strategies and academic procrastination, and some research has identified a positive correlation between internet addiction and academic procrastination (AZNAR-DÍAZ et al., 2020; HAYAT et al., 2020).

## Final considerations

Literature review studies are essential for at least two reasons. First, they provide an overview of how a particular phenomenon has been investigated, highlighting methodologies, measurement approaches for the construct of interest, its relationships with other phenomena, and the main findings. The second reason, related to the first, is that the insights gained from a literature review support new research (by identifying gaps and/or relationships that still need further exploration) as well as the development of actions aimed at addressing issues related to the phenomenon of interest. In this direction, the present study not only highlights how procrastination has been investigated among Brazilian university students but also offers information that may be relevant to support actions and/or interventions to help students manage this issue.

Research on academic procrastination among Brazilian university students has mainly been descriptive or exploratory, conducted with convenience samples in the Southeast and South regions of the country. These findings suggest that research on this topic is still in the characterization phase and limited to specific student groups. Future research could focus on explaining the causes of procrastination (through experimental studies) and proposing interventions to help students reduce or eliminate procrastination in their academic routines. Additionally, new studies could involve other student profiles and compare procrastination levels across different student profiles (e.g., first-generation students and students with a family history of higher education), helping to identify groups that may need to develop strategies to prevent or reduce academic procrastination.

This review also provides an overview of psychometric instruments with validity and reliability evidence for assessing procrastination among Brazilian university students. The existence of appropriate instruments to assess the phenomenon is the first step toward understanding it. In this regard, instruments were identified to assess various aspects related to procrastination (motives, presence, and consequences). Future studies could compare the results of these different instruments to identify their similarities and specific features.

Finally, the behavior of procrastination appears to be quite common among Brazilian university students. Various reasons seem to underlie this behavioral pattern, which can lead to (a) impacts on students' grades, (b) negative academic, psychological, and physical consequences, and (c) postponement of activities perceived as less important and/or urgent by students. However, students who develop learning self-regulation strategies, use ICTs to support their studies, and foster intrinsic motivation for their studies exhibit lower levels of procrastination. These aspects could be addressed

Academic procrastination among Brazilian university students in interventions designed to help students reduce or abandon academic procrastination.

This study had two main limitations. The first relates to the search term used. As an initial exploration of the phenomenon among university students, only the term "academic procrastination" in Portuguese was used. Future studies could use other terms related to the phenomenon of interest as well as English descriptors. The second limitation is that only scientific articles were analyzed. Future research could also examine other scientific texts, such as dissertations, theses, books, and book chapters.

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