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ANALYSIS OF DETERMINING FACTORS OF DROPOUT IN BRAZILIAN HIGHER EDUCATION AND MITIGATION PROPOSALS

ANÁLISE DOS FATORES DETERMINANTES DA EVASÃO NO ENSINO SUPERIOR BRASILEIRO E PROPOSTAS DE MITIGAÇÃO

ANÁLISIS DE LOS FACTORES DETERMINANTES DE LA DESERCIÓN EN LA EDUCACIÓN SUPERIOR BRASILEÑA Y PROPUESTAS DE MITIGACIÓN

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ABSTRACT: The present study aims to investigate the causes of dropout in higher education and the mitigation strategies available in post-pandemic literature. A narrative review was conducted with a search on the SciELO database, using the search term "Evasão" AND "Ensino superior" and filtering for 2021 to 2023. Of the 31 articles identified, 27 studies conducted in Brazil were included in the analysis. The study's main results reveal that socioeconomic challenges, academic difficulties, personal and health issues, and inadequate institutional support are significant factors contributing to dropout rates in higher education in Brazil. The analysis highlights the need for comprehensive strategies, including financial, academic, and emotional support, to mitigate the impacts of the pandemic and improve student retention. It concludes that implementing comprehensive financial, academic, and emotional support policies is necessary to reduce dropout in Brazilian higher education, especially in the post-pandemic context.

KEYWORDS: Higher education dropout; Student retention strategies; Post-pandemic education challenges.

RESUMO: O presente estudo tem como objetivo investigar as causas da evasão no ensino superior e as sugestões de enfrentamento disponíveis na literatura pós-pandemia. A revisão narrativa foi realizada com uma pesquisa na base SciELO, utilizando o termo de busca “Evasão” AND “Ensino superior” e filtrando o período de 2021 a 2023. Dos 31 artigos identificados, 27 estudos realizados no Brasil foram incluídos na análise. Os principais resultados do estudo revelam que desafios socioeconômicos, dificuldades acadêmicas, questões pessoais e de saúde, e suporte institucional inadequado são fatores significativos que contribuem para as taxas de evasão no ensino superior no Brasil. A análise destaca a necessidade de estratégias abrangentes, incluindo apoio financeiro, acadêmico e emocional, para mitigar os impactos da pandemia e melhorar a retenção dos estudantes. Conclui-se que a implementação de políticas abrangentes de apoio financeiro, acadêmico e emocional é necessária para reduzir a evasão no ensino superior brasileiro, especialmente no contexto pós-pandemia.

PALAVRAS-CHAVE: Evasão no ensino superior. Estratégias de retenção estudantil. Desafios educacionais pós-pandemia.

RESUMEN: El presente estudio investiga las causas de la deserción en la educación superior y las sugerencias de afrontamiento en la literatura post-pandemia. La revisión narrativa se realizó en la base SciELO, utilizando el término de búsqueda “Deserción” AND “Educación superior” y filtrando de 2021 a 2023. De los 31 artículos identificados, se incluyeron en el análisis 27 estudios realizados en Brasil. Los principales resultados revelan que los desafíos socioeconómicos, las dificultades académicas, las cuestiones personales y de salud, y el apoyo institucional inadecuado son factores significativos que contribuyen a la deserción en la educación superior en Brasil. El análisis destaca la necesidad de estrategias integrales, incluyendo apoyo financiero, académico y emocional, para mitigar los impactos de la pandemia y mejorar la retención de los estudiantes. Se concluye que la implementación de políticas integrales de apoyo financiero, académico y emocional es esencial para reducir la deserción en la educación superior brasileña, especialmente en el contexto post-pandemia.

PALABRAS CLAVE: Deserción en la educación superior. Estrategias de retención estudiantil. Desafíos educativos post-pandemia.

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INTRODUCTION

The *Fifth National Survey on the Socioeconomic and Cultural Profile of Undergraduate Students at Federal Institutions of Higher Education (IFES)*, conducted by the National Association of Directors of Federal Institutions of Higher Education (ANDIFES), based on data from 2018, revealed fundamental aspects of the reality of public higher education in Brazil. Sixty-three universities and the Federal Centers for Technological Education (CEFETs) of Minas Gerais and Rio de Janeiro participated, totaling 424,128 valid questionnaires (a response rate of 35.34%). The results showed, for instance, that 70.20% of students enrolled in on-campus undergraduate programs had a per capita family income of up to 1.5 minimum wages, indicating a scenario of high socioeconomic vulnerability. Furthermore, 52.8% of students had considered dropping out, mainly due to financial difficulties (32.7%), excessive academic workload (29.7%), the challenge of balancing work and study (23.6%), physical and mental health problems (21.2%), dissatisfaction with the program (16.0%), and family problems (10.3%).

The data also indicated an increase in the number of Black and Brown students enrolled at federal institutions, as a result of affirmative action policies. However, Black and Brown students represent approximately 51.2% of those enrolled in federal universities, still below the 56.1% of individuals who self-identify as Black or Brown in the general Brazilian population (IBGE, 2019). This gap highlights the need for more effective inclusion and retention policies, especially for socially vulnerable groups.

In parallel, the survey revealed a rise in emotional and mental health issues among students, such as anxiety, persistent sadness, and suicidal thoughts. These factors, combined with socioeconomic and racial challenges, illustrate the complexity surrounding dropout rates in Brazilian higher education.

Within this context, the present study seeks to investigate the causes of student dropout in higher education and identify recommendations from the scientific literature in the post-pandemic period, considering that the COVID-19 pandemic added new layers of difficulty, such as adjustments to remote learning and the worsening of financial and emotional problems. To this end, a narrative review was conducted using the SciELO database, with the search terms “*Evasão*” AND “*Ensino superior*”, filtered for the period 2021 to 2023. Initially, 31 articles were identified; however, 4 were excluded for not addressing dropout in the Brazilian context or lacking empirical data on the phenomenon. In the end, 27 relevant articles were included in the analysis.

The relevance of this investigation lies in the need to understand how socioeconomic, academic, institutional, and personal factors may have intensified or changed after the critical period of the pandemic, as well as which strategies appear most promising for reducing dropout at a time when higher education is facing increasingly complex demands for inclusion and retention.

Thus, this study aims to inform future institutional practices and policies, contributing to the design of actions that promote student retention and equity of opportunity in Brazilian higher education.

Causes and Mitigation Strategies for Dropout in Higher Education

Dropout in Brazilian higher education is widely recognized as a multifaceted phenomenon, resulting from the interaction of socioeconomic, academic, personal, and institutional factors (Andriola & Araújo, 2023; Coimbra et al., 2021). In many cases, the need to balance work and study (Tavares et al., 2022), lack of financial support (Custódio & Braga, 2023), and difficulties adapting to the university environment (Silva et al., 2022) pose significant barriers to student retention. Additionally, emotional and mental health issues have become more prominent in the post-pandemic period (Espinosa et al., 2023), exacerbating students' vulnerability.

From an institutional perspective, curricular deficiencies, a lack of active learning methodologies (Rocha, 2023), and limited infrastructure (Cespedes et al., 2021; Cunha et al., 2023) can contribute to student dissatisfaction. This situation becomes even more complex among groups historically affected by social and economic exclusion. For example, quota students tend to show higher dropout rates when there is no consistent support policy in place (Andriola & Araújo, 2023; Nierotka et al., 2023a).

Key Determinants of Dropout

From the analysis of the 27 selected articles that make up the research corpus, a wide range of interrelated and overlapping factors contributing to dropout in Brazilian higher education was identified. To clarify this complex landscape, Table 1 presents a summary of the factors highlighted in each study.

Table 1 – Determinants of dropout in Brazilian higher education

Study	Determinant factors of student dropout
Inácio et al. (2023)	Social factors (32%); academic factors (24%); institutional factors (15%); factors related to instructors (10%).
Jesus et al. (2023)	Low salaries; poor working conditions; mismatch between public policies and the reality of the profession; need for structural changes in schools.
Nierotka et al. (2023a)	Lack of social support; financial difficulties; outdated curricula; personal issues (older age at entry, need to work); higher prevalence among men, older students, residents of urban areas, students in teacher training programs, and those who attended regular high school programs.

Lopes et al. (2023)	Gender (higher risk among male students); age at entry (greater likelihood of dropout for older students); affirmative action quota system (higher risk in programs requiring strong prior knowledge); migrant students (higher risk due to distance from family and reduced social integration); timing of enrollment via SiSU (higher dropout rate in the first annual selection round).
Cunha et al. (2023)	Class schedules; curricular structure; teaching methodologies; assessment methods; interpersonal relationships; student support; low professional remuneration; financial difficulties; mental health issues; lack of study skills; difficulty adapting to university; lack of motivation toward the course; learning difficulties.
Santos et al. (2023)	Low family income; need to work while studying; low parental education; lack of preparation for college entrance exams; high dropout rates in evening courses and teacher education programs; dropout predominantly in the early years of the program.
Espinosa et al. (2023)	Lack of academic self-efficacy; absence of a sense of belonging to the academic community; perception of low curricular relevance; poor academic performance; lack of support from peers and professors; interaction problems; little variation in teaching methods; weak articulation between introductory and advanced courses; financial difficulties; need to work while studying; low parental education; lack of preparation for entrance exams; impacts of the COVID-19 pandemic (increased stress and burnout, reduced well-being and academic ambition); precarious socioeconomic conditions.
Custódio e Braga (2023)	Scarcity of job opportunities and high unemployment rates; unmet expectations regarding employability; persistence of discriminatory factors (gender, race, ethnicity, and social class); effects of the COVID-19 pandemic (increased stress and anxiety); deterioration of the educational environment; anxiety caused by labor market uncertainty.
Andriola e Araújo (2023)	Financial difficulties; lack of family support; need to work; academic challenges; dissatisfaction with the course; mental health issues; difficulties in social and institutional integration; external issues (family problems and changes in financial situation).
Pinheiro et al. (2023)	Lack of organized reception for incoming students; absence of guidance in the first semesters; low academic performance; poor quality of professor-student interaction; family and financial difficulties; personal reasons (work, impulsive course choice, lack of vocation); low value attributed to teaching careers; low competitiveness in teacher training programs; weak attachment to newly chosen fields; socioeconomic and cultural diversity; influence of the field of study and course modality. Variety of IoT devices; mobility; hardware and software configuration; need for adequate support; difficulty adapting to new active teaching methodologies.
Rocha (2023)	Variety of IoT devices; mobility; hardware and software configuration; need for adequate support; difficulty adapting to new active teaching methodologies.

Nierotka et al. (2023b)	Lack of social support; financial difficulties; outdated curricula; older age at entry; need to work while studying.
Tavares et al. (2022)	Difficulty balancing work and study; lack of appreciation for the profession; disappointment with the course; outdated curricula; inadequate infrastructure, especially in evening courses.
Freitas e Silva e Sampaio (2022)	Difficulty balancing work and study; devaluation of the profession; low pay; outdated curricula; lack of institutional support; infrastructure problems in institutions; socioeconomic issues; transition from high school to higher education; loss of interest in the course; lack of support for professional integration.
Silva et al. (2022)	Financial problems; difficulty adapting to the university environment; dissatisfaction with teaching methods; inadequate infrastructure; early course selection without proper guidance.
Sá (2022)	Financial problems; lack of academic preparation; family responsibilities; need to work; demotivation due to unsatisfactory curricula; overlap of modality, schedule, and time.
Fior et al. (2022)	Lack of confidence in academic abilities; financial difficulties; lack of institutional and personal support; adaptation problems to the university environment; low self-efficacy; unsatisfactory academic performance.
Silva e Cabral (2020)	Learning difficulties in physics and mathematics; lack of institutional support; lack of faculty sensitivity to students' difficulties; lack of initial commitment to the program; family responsibilities; financial difficulties.
Rosendo et al. (2022)	Lack of time management and organizational skills; neglect of leisure activities and social connections; increased anxiety and guilt; financial difficulties; lack of institutional support.
Cespedes et al. (2021)	Outdated curricula; financial difficulties; mismatch between study and work; lack of institutional support; devaluation of the chosen career; difficulty adapting to university life.
Gambirage et al. (2020)	Outdated curricula; lack of pedagogical training among faculty; insufficient support structures; adverse economic conditions; financial difficulties faced by students.
Cabello et al. (2021)	A mismatch between student expectations and the reality of the chosen course; difficulty adapting to the university environment; distance from home; strategic course and institution choices based on ENEM scores; lack of identification with the course or institution; lack of financial support; need to work, especially among low-income students.
Garcia et al. (2015)	Personal issues (individual student characteristics); internal institutional factors (course structure and dynamics); external factors (economic, social, and cultural aspects); lack of student support; inadequate infrastructure; problems with the pedagogical project; lack of physical safety.
Ambiel et al. (2018)	Dissatisfaction with career choice; financial difficulties; lack of institutional and interpersonal support; low academic performance; need to balance work and study (among working students).

Senhorinha et al. (2018)	Lack of support and adaptation to the distance education (DE) environment; absence of continuous feedback from tutors and professors; lack of in-person meetings with peers and faculty; student demotivation and disconnection.
Coimbra et al. (2021)	Financial aspects; personal or family life; course choice; expectations; level of satisfaction with the course and the university; difficulties in relationships with peers and professors; academic performance; social prestige of the course; schedule conflicts with other activities; family responsibilities; low levels of motivation and commitment to the course.
Santos et al. (2021)	Lack of identification with the course; lack of motivation; health problems; personal and family instability; lack of socio-academic integration; negative perception of institutional support (particularly in Animal Science and Business Administration); insufficient personal and professional development; deficient social integration.
Santos et al. (2021)	Lack of identification with the course; lack of motivation; health problems; personal and family instability; lack of socio-academic integration; negative perception of institutional support (particularly in Animal Science and Business Administration); insufficient personal and professional development; deficient social integration.

Source: author's elaboration.

The identification and organization of dropout causes were not predefined; on the contrary, they emerged from the reading and comparison of findings reported in the reviewed studies. This process allowed for the structuring of results into four broad categories, encompassing socioeconomic aspects as well as academic, personal, and institutional issues. These emerging dimensions are detailed below:

1. Social and Economic Factors

Several studies highlight financial constraints and the need to balance work and study as central elements in students' early departure from university.

- Financial problems are frequently reported in studies by Andriola and Araújo (2023), Cunha et al. (2023), Freitas e Silva, and Sampaio (2022), Inácio et al. (2023), and Nierotka et al. (2023a)
- Low family income and the need to work are noted in Cunha et al. (2023), Espinosa et al. (2023), and Santos et al. (2023).

In such circumstances, students face difficulties covering transportation, food, learning materials, and other academic demands, often leading to frequent delays or permanent withdrawal from their studies.

2. Academic and Institutional Factors

Various authors link dropout rates to outdated curricula, inadequate infrastructure, and inflexible pedagogical practices.

- Outdated curricula and poor facilities are discussed by Céspedes et al. (2021), Cunha et al. (2023), and Freitas e Silva, and Sampaio (2022);
- Issues related to teaching methods and assessment practices are emphasized in studies by Cunha et al. (2023), Inácio et al. (2023), Silva et al. (2022), and Silva and Cabral (2020).

These studies indicate that the lack of pedagogical innovation and limited integration between theory and practice hinder student engagement, especially when institutions do not offer support policies to address educational gaps.

3. Personal and Health-Related Factors

This category includes mental health and student motivation concerns.

- Mental health problems and lack of motivation are prominently discussed in studies by Andriola and Araújo (2023), Cunha et al. (2023), and Espinosa et al. (2023), showing that anxiety, depression, and burnout have negatively impacted academic performance, particularly in the post-pandemic period;
- A lack of academic self-efficacy is highlighted by Espinosa et al. (2023) and Fior et al. (2022), showing how insufficient self-confidence regarding academic demands can lead to dropout.

These factors are exacerbated in contexts of social vulnerability, where students have less family support or face pressure to enter the labor market.

4. Factors Related to the University Environment

Although they may intersect with other dimensions, the university environment itself — including its norms, routines, and social spaces — can become a factor for dropout when it fails to provide a welcoming or flexible atmosphere.

- A lack of institutional and social support is underscored in studies by Espinosa et al. (2023), Silva and Cabral (2020), and Silva et al. (2022). The absence of tutoring, mentoring, and effective listening channels makes it difficult to address academic and personal issues;
- Social integration difficulties are addressed by Andriola and Araújo (2023) and Santos et al. (2021), suggesting that a lack of connection between peers and professors increases the feeling of not belonging, which favors disengagement.

It is evident, therefore, that economic hardships and institutional shortcomings often coexist with personal challenges and lack of social support, creating a multifaceted scenario. Moreover, the same studies reiterate that although some factors gained more visibility after the COVID-19 pandemic (e.g., technological and psychological demands), many issues had already been identified beforehand and were simply intensified in the post-pandemic context.

Thus, understanding the breadth of these dimensions is essential to support retention policies and more effective intervention strategies, ensuring that the educational journey is not interrupted by barriers that, in many cases, could be mitigated through integrated institutional and governmental action.

Strategies to Mitigate Dropout

The analysis of the studies included in the research corpus shows that, although the factors leading to dropout are diverse, there are important points of convergence regarding strategies capable of reducing student attrition in higher education. These strategies should not be viewed in isolation; on the contrary, they are often interdependent and complementary, reflecting the complexity of the dropout phenomenon.

Table 2 presents a summary of the mitigation proposals suggested by the authors reviewed.

Table 2 – Suggestions to mitigate dropout in Brazilian higher education

Study	Suggestions to Mitigate Dropout
Inácio et al. (2023)	Academic support; emotional support; financial assistance; institutional improvement; and professional development for faculty.
Jesus et al. (2023)	Implementation of structural policies; alignment of public policies with the realities of the profession; integrated approaches to in-person and distance learning.
Nierotka et al. (2023a)	Strengthening of social support; financial aid; curriculum updates; student assistance policies, especially for students from rural areas; and special attention to more vulnerable groups (men, older students, urban students, and those in teacher education programs).
Lopes et al. (2023)	Development of specific policies for each educational center; consideration of the particularities of each course and institution; reinforcement of support for male and older students; additional support for quota and migrant students to improve social integration; encouragement of academic reorientation for students in their first enrollment cycle through SiSU.
Cunha et al. (2023)	Implementation of student support strategies; revision of class schedules; improvements in curriculum structure and teaching methodology; reformulation of assessment methods; strengthening of interpersonal relationships and student assistance; financial aid programs; support for mental health issues; development of study skills and adaptation to university life; actions to increase motivation with the course and to facilitate learning.
Santos et al. (2023)	Implementation of more effective institutional policies; specific support for socioeconomically disadvantaged students; financial aid programs; better pre-university preparation; strategies to foster social and academic integration in the early years of higher education.

Espinosa et al. (2023)	Implementation of institutional policies that promote academic, emotional, and financial support; development of targeted support programs for social minorities; creation of strategies to increase students' sense of belonging to the academic community; improvement in curriculum relevance and integration among courses; diversification of teaching methods; strengthening of peer and faculty support; financial assistance for students facing economic hardship; policies to facilitate balancing work and study; adequate pre-university preparation for incoming students.
Custódio e Braga (2023)	Implementation of public policies that provide adequate financial support; career guidance for students; psychosocial support to address stress and anxiety; creation of an inclusive and socially responsible educational environment; promotion of pluriversity to engage scholars with socially, politically, and culturally relevant issues.
Andriola e Araújo (2023)	Implementation of specific academic policies to support quota students; detailed analysis of teaching processes and course management; improvement in student relationships and support for social integration; enhanced quality of student assistance; adequate financial support and scholarship programs; psychosocial support for mental health challenges; actions to help students balance work and study; promotion of course satisfaction through feedback and curricular improvements.
Pinheiro et al. (2023)	Implementation of specific public policies; improved student reception and guidance; provision of financial and institutional support for students.
Rocha (2023)	Efficient pedagogical management focused on integration and continuous student support; promotion of effective communication; support for adapting to new learning formats offered by IoT.
Nierotka et al. (2023b)	Implementation of social support policies; provision of financial aid; curriculum updates; development of strategies to balance work and study; promotion of targeted support programs for teacher education students and urban dwellers.
Tavares et al. (2022)	Infrastructure improvements; curriculum updates; support policies to help students balance work and study.
Freitas e Silva e Sampaio (2022)	Adequate financial support; curricular alignment with students' expectations; support for university adaptation; attention to individual student needs.
Silva et al. (2022)	Implementation of surveys; academic monitoring systems; working groups to support new students; welcoming environment and ongoing support; proper guidance in course selection.
Sá (2022)	Financial support policies; academic support; emotional support.
Fior et al. (2022)	Interventions to increase students' self-efficacy; support and guidance programs; policies to improve academic performance.
Silva e Cabral (2020)	Institutional actions focused on overcoming learning difficulties; improving faculty sensitivity to student challenges.
Rosendo et al. (2022)	Resilience development through support programs; implementation of coping strategies; promotion of healthy habits; increased social support; improved time management and organizational skills.

Cespedes et al. (2021)	Retention policies that combine financial assistance and comprehensive academic support.
Gambirage et al. (2020)	Curricular changes; enhanced teaching strategies; student follow-up programs; improved pedagogical training for faculty; strengthened academic support structures.
Cabello et al. (2021)	More effective student assistance policies; increased institutional support; orientation and welcoming programs to improve adaptation to the university environment; adequate financial aid for low-income students; vocational counseling to align students' expectations with course realities.
Garcia et al. (2015)	Systematic student follow-up; institution-specific strategies tailored to each course; infrastructure improvements; revision and enhancement of pedagogical projects; increased student support; ensuring physical safety on campus.
Ambiel et al. (2018)	Public policies for social and economic support; career guidance programs; institutional strategies that foster student integration; measures to improve academic performance; specific support for working students.
Senhorinha et al. (2018)	Focus on student integration; continuous support for students; promotion of effective communication; assistance in adapting to new learning formats offered by online education; implementation of continuous feedback from tutors and professors; organization of regular in-person meetings.
Coimbra et al. (2021)	Financial support; alignment between curricula and student expectations; support for university adaptation; development of targeted policies for each identified cause; clearer and more specific public policies to address dropout.
Santos et al. (2021)	Strengthening public policies aimed at resolving pedagogical and psychological issues; actions to improve students' identification with their programs; initiatives to boost student motivation; support for health and personal or family instability challenges; improved socio-academic integration; reinforcement of institutional support with a focus on personal and professional development; promotion of recreational, cultural, and sports activities.

Source: prepared by the authors.

Based on these contributions, four areas of intervention were identified, as described below.

1. Academic and Emotional Support

Many studies highlight the importance of a welcoming environment where students receive support to deal with both academic and emotional challenges.

- Academic and emotional support are suggested by Espinosa et al. (2023), Inácio et al. (2023), Rosendo et al. (2022), and Tavares et al. (2022), demonstrating that emotional aspects are crucial for maintaining student motivation;

- The development of study skills and adaptation is mentioned in Cunha et al. (2023) and Pinheiro et al. (2023), emphasizing the need for initiatives that ease the transition to higher education, such as tutoring, workshops, and academic guidance.

2. Institutional and Governmental Policies

The adoption of public and institutional policies aligned with the specificities of each academic program and profession is essential to reducing dropout rates.

- The implementation of effective public policies tailored to the realities of various professions appears in Custódio and Braga (2023) and Jesus et al. (2023). These policies must address socioeconomic and regional demands to be successful;
- Strengthening social and financial support is emphasized in Nierotka, et al. (2023a) and Santos et al. (2023), showing that economic assistance, combined with institutional support, favors the retention of students in vulnerable situations.

3. Curricular and Methodological Improvements

Several studies suggest that updating the curriculum and adopting more dynamic teaching strategies can enhance student interest and engagement.

- Curriculum updates and reformulation of assessment methods are highlighted in Cunha et al. (2023) and Gambirage et al. (2020), suggesting that aligning theory with practice can prevent student demotivation;
- Diversification of teaching methods and enhancement of curriculum relevance are emphasized by Espinosa et al. (2023) and Rocha (2023), who advocate for active methodologies and contextualized content as ways to make learning more meaningful.

4. Financial Support and Student Assistance

A significant portion of the research reinforces the need for support programs, as a lack of financial resources is a recurring barrier to continuing one's studies.

- Financial aid programs are suggested by Santos et al. (2023) and Pinheiro et al. (2023), covering scholarships as well as assistance with food, transportation, and housing;
- Adequate financial support and scholarships are noted in Andriola and Araújo (2023), Espinosa et al. (2023), Nierotka et al. (2023a), and Silva and Cabral (2020), reinforcing that without effective assistance, low-income students are more likely to drop out.

When correlating these four areas, it becomes evident that financial and pedagogical measures are more effective when combined with policies of inclusion and attention to mental health, especially for historically vulnerable groups. Initiatives such as peer mentoring programs, retention committees, and student support centers are also highlighted in several studies (Custódio & Braga, 2023; Espinosa et al., 2023), reinforcing the need for a multidimensional approach to preventing student dropout.

Integrated Analysis of Findings and Implications for Student Retention

The review of the 27 selected articles and the data from the 5th National Survey on the Socioeconomic and Cultural Profile of Undergraduate Students at Federal Institutions of Higher Education (2019) reveal both convergences and divergences regarding the factors that contribute to student dropout in Brazilian higher education. On one hand, financial difficulties, lack of institutional support, and mental health issues emerge as key concerns. On the other, gaps point to the need for curriculum updates, infrastructure improvements, and the implementation of innovative teaching methodologies.

In this context, it becomes evident that the multidimensional nature of dropout requires integrated public and institutional policies. While limited economic resources remain one of the main barriers to retention (Cunha et al., 2023; Santos et al., 2023), pedagogical and personal factors—such as academic self-efficacy and emotional support—also stand out as critical variables in preventing dropout (Espinosa et al., 2023; Fior et al., 2022). Thus, the challenge goes beyond the provision of scholarships or financial aid, encompassing the need for welcoming strategies, psycho-pedagogical support, and the renewal of teaching practices.

The COVID-19 pandemic intensified many of these vulnerabilities, increasing the demand for institutional and psychological support (Espinosa et al., 2023; Inácio et al., 2023). Many students faced additional technological challenges, such as lack of internet access or suitable equipment, while also experiencing socioeconomic impacts like loss of household income. In this scenario, social distancing and the shift to remote learning became factors that heightened both academic stress and mental health problems.

When these findings are compared with the data from the ANDIFES survey (2019), it becomes clear that student dropout is not a new phenomenon, but one that has been exacerbated by the pandemic. The national study had already pointed to the strong influence of socioeconomic variables—such as family income and academic workload—while also identifying dissatisfaction with the academic program. The current review adds new dimensions—such as the emphasis on curriculum updates, academic self-efficacy, and teaching methodologies—which contribute to a broader understanding of what might lead students to abandon their studies.

Thus, the integrated analysis suggests that isolated actions (such as simply increasing scholarships or updating curricula) may not be sufficient. On the contrary, the findings underscore the importance of articulating the following:

- Socioeconomic support, by expanding student aid programs and incentives for retention;
- Emotional well-being policies, through psychological support and strategies to strengthen social bonds;
- Pedagogical updates, by incorporating active methodologies, diversified assessments, and content aligned with contemporary demands;

- A welcoming institutional environment, involving tutoring, peer mentoring, retention committees, and inclusion policies for historically marginalized groups.

The most immediate practical implication concerns the need for strategic planning by universities and government bodies to identify key dropout risk factors in their local contexts and implement corresponding support programs. Additionally, the ongoing monitoring of dropout rates and student-reported causes should inform successive adjustments, making retention policies and practices more responsive to social, economic, and technological changes.

The integration of these findings emphasizes that reducing dropout requires multidimensional approaches in which financial aid, emotional support, and pedagogical innovation are aligned with strong institutional policies that address the diverse realities and needs of students in the post-pandemic Brazilian context.

CONCLUSION

The study's results show that dropout in Brazilian higher education is a complex and multifaceted phenomenon influenced by the convergence of socioeconomic, academic, personal, and institutional factors. Recurring issues include financial limitations, lack of institutional support, mental health challenges, and difficulties in adapting to the university environment—circumstances that have become even more demanding in the post-COVID-19 period.

The analysis also reveals the need for integrated approaches to promote student retention, involving financial assistance policies, psycho-pedagogical support initiatives, curricular and methodological improvements, and the creation of welcoming institutional environments. In particular, there is an urgent need to enhance support programs aimed at the most vulnerable segments of the population, taking into account issues of race, gender, and socioeconomic conditions.

It is concluded that the effectiveness of mitigation strategies depends on continuous and collaborative planning, in which universities, government bodies, and civil society work together to identify key gaps and develop targeted policies. Addressing dropout in higher education, therefore, requires not only financial and human resources, but also a shift in institutional culture—one in which retention and academic success are embraced as central goals of an inclusive and equitable educational project.

REFERENCES

- Ambiel, R. A. M., Cortez, P. A., & Salvador, A. P. (2021). Predição da potencial evasão acadêmica entre estudantes trabalhadores e não trabalhadores. *Psicologia: Teoria e Pesquisa*, 37, e37305. <https://doi.org/10.1590/0102.3772e37305>
- Andriola, W. B., & Araujo, A. C. (2023). Impactos da lei de cotas em uma Instituição Federal de Ensino Superior (IFES): Estudo sobre a evasão discente. *Avaliação: Revista da Avaliação da Educação Superior*, 28, e023020. <https://doi.org/10.1590/S1414-40772023000100030>
- Associação Nacional dos Dirigentes de Instituições Federais de Ensino Superior (Andifes). (2019). *V Pesquisa do Perfil Socioeconômico e Cultural dos Estudantes de Graduação das Universidades Federais*. Andifes. https://www.ufes.br/sites/default/files/anexo/v_pesquisa_do_perfil_dos_graduandos_16_de_maio.pdf
- Cabello, A., et al. (2021). Formas de ingresso em perspectiva comparada: Por que o SISU aumenta a evasão? O caso da UNB. *Avaliação: Revista da Avaliação da Educação Superior*, 26(2), 446–460. <https://doi.org/10.1590/S1414-40772021000200006>
- Cespedes, J. G., et al. (2021). Avaliação de impacto do Programa de Permanência Estudantil da Universidade Federal de São Paulo. *Ensaio: Avaliação e Políticas Públicas em Educação*, 29(113), 1067–1091. <https://doi.org/10.1590/S0104-403620210002902418>
- Coimbra, C. L., Barbosa e Silva, L., & Costa, N. C. D. (2021). A evasão na educação superior: Definições e trajetórias. *Educação e Pesquisa*, 47, e228764. <https://doi.org/10.1590/S1678-4634202147228764>
- Cunha, J. P. A., et al. (2023). Fatores associados à retenção e intencionalidade de evasão nos cursos de farmácia de uma universidade pública do nordeste brasileiro. *Educação em Revista*, 39, e36898. <https://doi.org/10.1590/0102-469836898>
- Custódio, A. V., & Braga, J. T. (2023). O impacto das alterações do FIES na permanência no ensino superior entre 2015 e 2019. *Educação e Pesquisa*, 49, e256547. <https://doi.org/10.1590/S1678-4634202349256547>
- Espinosa, T., et al. (2023). Um estudo quantitativo sobre a intenção de persistência de estudantes de licenciatura em Física de uma universidade pública brasileira embasado no Modelo da Motivação da Persistência de Vincent Tinto. *Revista Brasileira de Ensino de Física*, 45, e20220259. <https://doi.org/10.1590/1806-9126-RBEF-2022-0259>
- Fior, C. A., et al. (2022). Impacto da autoeficácia e do rendimento acadêmico no abandono de estudantes do ensino superior. *Psicologia Escolar e Educacional*, 26, e235218. <https://doi.org/10.1590/2175-35392022235218>

- Freitas e Silva, P. T. de, & Sampaio, L. M. B. (2022). Políticas de permanência estudantil na educação superior: Reflexões de uma revisão da literatura para o contexto brasileiro. *Revista de Administração Pública*, 56(5), 603–631. <https://doi.org/10.1590/0034-761220220034>
- Gambirage, C., et al. (2021). Entre razões e emoções da evasão universitária, o contexto importa? Uma análise das instituições comunitárias catarinenses. *Interações*, 22(3), 685–700. <https://doi.org/10.20435/inter.v22i3.2881>
- Garcia, L. M. L. S., Lara, D. F., & Antunes, F. (2021). Investigação e análise da evasão e seus fatores motivacionais no ensino superior: Um estudo de caso na Universidade do Estado de Mato Grosso. *Avaliação: Revista da Avaliação da Educação Superior*, 26(1), 112–136. <https://doi.org/10.1590/S1414-40772021000100007>
- Inácio, A. L. M., et al. (2023). Questionário de Adaptação ao Ensino Superior Remoto: Ampliação das propriedades psicométricas. *Psico-USF*, 28(3), 491–503. <https://doi.org/10.1590/1413-82712023280306>
- Jesus, M. A. C. de, Santos, N. B. dos, & Araujo, R. S. (2023). Formação inicial de professores de Matemática no Brasil no século XXI: Políticas e estatísticas. *Bolema: Boletim de Educação Matemática*, 37(75), 133–147. <https://doi.org/10.1590/1980-4415v37n75a07>
- Lopes, R., et al. (2023). Fatores associados à evasão de calouros no ensino superior: Um estudo com dados da Universidade Federal do Recôncavo da Bahia. *Revista Brasileira de Educação*, 28, e280042. <https://doi.org/10.1590/S1413-24782023280042>
- Nierotka, R. L., Bonamino, A. M. C., & Carrasqueira, K. (2023a). Acesso, evasão e conclusão no Ensino Superior público: Evidências para uma coorte de estudantes. *Ensaio: Avaliação e Políticas Públicas em Educação*, 31(118). <https://doi.org/10.1590/S0104-40362022003003107>
- Nierotka, R. L., Salata, A., & Martins, M. K. (2023b). Fatores associados à evasão no ensino superior: Um estudo longitudinal. *Cadernos de Pesquisa*, 53, e09961. <https://doi.org/10.1590/198053149961>
- Pinheiro, C. B., Ribeiro, J. L. L. de S., & Fernandes, S. A. F. (2023). Modelos teóricos da evasão no ensino superior e notas sobre o contexto nacional. *Avaliação: Revista da Avaliação da Educação Superior*, 28, e023015. <https://doi.org/10.1590/S1414-40772023000100022>
- Rocha, L. A. (2023). Práticas pedagógicas no ensino superior com Internet das Coisas: Metodologias, ferramentas e perspectivas futuras. *Texto Livre*, 16, e38608. <https://doi.org/10.1590/1983-3652.2023.38608>

- Rosendo, L. S., et al. (2022). Relação entre perfil, hábitos, vivências acadêmicas e resiliência de universitários. *Psicologia: Ciência e Profissão*, 42, e242788. <https://doi.org/10.1590/1982-3703003242788>
- Sá, T. A. O. (2022). Políticas de democratização do ensino superior e a reprodução de desigualdades sociais: Estudo de caso. *Educação e Pesquisa*, 48, e248527. <https://doi.org/10.1590/S1678-4634202248248527por>
- Santos, A., et al. (2023). Evasão na Universidade Estadual do Oeste do Paraná: Análise através de registros administrativos. *Educação e Pesquisa*, 49, e248553. <https://doi.org/10.1590/S1678-4634202349248553>
- Santos, M. M., Pedroso, I. G. F., & Oliveira, S. C. (2021). Percepção discente sobre cursos de graduação em Ciências Agrárias e Humanidades da UNESP. *Educação e Pesquisa*, 47, e227954. <https://doi.org/10.1590/S1678-4634202147227954>
- Senhorinha, M. J. K., et al. (2021). Critical factors of pedagogical management that influence the evasion in higher education distance learning courses: A case study. *Gestão & Produção*, 28(1), e4726. <https://doi.org/10.1590/1806-9649.2020v28e4726>
- Silva, A. C., & Cabral, T. C. (2022). A visão de matriculados sobre a evasão num curso de Licenciatura em Física. *Pro-Posições*, 33, e20200046. <https://doi.org/10.1590/1980-6248-2020-0046>
- Silva, D. B., et al. (2022). Evasão no ensino superior público do Brasil: Estudo de caso da Universidade de São Paulo. *Avaliação: Revista da Avaliação da Educação Superior*, 27(2), 248–259. <https://doi.org/10.1590/S1414-40772022000200003>
- Tavares, F. J. P., et al. (2022). Evasão no ensino superior: Em pauta os cursos de Licenciatura em Educação Física da UFPEL. *Avaliação: Revista da Avaliação da Educação Superior*, 27(3), 571–590. <https://doi.org/10.1590/S1414-40772022000300010>

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Authors' contributions: C. A. dos S. – study conception, methodology, formal analysis, investigation, original draft preparation, writing – review and editing, visualization. G. de Q. P. – data curation, formal analysis, writing – review and editing. L. A. P. – supervision, writing – review and editing, validation.

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