RBAD Revista Brasileira de Aprendizagem Aberta e a Distância

ABED

ORIGINAL ARTICLE

DETERMINANTS OF DROPOUT IN DISTANCE HIGHER EDUCATION AT THE STATE UNIVERSITY OF PONTA GROSSA

Amanda Majinski de Moraes [1]
Augusta Raiher Pelinski [2]

ABSTRACT

This article examines the determinants of the probability of dropout in the distance undergraduate programs of the State University of Ponta Grossa (UEPG), offered in partnership with the Open University of Brazil (UAB). A logit model was estimated using institutional data on enrolled students and alumni. Results indicate that dropout is associated, on average, with insufficient academic support, difficulties reconciling study and work, and demotivation related to course design and the perceived relevance of content. The findings also reveal social conditioning factors that modulate these effects, shifting the explanation from an individualizing perspective to a socio-structural reading of student persistence in distance education.

Keywords: Dropout; Distance education; State University of Ponta Grossa; Logit model.

DETERMINANTES DA EVASÃO NO ENSINO SUPERIOR A DISTÂNCIA DA UNIVERSIDADE ESTADUAL DE PONTA GROSSA

RESUMO

Este artigo analisa os determinantes da probabilidade de evasão nos cursos de graduação a distância da Universidade Estadual de Ponta Grossa (UEPG), ofertados em parceria com a Universidade Aberta do Brasil (UAB). Para isso, estimou-se modelo logit, utilizando os dados institucionais de alunos e egressos. Os resultados indicam que a evasão se associa, na média, à insuficiência de apoio pedagógico, às dificuldades de conciliação entre estudo e trabalho e à desmotivação frente ao desenho e à relevância percebida do conteúdo.

1. Universidade Estadual de Ponta Grossa (acadeamanda@gmail.com)
2. Universidade Estadual de Ponta Grossa (apelinski@gmail.com)

CC BY

Evidenciam-se, ainda, condicionantes sociais que modulam tais efeitos, deslocando a explicação de um enfoque individualizante para uma leitura socioestrutural da permanência estudantil na educação a distância (EAD).

Palavras-chave: Evasão; Educação a distância; Universidade Estadual de Ponta Grossa; Modelo logit.

DETERMINANTES DEL ABANDONO ESCOLAR EN LA EDUCACIÓN A DISTANCIA EN LA UNIVERSIDAD ESTATAL DE PONTA GROSSA

RESUMEN

Este artículo analiza los determinantes de la probabilidad de abandono escolar en los cursos de grado a distancia de la Universidad Estatal de Ponta Grossa (UEPG), impartidos en colaboración con la Universidad Abierta de Brasil (UAB). Para ello, se estimó un modelo logit con datos institucionales de estudiantes y egresados. los resultados indican que, en promedio, el abandono escolar se asocia con un apoyo pedagógico insuficiente, dificultades para conciliar estudios y trabajo, y desmotivación respecto al diseño y la relevancia percibida de los contenidos. También se evidencian factores sociales que modulan estos efectos, lo que desplaza la explicación de un enfoque individualista hacia una interpretación socioestructural de la retención estudiantil en la educación a distancia.

Palabras clave: Abandono escolar; Educación a distancia; Universidad Estatal de Ponta Grossa; Modelo logit.

1. INTRODUCTION

The promise of transformation carried by higher education is undeniable: it drives economic development, strengthens citizenship, and creates pathways for overcoming historical inequalities Álvaro Vieira Pinto (1962). However, this promise is not fulfilled equitably in Brazil. The concentration of public institutions in urban centers and the persistent inequality in access leave millions of Brazilians excluded from a fundamental right: the opportunity to pursue and complete higher education Dal Moro (2023).

It is within this context that Distance Education (EaD) emerges as a powerful strategy for the democratization of education. The creation of the Open University of Brazil (UAB) system in 2005 marked a structural turning point by enabling public universities to reach territories that had previously been invisible to educational policies. Distance education not only breaks down geographical barriers; it redefines the reach of free public higher education, extending access to locations where the physical presence of a university would otherwise be unimaginable Michael G. Moore; Greg Kearsley (2007).

CC BY

However, there is a fracture within this silent advancement: student dropout. Although more than 60% of students entering higher education choose distance education, the dropout rate exceeds 60%, revealing an alarming paradox National Institute for Educational Studies and Research Anísio Teixeira (2023).

How can it be explained that so many students, even after overcoming the challenge of access, ultimately abandon their programs before graduation? What silent obstacles interrupt these educational trajectories and prevent the promise of distance education from being fully realized?

This study examines these issues within the context of State University of Ponta Grossa (UEPG), one of the pioneering institutions in the provision of distance education in the state of Paraná. The research seeks to understand the causes of student dropout, identify the profiles of students who discontinue their studies, and reflect—through the theoretical perspectives of Pierre Bourdieu and Zygmunt Bauman—on the social, institutional, and subjective pressures that shape this reality.

More than merely mapping statistics, what is proposed here is a critical and in-depth examination of a phenomenon that compromises not only individual trajectories, but also the very social meaning of public education. Understanding why so many students discontinue their studies is also a fundamental step toward rebuilding pathways of persistence, inclusion, and belonging.

This research is justified by the fact that, within the field of distance education, there are relatively few studies specifically focused on investigating the motivations behind student dropout Lott (2018). The existing studies, in essence, tend to analyze individual programs or courses Bittencourt; Mercado (2014); de Almeida et al. (2013). Furthermore, there are no public institutional documents discussing dropout and its determining factors.

To this end, this article is organized into five sections, including the present introduction. The second section addresses the theoretical determinants of dropout in distance education, followed by the methodology section. The fourth section presents the analysis, concluding with the final considerations.

2. CONCEPT AND THEORETICAL DETERMINANTS OF DROPOUT IN DISTANCE EDUCATION

Distance education has contributed significantly to democratizing access to higher education, reaching populations previously excluded by geographical, social, or economic barriers Gatto (2024). However, this educational modality requires students to possess a high degree of autonomy and proficiency in interacting within virtual learning environments Michael G. Moore; Greg Kearsley (2008). Within this context, dropout emerges as a multifaceted and recurring phenomenon influenced by structural, technological, and personal factors Lorenzo García Aretio (1996); Favero (2006).

CC BY

Recent systematic reviews reinforce this multifactorial perspective, indicating that dropout in online education results from the interaction among individual characteristics, socioeconomic conditions, and institutional variables, particularly those related to pedagogical support, the quality of learning activities, and continuous academic monitoring Rahmani; Groot; Rahmani (2024).

According to the Ministry of Education (Brazil, 1996), dropout refers to the definitive withdrawal from a program without its completion, highlighting the need to understand its causes in order to propose strategies for addressing it. Thus, this research adopts the Ministry of Education's definition and considers dropout in distance education as a multifaceted phenomenon that compromises both student retention and the broader objectives of inclusion and expansion of higher education.

Seeking to understand the causes of this phenomenon, this research was grounded in a systematic literature review Alcoforado; Ercole; Melo (2014), encompassing studies published between 2008 and 2023. The results indicate that digital technologies (DTs) play a central role in distance education; however, their effectiveness depends on the reformulation of traditional pedagogical practices Vani Moreira Kenski (2009); Pierre Lévy (2010), as well as on the qualification of the pedagogical staff involved João Mattar (2012); Daniel Mill (2014).

Within this process, tutoring emerges as an essential element for reducing student isolation and promoting retention Munhoz (2003).

More recent empirical evidence confirms that the effective performance of tutors and the existence of institutional support channels are decisive factors for student retention in distance education programs, particularly in public universities serving students from diverse socioeconomic backgrounds Figueiredo Nascimento; Esteves dos Santos (2021); Magallanes Ulloa; Vazquez (2025).

In these contexts, pedagogical support operates not only as a cognitive mediation mechanism, but also as an element of institutional belonging.

In this context, a significant shift in the role of the teacher can be observed, moving from a mere transmitter of content to a facilitator of learning Linda Harasim Belloni (2006); Lagarto (1994). However, many instructors still lack specific training to work in distance education Selma Garrido Pimenta; Maria Isabel da Cunha Anastasiou (2002); Moraes; Oliveira; Cardoso (2021), and face technical and methodological difficulties in the use of digital technologies Cardoso (2014); Gonçalves; Nunes (2006).

This reality is also observed in other countries Schifter (2009); Simone (2006), negatively affecting the quality of virtual learning environments Michael G. Moore; Greg Kearsley (2007) and highlighting that experience in face-to-face teaching does not necessarily ensure the competencies required for effective performance in distance education Taylor; McQuiggan (2008).

These weaknesses are reflected in the intensification of student dropout, which is further aggravated by discontinuities in teaching practice Nunes; Sales (2013), the scarcity of meaningful interactions, and the limited use of pedagogical tools Branco; Conte; Habowski (2020).

CC BY

These factors are consistent with classical explanatory models, such as those proposed by William G. Spady (1970) and Vincent Tinto (1975; 1982; 1988; 1997), which—drawing on Émile Durkheim (1966)—associate dropout with the lack of academic and social integration of the student.

Expanding this discussion to contemporary social dynamics, Zygmunt Bauman (2007) argues that the fragility of modern social bonds hinders institutional engagement. In addition, Alain Coulon (2017) highlights the importance of students' symbolic integration into the university environment, while Pierre Bourdieu (1987) demonstrates how the absence of cultural capital can limit students' persistence in distance education.

Thus, dropout is understood as resulting from a set of technical, pedagogical, social, and symbolic factors, with lack of integration standing out as a central element in this equation.

From this perspective, Pierre Bourdieu (1983) reinforces that the lack of cultural capital compromises students' adaptation to the educational context of distance education. José Lobo (2012), in turn, expands this understanding by also considering structural and legal shortcomings of the Brazilian educational system—such as the low quality of basic education, ineffective public policies, and premature career choice—as factors that contribute to student dropout.

The loneliness of the distance education experience and premature course selection, as highlighted by Zygmunt Bauman (2007) and Bardagi; Hutz (2009), are also shown to be relevant. Finally, the model proposed by John W. Bean (1980) complements this analysis by considering variables such as dropout intention, institutional support, and family support as determinants of student persistence or dropout.

Table 1 presents a synthesis of the theoretical framework reviewed, enabling a structured overview of the main determinants of dropout identified within the theoretical approach of this study.

Table 1 – Theoretical synthesis of the causes of dropout

Determinants of dropout	Authors
Reasons related to the teaching-learning process and the educational institution, such as: difficulty in meeting deadlines for the completion of proposed academic activities; deficiencies in course design and structure; low levels of satisfaction; lack of institutional commitment; lack of emotional attachment to the institution; absence of institutional loyalty; low academic performance; frustration with the university environment; and uncertainty regarding the choice of institution.	Senhorinha *et al.* (2021); Cornélio, Vasconcelos (2015); Vellozo, Canella, Dias, Leal (2019); Helal; Mazzafera; Rolim (2020); Spady (1970); Tinto (1975, 1993, 1997, 2002); Cornélio, Vasconcelos (2015); Bean (1980); Spady (1970); Bardagi e Hutz (2009); Rahmani, Groot, Rahmani (2024).

CC BY

Reasons related to distance education (EaD), such as: adaptation to distance learning; absence of the traditional face-to-face relationship between student and teacher; difficulties in accessing the internet; lack of technological skills; students' difficulty in expressing ideas through written communication in an online environment; lack of social and academic integration; and lack of academic support.	Senhorinha *et al.* (2021); Cornélio, Vasconcelos (2015); Rocha, Santos (2021); Helal; Mazzafera; Rolim (2020); Spady (1970); Tinto (1975, 1993, 1997, 2002)
Personal and financial reasons, such as: personal commitments; lack of time to dedicate to studies; fatigue at the end of the workday; absence of students' financial or sociocultural conditions; the need to work; lack of time to study; cognitive difficulties combined with students' attitudes and beliefs; personal motivation to use technology; lack of support from friends; insufficient effort in pursuing a degree; absence of educational goals; and lack of affiliation with the academic/intellectual environment.	Senhorinha *et al.* (2021); Vellozo, Canella, Dias, Leal (2019); Rocha, Santos (2021); Helal; Mazzafera; Rolim (2020); Lobo (2012); Bean (1980); Schifter (2009); Spady (1970); Tinto (1975, 1993, 1997, 2002); Coulon (2017)
Reasons related to support and academic staff, such as: lack of feedback from tutors and professors; tutor performance issues; insufficient tutor training; poorly designed learning materials; lack of technical and administrative support; changes in tutors; and reduced teaching workload.	Senhorinha *et al.* (2021); Cornélio, Vasconcelos (2015); Vellozo, Canella, Dias, Leal (2019); Helal; Mazzafera; Rolim (2020); Schifter (2009); Rahmani, Groot, Rahmani (2024); Figueiredo Nascimento; Esteves dos Santos (2021); Magallanes Ulloa; Vazquez (2025).
Reasons related to course choice, such as: uncertainty regarding vocational choice; opportunities for transfer; desire to change courses; premature course selection; and limited knowledge about the professional field.	Bean (1980); Lobo (2012); Bardagi, Hutz (2009)

Source: Research results

In this context, Vani Moreira Kenski (2009) emphasizes that addressing dropout in distance education requires the continuous revision of pedagogical objectives and assessment methods, integrating technological innovation with effective educational practices.

3. METHODOLOGY

To achieve the objective of this article, a case study was conducted analyzing State University of Ponta Grossa (UEPG), identifying factors associated with student dropout through a logit model. The selection of this institution was justified by its pioneering position as the first institution in the state of Paraná to implement distance education Zanutto (2016).

CC BY

Currently, the institution operates approximately 60 (sixty) on-site support centers (PAPs), distributed across the entire state of Paraná State University of Ponta Grossa (NUTEAD, 2024).

The analysis of the evolution of dropout in distance education at State University of Ponta Grossa (UEPG) was conducted using data provided by the Commission for Selection Processes (CPS) and the Office of Undergraduate Studies (PROGRAD). These data covered the period from 2011—the beginning of the offering of UAB undergraduate programs at UEPG—to 2023, the most recent year for which complete data were available.

3.1 Logit Model and Empirical Strategy

To analyze the personal, social, and academic characteristics associated with dropout in distance undergraduate programs, a quantitative approach was adopted, focusing on the period from 2021 to 2023. Although the UAB system has been implemented at State University of Ponta Grossa (UEPG) since 2008, requests for historical series from internal institutional units revealed fragmented availability, with isolated years.

For this reason, the logit model estimation was concentrated on the three most recent years, a post-COVID-19 pandemic period in which economic and social effects had already stabilized and institutional records were more consistent. The analytical dataset comprised 2,258 enrolled students over the three-year period, of which 714 students dropped out, according to internal data from State University of Ponta Grossa (UEPG).

For the dropout analysis, Model (1) was estimated, in which dropout was defined as a binary dependent variable: value 1 for students who dropped out and 0 for those who did not. The following explanatory variables were included: whether the student attended preparatory courses for university entrance exams (1 for did not attend and 0 otherwise); whether the student took the entrance exam more than once (1 for only one attempt and 0 for multiple attempts); whether it is the student's first undergraduate degree (1 for first degree and 0 otherwise); whether the student attended public high school (1 for public school and 0 for private school); and whether the student had prior exposure to other forms of distance education (1 for no and 0 otherwise).

In addition, variables describing student profile characteristics were included: whether the student was admitted through affirmative action quotas (1 for quota student and 0 otherwise); gender (1 for female and 0 otherwise); marital status (1 for married and 0 otherwise); age; self-declared race/ethnicity (1 for non-white students and 0 for white students); place of residence (1 for rural area and 0 for urban area); employment status (1 for employed and 0 otherwise); whether the student is financially responsible for their own support (1 for yes and 0 for no); and student income.

The logit model, used to analyze the determinants of student dropout, is the most traditional regression method applied when the dependent variable is binary (0 or 1). This model fits a curve to estimate the probability (P) of dropout or non-dropout based on the behavior of explanatory variables, which represent students' characteristics.

CC BY

Thus, the logit model works with representative values that identify the probability that a given student, given a set of characteristics, will either drop out or remain enrolled in a distance education program Damodar N. Gujarati (2006).

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta_1 + \beta_2 X_i + \mu_i \quad (1)$$

Onde: o logaritmo da razão de chances (Li), ou a probabilidade de abandono do curso (PI) contra a probabilidade de não abandono pode ser representado por uma equação linear. Os coeficientes são os parâmetros a serem estimados (βn ou ai), μi o erro estocástico e Xi representa as variáveis explicativas. Ressalta-se que a variável dependente de (2) correspondeu a uma variável binária: 1 para o aluno que desistiu da EAD e 0 caso contrário.

Cabe ressaltar que como algumas variáveis explicativas incluídas inicialmente apresentaram alta correlação entre si, visando evitar problemas econométricos referente à alta multicolinearidade, optou-se por manter apenas uma das variáveis que estavam correlacionadas. Assim, as variáveis explicativas usadas na estimação final de (1) estão dispostas no Quadro 2. Ademais, reestimou (1), interligando as variáveis explicativas "ser mulher" e "estado civil" (Modelo II – Quadro 2), dado que, teoricamente, existe uma maior chance das mulheres, com cônjuge, desistirem dos seus estudos dada a dupla, tripla jornada que muitas enfrentam (Ávila; Portes, 2012).

Quadro 2 - Variáveis explicativa utilizadas em (1)

Variable (definition/coding)	**Model 1**	**Model 2**
Access to other forms of distance education (1 = did not have; 0 = had)	✓	✓
Quota status (1 = quota student; 0 = non-quota student)	✓	✓
Marital status (1 = married; 0 = not married)	✓	—
Sex (1 = female; 0 = male)	✓	—
Interaction: sex and marital status (1 = female and married; 0 = otherwise)	—	✓
Attended preparatory course (1 = no; 0 = yes)	✓	✓
Age (years)	✓	✓
Entrance exam score	✓	✓
Campus (1 = Ponta Grossa; 0 = other centers)	✓	✓
Took entrance exam more than once (1 = one attempt; 0 = more than one)	✓	✓
First undergraduate degree (1 = not the first degree; 0 = first degree)	✓	✓
Self-declared race/ethnicity (1 = non-white; 0 = white)	✓	✓
Employment status (1 = employed; 0 = not employed)	✓	✓
Place of residence (1 = rural; 0 = urban)	✓	✓

Source: Research results

CC BY

It is observed that, among the explanatory variables, there are variables related to student support (financial), academic performance, and personal and family characteristics, following what was proposed by Senhorinha et al. (2021), Vellozo; Canella; Dias; Leal (2019), José Lobo (2012), Schifter (2009), William G. Spady (1970), and Vincent Tinto (1975, 1993, 1997, 2002), as possible determinants of dropout in higher education programs.

4. EVOLUTION OF THE DROPOUT RATE IN DISTANCE EDUCATION AT UEPG

Dropout, according to the definition of National Institute for Educational Studies and Research Anísio Teixeira (INEP), is the student's early withdrawal before the completion of the academic year, grade, or cycle, and is characterized as disengagement, regardless of the cause (Brazil, 2017). It is a phenomenon of non-persistence that signals interruptions in the educational trajectory and limits progression within the education system, with potential negative impacts on the development of competencies required for the continuity of studies.

Within the scope of State University of Ponta Grossa (UEPG), the analysis of dropout trends covered the period from 2011 to 2023. It is important to note that, while in on-campus education admissions occur on a regular annual basis, in distance education the start of cohorts depends on CAPES/UAB calls for applications, which affects the formation rhythm of student cohorts and, consequently, the temporal dynamics of dropout indicators.

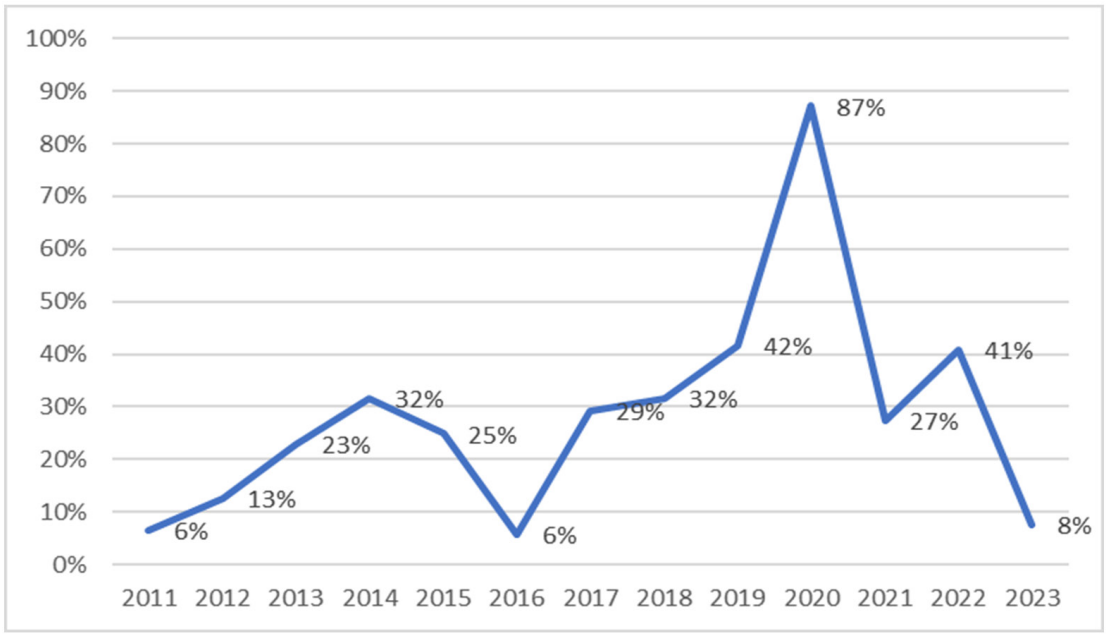
Through Graph 1, an oscillating behavior of the dropout rate can be observed over the years. The average for the period was 23.45%, with a peak in 2020. This increase is consistent with the immediate effects of COVID-19, highlighting that although distance education ensured the continuity of academic activities, the context intensified stress and uncertainty, contributing to reduced motivation and the weakening of academic engagement and institutional ties Pan American Health Organization (2020); Zhou et al. (2020).

Recent studies indicate that, in the post-pandemic period, dropout in online courses has been explained by a combination of pedagogical, institutional, and psychosocial factors, with particular emphasis on the quality of instructional design, the effectiveness of academic support, and the level of student engagement Rahmani; Groot; Rahmani (2024).

Research across different national and international contexts also indicates that difficulties in time management, feelings of isolation, and weak institutional ties continue to significantly affect student persistence in distance education, even after the normalization of in-person activities Magallanes Ulloa; Vazquez (2025); Porto et al. (2024).

CC BY

Graph 1 – Dropout Rate in Distance Education at UEPG (2011–2023*)



Source: Undergraduate Studies Office (PROGRAD) of State University of Ponta Grossa, processed by the study.
Note: The PROGRAD database for 2023 does not include dropouts from newly opened courses**.**

In order to identify the factors influencing dropout in distance undergraduate programs, a logit model was estimated. The results are presented in Table 1, noting that in Model I all explanatory variables without interaction terms were considered, while in Model II a dummy interaction variable between being female and having a spouse was constructed.

Within the context of distance education at State University of Ponta Grossa (UEPG), a significant influence of pre-admission factors was observed, which may be related to student persistence. According to the data presented in Table 1, students who took the entrance exam only once reduce, on average, their probability of dropout by 53% when compared to those who took it more than once.

This result suggests that students who take the entrance exam only once may be more decisive regarding their course choice, which may reflect greater commitment and clarity of academic goals, thereby reducing the likelihood of dropout. This tendency may indicate that these students possess greater resilience in the face of academic challenges, while those who took the entrance exam more than once may be less certain about their academic trajectory, which could contribute to a higher dropout rate.

CC BY

Table 1 – Logit model [dependent variable: binary (1 = dropped out; 0 = did not drop out)] – Determinants of student dropout in distance education (EAD) at UEPG.

Explanatory Variables	Model I		Model II	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Took the entrance exam more than once (1 = one attempt; 0 = more than one attempt)	-0,76*	0,47	-0,75*	0,47
Attended preparatory course (cram course) (1 = did not attend; 0 = otherwise)	0,08	1,09	0,08	1,09
First undergraduate degree (1 = not the first degree; 0 = otherwise)	-0,05	0,95	0,01	1,01
Entrance exam score	0,01*	1,00	0,01*	1,00
Access to other forms of distance education (1 = no access; 0 = had access)	-0,43	0,65	-0,42	0,66
Quota admission (affirmative action status) (1 = quota student; 0 = non-quota student)	-0,84	0,43	-0,85**	0,43
Self-declared race/ethnicity (1 = non-White; 0 = White)	0,60	1,82	0,56	1,75
Gender (1 = female; 0 = male)	-0,73*	0,48	–	–
Marital status (1 = married; 0 = not married)	-0,18	0,84	–	–
Age	-0,07*	0,93	-0,06*	0,94
Gender and marital status (1 = female and married; 0 = otherwise)	–	–	0,79*	2,20
Campus location (1 = Ponta Grossa; 0 = other campuses/ polos)	-1,59*	0,20	-1,43*	0,24
Employment status (1 = employed; 0 = otherwise)	0,77	2,16	0,81	2,24
Place of residence (1 = rural area; 0 = urban area)	-1,22*	0,30	-1,27*	0,28

Source: research results.
Note: (*) statistically significant at the 5% level. (**) statistically significant at the 10% level.

In other words, personal attitudes and predispositions present in students prior to entering higher education directly influence their academic training and performance, especially when considering that these characteristics guide students toward more competent engagement in their studies. According to Fonsêca et al. (2016), when students recognize that their goals are meaningful, they tend to engage more deeply in their studies, reflecting the three dimensions of engagement proposed by Schaufeli et al. (2002): vigor, dedication, and absorption. This sense of purpose not only increases motivation to face academic challenges but also strengthens the persistence required to cope with the entrance examination process (Schaufeli et al., 2002).

CC BY

According to Tinto (2002), student engagement and persistence also influence their integration into the institution, enabling both social and academic involvement with the university. This engagement may reduce the likelihood of dropout, since, according to the literature (Bean, 1980; Coulon, 2017; Spady, 1970; Tinto, 1975), one of the determinants of student attrition is the absence of institutional loyalty and a lack of emotional attachment to the institution.

Access to other forms of distance education prior to entering higher education was one of the most relevant factors in the choice of distance education (EAD) at UEPG. Although this factor is considered a theoretical determinant of dropout, particularly due to technological difficulties and issues, it did not prove to be statistically significant in relation to student attrition among the students analyzed in this study.

In contrast, candidates' scores in the admission process for undergraduate enrollment showed a significant relationship with dropout: on average, the higher (lower) the entrance exam score, the lower (higher) the likelihood of dropout. This finding may be explained by several factors.

First, students with higher scores tend to have greater opportunities for success in other entrance examinations, which may lead them to consider changing institutions or programs if they do not feel satisfied (Sampaio et al., 2011). On the other hand, candidates with lower scores may feel a stronger commitment to remain in the program, possibly due to recognizing the effort required to secure admission or because they have fewer academic and professional alternatives, which may reinforce their persistence.

In this context, it can be inferred that students with higher scores in the selection process tend to seek an academic path more closely aligned with their expectations and interests, which may increase the likelihood of dropout if the initial program does not fully meet these aspirations.

Similarly, entrance exam scores may generate pressure to maintain high academic performance. According to Oliveira and Duarte (2004), high performance expectations are influenced by external pressures, which suggest that social acceptance is linked to success. To be considered successful, it is necessary to achieve exceptional performance. This idea may contribute to anxiety and stress (Karino; Laros, 2014), leading to demotivation and eventual dropout.

Finally, another hypothesis is that hasty decision-making, driven by external expectations or social pressure, may lead students to enroll in programs that do not match their interests or abilities. In this regard, theoretical determinants of dropout point to premature course choice and pressure to enter higher education as key factors associated with student attrition (Lobo, 2012; Bardagi & Hutz, 2009).

Corroborating this perspective, an analysis of students' demographic factors was conducted, beginning with the influence of age on dropout rates. As previously discussed, the literature highlights the relationship between early course choice and student persistence in higher education, and the situation at UEPG is no different from this trend. The results indicate that the younger the student, the higher the likelihood of course dropout.

CC BY

This vulnerability among younger students may be attributed to the transition from high school to university, which can be more challenging for these students, who often feel overwhelmed by the demands of autonomy and academic requirements. According to Taylor et al. (2014), taking on greater academic responsibilities is one of the main challenges faced during this transition. Another challenge, according to Booker et al. (2022), is the need to adapt to a new academic environment.

In the gender analysis, on average, "being female" reduces the likelihood of dropping out of the program by 52% when compared to males. According to Fúlvia Rosemberg (2001), women's educational trajectory has been long and marked by challenges, as they had to overcome multiple barriers rooted in tradition in order to access schooling under conditions equivalent to those of men. This context contributed to the development of a more resilient and committed relationship with education, since overcoming such barriers required greater effort and a stronger appreciation of educational opportunities. Other factors, such as greater discipline, academic engagement, and the pursuit of professional and financial autonomy, may positively influence women's persistence in higher education, reducing dropout rates compared to men. This is also because, among women, priorities tend to be centered on both education and professional career development (Bruschini & Lombardi, 2002).

On the other hand, workload is not a concern exclusive to a single gender and has been identified in the literature as a determinant of dropout (Helal et al., 2020). However, in the analysis conducted at UEPG, employment was not found to be a determining factor for student dropout.

Considering that the data used in this study refer to students enrolled in distance education (EAD), a possible explanation for the lack of influence of employment on dropout rates may be the greater flexibility provided by this modality, which facilitates the reconciliation of professional and academic responsibilities. This observation is consistent with the previous analysis, which highlighted the need to work as the main reason for choosing distance education.

By correlating these data with students' age, it is possible to observe that working students tend to be older, which may contribute to greater maturity and motivation to continue their studies.

Another essential aspect related to student dropout concerns students' place of residence. This study found that students from rural areas are, on average, 70% more likely not to drop out of the program when compared to those from urban areas. This difference may be explained by the greater effort and personal investment required by rural students to access higher education, which increases their commitment to persistence. With fewer nearby institutional options, these students tend to value the opportunity to obtain a degree more highly. In contrast, urban students, who have more available alternatives, may be more likely to change programs or institutions when facing difficulties (Molina; Montenegro; Oliveira, 2010).

When analyzing the results through Pierre Bourdieu's theoretical framework, it is observed that, in the case of rural students, habitus tends to reflect a stronger valuation of education as an instrument of social mobility, given their historically limited access to educational resources. This valuation is reinforced by awareness of the difficulties involved in accessing higher education, such as the geographical distance from institutions and the limitations of educational infrastructure in their communities (Bourdieu, 1987).

CC BY

In addition, the cultural capital of rural students, although often different from that legitimized by the urban educational system, may include dispositions such as effort, resilience, and persistence, which are essential for overcoming the challenges imposed by higher education. In contrast, urban students, who generally have greater proximity to and a wider range of educational options, tend to adopt a more flexible habitus regarding the continuity of their studies, given the greater availability of alternatives and a lower perceived risk in changing programs or institutions (Bourdieu, 1987).

This analysis highlights how structural and cultural inequalities influence not only access to higher education but also students' dispositions toward persistence in it.

Regarding the academic centers (campi), this study analyzed differences in dropout rates between the Ponta Grossa campus and other distance education centers of UEPG[1]. According to the data presented in Table 1, students from the Ponta Grossa campus have, on average, a 70% higher probability of not dropping out of their undergraduate program.

This reality can be understood in light of the socioeconomic context of cities, since larger cities, due to their dynamic characteristics, tend to attract a greater flow of transactions and people, resulting in an environment conducive to the generation of employment opportunities. This concentration of resources and economic activity benefits the population and provides advantages, while also requiring a higher level of human capital formation. Thus, the infrastructure, services, and diversity of sectors present in large cities create a favorable scenario for professional growth, contributing to the economic and social development of these localities (Borjas, 2014).

This diversity of professional opportunities may lead students to seek educational alternatives aimed at obtaining higher education. Thus, the range of choices can foster motivation to continue studying when individuals are located in large urban centers, especially when students perceive that they can easily obtain employment in different fields.

In the educational context, Bauman's notion of liquidity is reflected in the wide diversity of professional and educational options available in large urban centers, which creates a sense of freedom, but also of volatility (Bauman, 2007).

For students, the perception that they can easily shift between different fields of study or enter various professional areas reflects this fluid logic, in which decisions are often shaped by immediate opportunities or momentary convenience. Thus, education ceases to be a fixed and linear project and becomes a flexible construction, adaptable to changes in the labor market and individual expectations. This dynamic, while it may motivate students to continue their studies, also reinforces the idea that education is an instrumental means, subordinated to the demands of a constantly changing labor market (Bauman, 2007).

The data analyzed thus far refer to Model I; however, it is important to consider that some interaction effects may be significant. Specifically, within the group of female students, there may be differences in dropout behavior depending on whether the student has a spouse.

[1] Ponta Grossa is considered a medium-sized city, whereas the cities corresponding to the other analyzed academic centers are classified as small cities, with lower levels of economic development and infrastructure (Madalozzo, 2019).

CC BY

In Model I (Table 1), marital status did not show statistical significance in this first specification; however, after reviewing the literature and preliminary results, it was found that the influence of marriage, particularly in the female context, is relevant. Therefore, Model II was estimated, which includes an interaction dummy between "being female" and "having a spouse."

In the preliminary analysis of Model I, it was found that being female, in isolation, is associated with a lower probability of dropping out of higher education, particularly due to cultural and behavioral factors. However, the results of Model II present a contrasting perspective, showing a positive and statistically significant coefficient for the interaction term "being female and having a spouse" in relation to the probability of dropout. This suggests that married women face more intense social and domestic demands, which may increase their vulnerability to academic attrition. Specifically, the data show that, on average, being a married woman increases the probability of dropout by 120% compared to both unmarried women and men (whether married or not).

In light of these findings, it is important to consider the hypothesis that social expectations may play a significant role in dropout among married women, often resulting in a lack of spousal support, both emotional and practical. This perspective is supported by Tinto (2002) and Spady (1970), who identify the absence of family support as a crucial factor in higher education attrition.

From an early age, women tend to spend more time on domestic tasks (Soares, 2008) and face greater social and household demands related to childcare responsibilities (Ávila & Portes, 2012). The pressure to balance academic responsibilities with family and domestic obligations may lead to exhaustion and, ultimately, dropout. Bean (1980) also highlights difficulties arising from family, financial, and professional obligations.

This situation can be understood as an expression of inequalities in social capital within the family unit. While social capital could function as a resource that facilitates academic persistence through support networks and encouragement, the absence of such support reinforces the difficulty of reconciling educational demands with responsibilities imposed by the marital context (Bourdieu, 1987).

In addition, cultural capital plays an important role: married women who enter higher education often challenge cultural norms that prioritize domestic roles over educational development. This tension may generate demotivation and feelings of inadequacy, leading to dropout, especially when there is no support to mitigate these social pressures (Bourdieu, 1987).

Corroborating this idea, detailed information on the persistence of women from lower socioeconomic backgrounds in a public university can be found in the study by Ávila and Portes (2012). This work highlights the challenges faced by these women in public higher education, showing that they experience a "triple burden," which includes responsibilities in the labor market, academic studies, and domestic work. In other words, social norms and expectations may influence women's decisions regarding education and career paths, leading some to abandon their studies in favor of more traditional roles.

CC BY

Model II revealed statistical significance for the quota status variable at the 10% significance level. The results indicate that being a quota student is associated with a lower likelihood of dropping out of distance education programs at UEPG. In a study conducted at the institution between 2009 and 2017, a corresponding relationship between affirmative action quotas and dropout was observed, showing a higher proportion of graduates among quota students (Raiher, 2022).

In this sense, Bourdieu argues that individuals' social practices are shaped by habitus, which is conditioned by the social and cultural environments in which individuals are embedded. In the case of quota students, habitus is strongly influenced by life experiences in contexts of inequality, where access to higher education is often more restricted. The quota policy, by providing access to higher education opportunities, may alter these individuals' dispositions, fostering a new academic habitus that values persistence and academic success as a strategy for social mobility (Bourdieu, 1987).

Given the evidence collected in this study, it is important to reflect on the widespread misperception regarding university dropout among quota students. According to Bezerra and Gurgel (2012), the belief that quota students are more likely to drop out of university is widely accepted both among the general population and within academic circles; however, several studies refute this claim, demonstrating that it is a fallacy.

Bezerra and Gurgel (2012), along with Velloso (2009), Silva (2017), and more recently Pinheiro, Pereira, and Xavier (2021), show that dropout rates among quota students are lower, accompanied by higher graduation rates, even in the face of the precarious conditions in which many of them enter the academic environment.

According to these authors, the explanation for the lower likelihood of dropout among quota students may be related to the value attributed to the opportunity of accessing higher education by students who would otherwise not have such access. In other words, quota students tend to value this opportunity more strongly, which fosters greater commitment to their studies and a high level of dedication to completing their degree programs (Silva, 2017).

In the same sense, career expectations may also be a factor influencing this rate. The perception that completing a degree can improve professional prospects and quality of life fosters persistence, especially in contexts where employment opportunities are limited (Silva, 2017).

5. FINAL CONSIDERATIONS

The aim of this article was to understand the factors that contribute to dropout in undergraduate distance education (EAD) programs at UEPG. The results indicate that factors such as prior engagement and persistence are elements that influence student retention. Students who take the entrance exam multiple times tend to be more likely to drop out, a similar pattern is observed among those with higher entrance exam scores, who show a greater probability of dropout, influenced by opportunities at other institutions and performance pressure.

CC BY

Age proved to be a determining factor, such that the younger the student, the higher the likelihood of dropout. Regarding gender, being female reduces the probability of dropout; however, when combined with the condition of "being a woman with a spouse," the effect is reversed, significantly increasing the likelihood of withdrawal. Residence in rural areas also influences persistence in distance education, particularly due to the difficulties these students face in accessing more distant institutions.

Based on the results, it is recommended to expand internet access and the availability of digital equipment, strengthen financial, psychological, and academic support, and create support centers for distance education (EAD) students. The adoption of active learning methodologies, personalized instruction, gamification, and increased interaction among students may also reduce dropout rates. In the field of public policy, it is proposed to include mandatory complementary activities and strategic in-person sessions. Internally, UEPG should implement a dropout monitoring system, a specific institutional policy on student retention, and a dynamic introductory course for new students.

However, the study faced limitations, such as restricted access to institutional data. It is recommended that future research further explore these aspects and that the institution invest in more comprehensive data collection and management systems.

For future work, the development of artificial intelligence–based tools to identify students at risk of dropping out is proposed, as well as comparative studies on public policies supporting student retention. Studies are also recommended on the impact of innovative methodologies, inclusive teaching materials, and EAD orientation programs in secondary education schools, aiming to broaden the reach and improve the quality of distance education in Brazil.

CC BY

REFERENCES

ARETIO, Lorenzo García. **Indicadores para la evaluación de la enseñanza en una universidad a distancia**. Madri: RIED, 1996. Disponível em: http://revistas.uned.es/index.php/ried/article/view/2123/1996. Acesso em: 1 maio 2024.

ÁVILA, Rebeca Contrera; PORTES, Écio Antônio. **A tríplice jornada de mulheres pobres na universidade pública: trabalho doméstico, trabalho remunerado e estudos**. Revista Estudos Feministas, v. 20, n. 3, p. 809–832, 2012. Disponível em: http://dx.doi.org/10.1590/S0104-026X201200030001. Acesso em: 18 out. 2024.

BARDAGI, Marucia Patta; HUTZ, Cláudio Simon. **"Não havia outra saída": percepções de alunos evadidos sobre o abandono do curso superior**. Psico-USF, v. 14, n. 1, p. 95–105, 2009.

BAUMAN, Zygmunt. **Vida líquida**. Tradução de Carlos Alberto Medeiros. Rio de Janeiro: Jorge Zahar, 2007.

BEAN, John P. **Dropout and turnover: the synthesis and test of a causal model of student attrition**. Research in Higher Education, v. 12, p. 155–187, 1980.

BELLONI, Maria Luiza. **Educação a distância**. 4. ed. Campinas: Autores Associados, 2006.

BEZERRA, Teresa Olinda Caminha; GURGEL, Claudio Roberto Marques. **A política pública de cotas na UERJ: desempenho e inclusão**. In: ENCONTRO DE ADMINISTRAÇÃO PÚBLICA E GOVERNO, 5., 2012, Salvador. Anais [...]. Salvador: ANPAD, 2012.

BOOKER, Jordan A.; HERNANDEZ, Erika; TALLEY, Karen E.; DUNSMORE, Julie C. **Connecting with others: dispositional and situational relatedness during the college transition**. Journal of Social and Personal Relationships, v. 39, n. 2, p. 198–220, 2022.

BORJAS, George J. **Immigration economics**. Boston: Harvard University Press, 2014.

BOURDIEU, Pierre. **Esboço de uma teoria da prática**. In: ORTIZ, Renato (org.). Pierre Bourdieu: sociologia. São Paulo: Ática, 1983. p. 46–81.

BOURDIEU, Pierre. **Coisas ditas**. São Paulo: Brasiliense, 1987.

BRANCO, Lilian Soares Alves; CONTE, Elaine; HABOWSKI, Adilson Cristiano. **Evasão na educação a distância: pontos e contrapontos à problemática**. Avaliação: Revista da Avaliação da Educação Superior, v. 25, n. 1, 2020. Disponível em: https://periodicos.uniso.br/avaliacao/article/view/3921. Acesso em: 26 abr. 2024.

BRASIL. Ministério da Educação. **Diplomação, retenção e evasão nos cursos de graduação em instituições de ensino superior públicas**. Relatório da Comissão Especial de Estudos sobre Evasão nas Universidades Públicas Brasileiras. Brasília: ANDIFES/ABRUEM/SESu/MEC, 1996.

CC BY

BRASIL. Ministério da Educação. **Metodologia de cálculo dos indicadores de fluxo da educação superior**. Brasília, 2017. Disponível em: https://download.inep.gov.br/informacoes_estatisticas/indicadores_educacionais/2017/metodologia_indicadores_trajetoria_curso.pdf. Acesso em: 3 set. 2024.

BRUSCHINI, Cristina; LOMBARDI, Maria Rosa. **Instruídas e trabalhadeiras: trabalho feminino no final do século XX**. Cadernos Pagu, n. 17/18, 2002.

COULON, Alain. **O ofício de estudante: a entrada na vida universitária**. Educação e Pesquisa, v. 43, n. 4, p. 1239–1250, out./dez. 2017. Disponível em: https://www.scielo.br/j/ep/a/Y8zKhQs4W7NYgbCtzYRP4Tb/. Acesso em: 10 jul. 2024.

DAL MORO, Guilherme Andre; GISI, Maria Lourdes. **FIES, PROUNI e REUNI: caminhos inacabados para a democratização do acesso à educação superior**. Avaliação: Revista da Avaliação da Educação Superior, v. 28, 2023. Disponível em: https://www.scielo.br/j/aval/a/dkFBMrCVxyHg9jj5XZMzPx/. Acesso em: 15 set. 2025.

DURKHEIM, Émile. **Suicide**. New York: Free Press, 1966.

ERCOLE, Flávia Falci; MELO, Laís Samara de; ALCOFORADO, Carla Lúcia G. C. **Revisão integrativa versus revisão sistemática**. REME – Revista Mineira de Enfermagem, 2014. DOI: 10.5935/1415-2762.20140001. Disponível em: https://www.reme.org.br/artigo/detalhes/904. Acesso em: 28 set. 2024.

FAVERO, Rute Vera Maria. **Dialogar ou evadir: eis a questão! Um estudo sobre a permanência e a evasão na educação a distância no Estado do Rio Grande do Sul**. 2006. 167 f. Dissertação (Mestrado em Educação) — Universidade Federal do Rio Grande do Sul, Porto Alegre, 2006. Disponível em: https://www.lume.ufrgs.br/handle/10183/14846. Acesso em: 13 abr. 2024.

FIGUEIREDO NASCIMENTO, C.; ESTEVES DOS SANTOS, M. E. **A evasão e a permanência sob a ótica discente: fatores influentes na desistência e conclusão em EaD.** *Revista Brasileira de Aprendizagem Aberta e a Distância*, v. 20, n. 1, 2021. Disponível em: https://abed.emnuvens.com.br/RBAAD/article/view/431. Acesso em: 12 maio 2024.

FONSÊCA, Patrícia Nunes da et al. **Engajamento escolar: explicação a partir dos valores humanos**. Psicologia Escolar e Educacional, v. 20, n. 3, p. 611–620, 2016.

GATTO, Marilâine Dalberto Alves. **Educação a distância capilaridade e inclusão das minorias.** Rio de Janeiro, RJ: Revista Tópicos, 2(14), 1-17, 2024. Disponível em: https://revistatopicos.com.br/artigos/educacao-a-distancia-capilaridade-e-inclusao-das-minorias. Acesso em: 19 nov. 2025.

GUJARATI, Damodar N. **Econometria básica**. 4. ed. Rio de Janeiro: Elsevier, 2006.

HELAL, R. M. C.; MAZZAFERA, B. L.; ROLIM, A. T. **O que nos dizem tutores e alunos sobre a evasão em cursos de educação a distância em uma instituição de ensino superior?** Laplage em Revista, v. 6, n. especial, p. 119–132, set./dez. 2020.

CC BY

INEP. **Censo da educação superior 2022**. Brasília, DF, 2023. Disponível em: https://www.gov.br/inep/pt-br/areas-de-atuacao/pesquisas-estatisticas-e-indicadores/censo-da-educacao-superior. Acesso em: 14 set. 2023.

KARINO, Camila Akemi; LAROS, Jacob A. **Ansiedade em situações de provas**. Psico-USF, v. 19, n. 1, p. 23–36, 2014.

KENSKI, Vani Moreira. **Tecnologias e ensino presencial e a distância**. 7. ed. Campinas: Papirus, 2009.

LÉVY, Pierre. **As tecnologias da inteligência: o futuro do pensamento na era da informática**. São Paulo: Editora 34, 2010.

LOBO, Maria Beatriz de Carvalho Melo. **Panorama da evasão no ensino superior brasileiro: aspectos gerais das causas e soluções**. São Paulo: ABMES, 2012. Cadernos ABMES, n. 25, 2012.

LOTT, Ana Cristina de Oliveira; FREITAS, Angilberto Sabino de; FERREIRA, Jorge Brantes Ferreira; LOTT, Yuri Monnerat Lott. **Persistência e Evasão na Educação a Distância: Examinando Fatores Explicativos**. RECADM, v.17, n.2, p.149-171, maio-ago, 2018. DOI:http://dx.doi.org/10.21529/RECADM.2018006.

MADALOZZO, Nisiane. **Rio e ferrovia: a produção social do espaço urbano em Ponta Grossa – PR**. 2019. Tese (Doutorado em Geografia) — Universidade Estadual de Ponta Grossa, Ponta Grossa, 2019.

MAGALLANES ULLOA, M.; VAZQUEZ, J. L. **Factors influencing student retention in a distance university in Mexico: a case study.** *International Journal for Innovation Education and Research*, v. 12, n. 2, p. 89–104, 2025.

MATTAR, João. **Tutoria e interação em educação a distância**. São Paulo: Cengage Learning, 2012.

MILL, Daniel. **Sobre o conceito de polidocência ou sobre a natureza do processo de trabalho pedagógico na educação a distância**. In: MILL, Daniel; RIBEIRO, Luis R. C.; OLIVEIRA, Márcia R. G. (org.). Polidocência na educação a distância: múltiplos enfoques. São Carlos: EdUFSCar, 2014.

MOORE, Michael; KEARSLEY, Greg. **Educação a distância: uma visão integrada**. São Paulo: Cengage Learning, 2008.

MUNHOZ, Antonio Siemsen. **A educação a distância em busca do tutor ideal**. Colabora – Revista Digital da CVA, v. 2, n. 5, p. 1–15, 2003.

NUNES, João Batista Carvalho; SALES, Viviani Maria Barbosa. **Formação de professores de licenciatura a distância: o caso do curso de pedagogia da UAB/UECE**. Educação e Pesquisa, v. 39, n. 3, p. 757–773, 2013.

NUTEAD. **Núcleo de Tecnologia e Educação Aberta e a Distância – UEPG**. Ponta Grossa, 2024. Disponível em: https://ead.uepg.br/site/nutead. Acesso em: 10 jan. 2025.

CC BY

PINHEIRO, Daniel Calbino; PEREIRA, Rafael Diogo; XAVIER, Wescley Silva. **Impactos das cotas no ensino superior: um balanço do desempenho dos cotistas nas universidades estaduais**. Revista Brasileira de Educação, v. 26, e260020, 2021.

PORTO, V. da S.; CUNHA, R. A.; RODRIGUEZ, M. V. Y.; SANTOS, D. R. dos. **Ensino a distância e evasão no ensino superior no Brasil: evidências no contexto da pandemia.** *Revista EDaPECI*, v. 24, n. 1, 2024. Disponível em: https://periodicos.ufs.br/edapeci/article/view/21338. Acesso em: 10 jan. 2025.

RAIHER, Augusta Pelinski. **Políticas de cotas na UEPG: análise do abandono e do rendimento acadêmico**. Estudos em Avaliação Educacional, v. 33, 2022.

RAHMANI, A. M.; GROOT, W.; RAHMANI, H. **Dropout in online higher education: a systematic literature review.** *International Journal of Educational Technology in Higher Education*, v. 21, art. 19, 2024. DOI: 10.1186/s41239-024-00450-9.

ROSEMBERG, Fúlvia. **Educação formal, mulher e gênero no Brasil contemporâneo**. Revista Estudos Feministas, v. 9, n. 2, p. 515–540, 2001.

SPADY, William G. **Dropouts from higher education: an interdisciplinary review and synthesis**. Interchange, v. 1, p. 64–85, 1970.

TINTO, Vincent. **Leaving college: rethinking the causes and cures of student attrition**. 2. ed. Chicago: University of Chicago Press, 1993.

VELLOSO, Jacques. **Cotistas e não cotistas: rendimento de alunos da Universidade de Brasília**. Cadernos de Pesquisa, v. 39, n. 137, p. 621–644, maio/ago. 2009.

VIEIRA PINTO, Álvaro. **A questão da universidade**. Rio de Janeiro: UNE/Editora Universitária, 1962.

ZHOU, Fei et al. **Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan**. The Lancet, 2020. Disponível em: https://pubmed.ncbi.nlm.nih.gov/32171076/. Acesso em: 9 jan. 2025.

CC BY