DETERMINANT FACTORS OF DROPOUT IN ACCOUNTING PROGRAMS IN BRAZIL

FATORES DETERMINANTES DA EVASÃO NOS CURSOS DE CIÊNCIAS CONTÁBEIS NO BRASIL

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ABSTRACT

Dropout is a growing phenomenon afflicting public and private higher education institutions (HEIs). The measures to contain dropout depend on actions and programs of assistance and guidance to be implemented by the HEIs themselves. Thus, it becomes relevant to know the attributes of students and institutions associated with the dropout phenomenon, in particular in the Accounting Sciences Courses in Brazil. Therefore, this research sought to map the HEI characteristics, the program and the students that determine the dropout. For this end, public data from the National Higher Education Census of 2015 and 2016 were collected. The variables selection occurred from the previous dropout literature. To calculate the annual student dropout, the Silva Filho et al.'s (2007) methodology was used. For data analysis, descriptive statistics and binomial logistic regression were performed. It was evidenced that the average rate of general dropout is relatively high, indicating that 31% of students enrolled in Accounting Sciences Courses in Brazil dropped out. The findings contribute to the programs managers and coordinators to implement actions and strategies to increase the efficiency of educational services through the dropout reduction.

Keywords: Dropout rate. Dropout factors. Higher education. Accounting. Actions and programs.

RESUMO

A evasão é um fenômeno em crescimento que aflige as Instituições de Ensino Superior (IES) públicas e privadas. As medidas de conter a evasão dependem de ações e programas de assistência e de orientação a serem implementados pelas próprias IES. Assim, torna-se relevante conhecer os atributos de alunos e instituições associados ao fenômeno da evasão, em particular no curso de Ciências Contábeis no Brasil. Desta forma, esta pesquisa buscou mapear as características da IES, do curso e dos alunos que determinam a evasão. Para isso, foram levantados os dados públicos do Censo Nacional da Educação Superior de 2015 e 2016. A seleção das variáveis ocorreu a partir do levantamento de estudos anteriores relacionados à evasão. Para o cálculo da evasão anual, utilizou-se a metodologia empregada por Silva Filho et al. (2007). Para o tratamento dos dados, foi realizada a análise descritiva e a regressão logística binomial. Evidenciou-se que a taxa média de evasão geral é alta, indicando que 31% dos alunos dos cursos de Ciências Contábeis no Brasil evadem. Os achados contribuem para que gestores e coordenadores dos cursos implementem ações e estratégias para aumentar a eficiência dos serviços educacionais por meio da redução da evasão.

Palavras-chave: Taxas de evasão. Fatores da evasão. Ensino superior. Ciências Contábeis. Ações e programas.

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1 INTRODUCTION

Dropout is a growing phenomenon that afflicts the public and private Higher Education Institutions (HEIs). In Brazil, studies on the college dropout are recent, having been initiated in the mid-20th century, at a time marked by the growth of private education and public federal network, notably through the introduction of new selection methods (GILIOLI, 2016).

According to the report of the Trade Union of Sponsors of Higher Education (SEMESP, 2016), from 2000 to 2014, the number of HEIs remained in ascension, totaling 2,368 institutions in 2014, with growth of 106% in the private sector and 69% in the public sector. Among the most searched for in private HEIs, the Accounting Sciences Course occupies the fourth place among the courses and in fifth among the Distance Education courses (EaD), according to the number of registered enrollments (INEP, 2016).

In the same way, the total dropout has grown in recent years, showing a rate of 25.4% in in-class courses and 32% in the distance education courses (SEMESP, 2016). As appointed by the study of Gois (2016), the social and public damages with the dropout of young people add up the amount of 50 billion dollars annually. Tinto (1975), in his turn, indicates that the dropout causes are related to external and internal factors to the institution, i.e., they relate to the pre-university period (pre-entry and goals and commitment attributes) and the University period (Institutional experiences, Integration and Goals and commitments).

Gilioli (2016) explains that the anti-dropout measures depend on actions and programs of assistance and guidance to be implemented, developed or perfected by the institutions of higher education. Thus, it is necessary to know the students and institutions attributes associated with the phenomenon. In this sense, the motivating question of this study arises: *What characteristics of the institutions and students of Accounting Sciences are related to dropout rates in Brazilian HEIs?*

Thus, the purpose of this study is to map the characteristics of the HEIs, courses and students and relate them to the dropout indexes of the institutions. To do so, using the data from the National Census of Higher Education, the variable selection was done based on the literature addressed and, subsequently, qualified to one of the categories of Tinto's Student Integration Model (1975). Together, the dropout rates of the courses of Accounting Sciences were calculated according to the methodology adopted by Silva et al. (2007).

The research becomes relevant when presenting a dropout panorama in higher

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education in the courses of Accounting Sciences and raise in the literature the most frequent dropout causes in higher education courses. Through the results, actions and strategies are proposed for combating the dropout in the Accounting Sciences course. The findings contribute so that managers and coordinators of the accounting sciences course implement actions and strategies for the student' permanence and, consequently, the reduction of the dropout rate.

2 THEORETICAL FRAMEWORK

2.1 INITIAL STUDIES ON DROPOUT

Studies on dropout in Brazilian higher education were directed, initially, for the statistical and also by means of case studies related to the analysis of the factors and the causes of the occurrence of this phenomenon in universities, courses, areas of knowledge or specific regions (ADACHI, 2009). However, such studies were not about the understanding of the problem so that they would boost the interventions to help and reduce the rates of retention and dropout (ADACHI, 2009).

Moehlecke (2007) points out that studies on the evasion were focused on basic education and that there was a lack of research in the field of higher education. These studies, in their majority, restricted to the description of the process without, however, analyzing the causes and/or proposing theoretical models that seek to explain the phenomenon, as demonstrated by the study on the retention and student dropout in Latin America and the Caribbean carried out by Munizaga, Cifuentes and Beltrán (2018). According to the authors, 51% of the 81 analyzed articles were directed to the characterization of the phenomenon, while only 5% and 6%, respectively, proposed intervention actions and evaluation of intervention.

Before such scenario, it was created in 1996, by encouragement of the Secretary of Higher Education of the Ministry of Education and Sport (SESU), linked to the Ministry of Education-MEC, the Special Committee for the Study on Dropout due to the need to establish a common methodology and a formula for the calculation of the index in order to achieve the data reliability(ADACHI, 2009). In addition, one of the first goals of the Special Committee was to examine the concept of dropout, which was defined as "the definite student's leaving his or her course of origin, without completing it" (MEC, page 15, 1996).

From the leaving to the return of the student in another course or HEIs , one must consider the impacts in the dropout indices as their way of entry (transfers from other HEIs,

ex-officio transfers, change of course in the same HEI, complimentary registration, programs for students, covenants, international agreements and graduates, re-entry, among others). (SILVA FILHO; LOBO, 2012).

Lobo (2012, page 8) explains that, even if the student who changed course or HEI has his or her vacancy filled by another student, his or her leaving causes loss for the course and should be treated as dropout, one can come to the conclusion that the course dropout is "the one that the student leaves a course for any reason". For the author, dropout goes beyond comparing the entries and leavings, and it is necessary to identify the reasons that involve the students' permanence and leaving in order to promote actions to prevent further losses for the same reasons (LOBO, 2012).

MEC (1996) defines and recognizes three types of dropout: (i) course dropout, which occurs when the student leaves the course in different situations, such as: abandonment (no enrollment), withdrawal (official), transfer or reoption (change of course), exclusion by institutional standard; (ii) institution dropout, which occurs when the student leaves the institution where he or she is enrolled; (iii) system dropout, which occurs when the student abandons, permanently or temporarily, the higher education. For Moehlecke (2007), each type of dropout is a result of different factors that require specific responses.

Silva Filho et al. (2007) approach dropout under two concepts: average annual dropout, which refers to the percentage of enrolled students who, not having obtained approval, not enrolled for next year/semester; and the total dropout, in which the quantity of ingressing students in a given time period who did not obtain the diploma/degree.

As to the factors that lead to the student's dropout, the Special Committee on Dropout (MEC, 1996) distinguishes them as follows: factors that relate to the own student; factors related to the course and the institution; and sociocultural and external economic factors (MEC, 1996). Spady (1970), one of the pioneering researchers on the theme, based on the social theory of Durkheim, compared the school abandonment to an act of suicide. According to his theory, there are two main social components inherent to the dropout process: the first is related to academic success that occurs when the objectives, interests and personality interact with the academic system, a phenomenon called "normative congruence". Whereas the second refers to the relationships established, which builds a network of "support in friendship".

Subsequently, Tinto (1975), based on studies of Spady (1970; 1971), points out that the academic suicide stems from the level of the individual's integration, the lack of

integration to university life. According to the author, when there is no total integration to the extracurricular activities and social business, the likelihood of the student evasion increases. To analyze this dropout process, Tinto (1975) develops the Student Integration Model (MIE), which analyzes the variables in a longitudinal way. Because it is the basis of this research, the theory and the model of Tinto (1975) will be dealt with below.

2.2 THE DROPOUT PROCESS IN THE LIGHT OF THE THEORY OF THE STUDENT'S INTEGRATION – TINTO

To Tinto (1975), the dropout process stems from the student's social and academic integration level to the educational institution. This integration to the academic environment is related to individual attributes (race, sex, academic abilities), previous experiences (formation and transcripts, resourcefulness in social relationships) and the family context (socioeconomic status, family environment, values and expectations).

In the Student Integration Model (MEI), developed by Tinto in 1975, the causes are analyzed in two periods: in the pre-university, the causes are related to factors internal factors to the institution, and in the university period, they result from external factors. The internal causes are those related to the institution regarding the academic and social system; the external ones are related to the student's characteristics and to the external factors (TINTO, 1993 apud Santos, 2013). Figure 1 presents the latest revision of the model developed by Tinto (1975).

Figure 1 Longitudinal model of institutional abandonment of Tinto (1993)
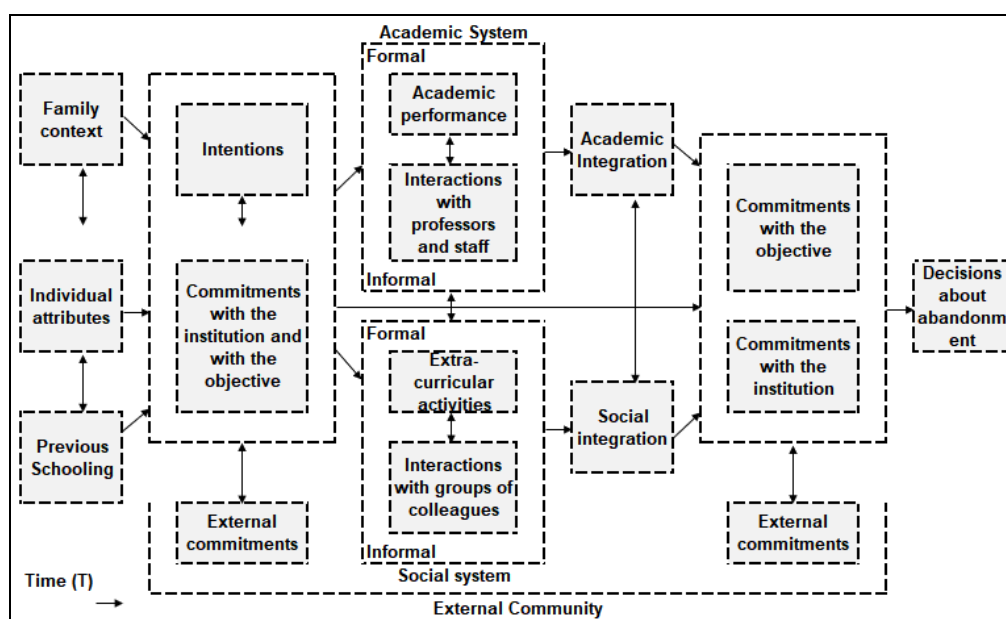
Source: Tinto (1993 apud SANTOS, 2013).

Tinto (1975) analyzes, longitudinally, the variables of three large groups (institutional system, academic system and external community). These groups are related to the student's characteristics, their intentions/goals and commitment, the expectations with the career, the course characteristics and the level of academic and social integration. Later, upon revising his model, Tinto (1993 apud SANTOS, 2013) adds the following variables: learning, finance, adjustment, inconsistencies, isolation, difficulty and external commitments.

2.2.1 Pre-ingress attributes

According to Tinto (1975), the pre-ingress factors arise from external causes to the institution. Characterized in the pre-university period, the same shall be further subdivided into: family context, individual attributes and previous schooling.

In the **family context,** the socioeconomic factors standout, which are relevant when they relate with the rates allocated to dropout and the disapproval (DIOGO et al., 2016). Vasconcelos, Silva and Miranda (2013) identified, in a study with dropout students of course Accounting and Actuarial Sciences Course, that 91% of them worked during the course to seek financial independence and to their help parents in the family support. Whereas 20% claimed that the reason for the dropout is the difficulty reconciling work and study.

The study of Krüger Júnior et al. (2011) reinforces the difficulties of reconciling work and study, as the main reasons for dropout were related to excessive workload (50%) and the incompatibility between work and the university (30%). In their turn, Furtado and Alves (2012), upon relating dropout and income, found in the sample of dropout students, an inversely proportional relationship, i.e., the higher the income grew, the lower were the dropout rates, with the exception when dealing with the last income range (more than 20 minimum wages).

In relation to **individual attributes**, the fact that the choice of course occur early stands out, notably, around 15 years of age, and, many times, without the accompaniment of a specialist in vocational guidance (BUENO, 1993). Cunha, Nascimento and Durso (2014) expressed the importance of actions aimed for guidance. In a study with Accounting Sciences course, the authors identified that 91% of the interviewees reported not having had any help regarding the professional choice, and for 43% of them, the course which they enrolled was their second option.

For Diogo et al. (2016), the market trends influence the permanence in the course.

Bueno (1993) complements that students from areas with low social prestige evade more easily before the first difficulty when compared to students of courses that ensure greater social prestige, with good working conditions and financial success. In this sense, to Vasconcelos, Silva and Miranda (2013), the vocational guidance should be worked in secondary education by means of informative talks, conversations with professionals, research etc. For those who have already enrolled in higher education, presentations can be made about the course structure (DIOGO et al., 2016).

Still, the studies of Dias, Theóphilo and Lopes (2010), Krüger Júnior et al. (2011), Furtado and Alves (2012), Vasconcelos, Silva and Miranda (2013) and Vieira and Miranda (2015) found higher rates of dropout associated to male students. The differences between genders were found statistically by research of Nagai (2015). For the author, the differences of perception are related to the subjectivity, priorities and experiences of each person.

Regarding the **previous schooling**, in accordance with the Special Commission (MEC, 1996), due to the insecurity in the school system, students ingress the higher education with a poor formation, which enhances the learning difficulties, which may lead them to successive failures. Diogo et al. (2016) complement that disparities between High School and Higher Education contribute to the increase in the dropout rates in the initial periods, because, by not being aware of these differences, the entrants can be brought to the feeling of unpreparedness and unfitness, resulting in their dropout.

The research performed by Furtado and Alves (2012) indicates a positive relationship between the quantity of disciplines canceled and the probability of the student to evade. Diogo et al. (2016) point out the need for universities to assist the freshmen to adapt to this new context. Among the actions proposed by the Special Commission (MEC, 1996) to combat the initial difficulties is the offering of activities of pedagogical support for students with difficulties of performance and the achievement of pedagogical actions organized in subjects with high rates of failure.

2.2.2 Goals and commitments

Upon starting the university life, the student carries along the characteristics prior to entry and these are reflected in their integration into the new environment. In this process, there are the commitments with the goal of graduation and with the institution. The first commitment, which aims to achieve the diploma, is inherent to the characteristics of the student, such as motivation and academic ability, which directly affects their university

experience (TINTO, 1975).   Whereas the institutional commitment refers to personal expectation of attending an institution of higher education and its establishment depends on the academic and social characteristics of the university.

In another perspective, Furtado and Alves (2012) found that students married, or divorced individuals have a greater probability of evasion since the external commitments may have a higher weight. Nagai (2015) also found statistically significant differences regarding the types of marital status. In the study of Dias, Theóphilo and Lopes (2010), 3.8% of the 38 interviewed claimed as a cause of dropout personal reasons involving health problems and marriage.

2.2.3 Institutional experiences

The institutional experiences influence the students' level of integration into the system, involving the formal and informal aspects of university life: academic performance, participation in extracurricular activities, interaction between professors and staff and interaction with their classmates.

Studies have shown that the number of evaded students in the first year has been considerably higher than the others (VIEIRA; MIRANDA, 2015). The authors point out that, in this period, the causes are related to the unsuitability to university life and/or professional area. In subsequent years, the causes that led the students to evade were related to insufficient academic performance (VIEIRA; MIRANDA, 2015).

The academic system is related to the physical and of human infrastructure of the institution (TINTO, 1993). According to MEC (1996), the deficiencies in infrastructure contribute to the increase in the dropout rates. In this sense, the research of Krüger Júnior et al. (2011) found that 20% of the evaded students related the dropout decision to the fact that the infrastructure of the institution does not meet their expectations. According to the authors, the ingressing students hoped the environment a more current infrastructure, with internet access, as well as computer labs that allowed access to management tools and software that simulated the practice.

In his turn, Diogo et al. (2016) point out problems related to the pedagogical nature. According to the studies of Krüger Júnior et al. (2011) Vasconcelos, Silva and Miranda (2013), a relative percentage of students evade due to not adapting to the methodologies adopted by the professors, the lack of didactics, not obtaining a good student-teacher relationship and, mainly, by the lack of approximation of theory with practice. For Bueno

(1993) and Diogo et al. (2016), institutions should enhance the role of the professors and encourage them to participate in programs of continuing formation.

The institution, when promoting events of fraternization between professors and students, reception to the ingressing students, offer research and extension programs, technical visits, junior company etc., will be providing the integration of students, the social system, thus contributing to their permanence in the course (TINTO, 1993; KRÜGER JÚNIOR et al., 2011).

According to the study of Nagai (2015), students pointed out as other factors causing the dropout: psychological pressure on the part of the professors; lack of other students; lack of lines of research projects, scientific initiation and extension; shortage of professors; didactics adopted in the classroom; lack of interaction between professor and student; and lack of motivation on the part of the professors.

2.2.4 Academic and social integration

The social and academic integration is the result of institutional experiences lived by the student. The first part of the academic performance and intellectual development of the student refers to the student identification to the standards of the academic system. At this stage, the integration of the student will reflect in his or her grades and in compliance with the rules of the institution. Whereas the social integration is a result of the positive interactions with groups of students and professors/servants, in addition to the participation in extracurricular activities (TINTO, 1975). Tinto (1975) explains the importance of maintaining the student's balance for the systems integration.

Silva et al. (2017) identified that actions taken deeply by the HEIs to combat the dropout are directed: to the vocational guidance; the student's adaptation to university life, the students' integration to the institution and the community; and to their financial condition, being such actions related to the determining factors that influence the students' academic life (TINTO, 1975, 1993; BUENTO, 1993; SILVA FILHO et al., 2007; DIAS; THEÓPHIO; LOPES, 2010).

In this vein, it is verified the importance of investigating the characteristics of the institution and of the students and their influences on dropout. In the next topic, the methodological procedures adopted in this research will be presented.

3 METHODOLOGICAL PROCEDURES

This research is classified as descriptive with quantitative approach, because it attempts to observe, record, and interpret the phenomenon with the use of statistical tools for data analysis, without the researcher's interference.

For this study, microdata were used from the National Census of Higher Education of the years 2015 and 2016 available on the website of the National Institute of Educational Study and Research Anísio Teixeira (INEP). The data from the Census are at the lowest level of disaggregation and the information concerning higher education are presented per Student, per Professor, per Course and per Institution. The period chosen for the analysis stems from the aim to find the most current dropout rates (dependent variable) of public and private Brazilian HEIs of in-class and distance education that offer the Accounting Sciences course. And, by necessity of the calculation methodology, data from the last two censuses were used.

For the calculation of the annual dropout, the methodology employed by Silva Filho et al was used. (2007), which, in turn, used data provided by INEP and whose expression is the following:

$$[E(n) = 1 - (M(n) - I(n)] / [M(n-1) - C(n-1))] \quad (1)$$

This expression compares the number of students enrolled in the previous year $M(n-1)$ who, due to not having obtained approval in the course $C(n-1)$, held their registration in the following year $[M(n) - I(n)]$, i.e., it is the total number of enrolled in the following year $M(n)$ deducted from the total of ingressing students $I(n)$. The result of this equation represents those who maintained their bond with the institution/course. The difference between 1, therefore, refers to the loss of students from one year to another (SILVA FILHO et al., 2007). For Silva Filho and Lobo (2012), this methodology presents a more exact calculation than the other international methodologies and, therefore, provides a more accurate description of reality, so it is used in studies of Instituto Lobo with aggregated data to find the annual dropout rates.

As reported by Silva Filho and Lobo (2012), in the Census of 2009, and also observed in the years 2015 and 2016, the data recorded by type of ingress were not publicized. Thus, in this research it was worked with the total number of ingressing students (ingress by selective process and by other forms) to calculate the average annual dropout of the course.

The selection of the independent variables in the database of INEP happened from the survey of previous studies related to dropout and, subsequently, aligned to the student

integration theory developed by Tinto (1975). After the choice of the variables, the data per Student, per Course, and per Institution were filtered out of the microdata from the National Census of Higher Education, remaining only those referring to the course of Accounting Sciences. Due to the own limitations of the database, it was not possible to bind the variables related to the Professors of the Accounting Sciences Course and, therefore, they were not explored in this study. Thus, the variables used in the analysis proposed for this study are reported in Table 1.

Table 1 The study variables

Acronym	Description	Measurement
EVAGER	HEIs dropout rate	Methodology of Silva Filho et al. (2007)
CATADM	Administrative category of HEI (Public, Private, Special)	Dummies for each category
ORGACA	Academic organization	1 = University; 0 = Others
MODENS	Education Modality	1 = Distance; 0 = In-class
CURGRA	Is the course free?	1 = Yes; 0 = No
TURALU	Shift the student courses the graduation (distance, Morning, Afternoon, Night, Full time)	Dummies for each category
ETNALU	The student ethnicity (White, Non-white, Not declared)	1 = White; 0 = Non- white
SEXALU	Student's sex	1 = Female; 0 = Male
IDAALU	Student's age	Student's age in years
FINEST	Does the student have student financing?	1 = Yes; 0 = No
APOSOC	Does the student receive social support of HEI?	1 = Yes; 0 = No
ENSMED	Type of school that the student attended the high school (public, private, No information)	1 = Public; 0= Private
TCHINT	Workload complete by the student	Percentage of completed hours

Source: Research data.

Consistent with the goal of the research to identify the factors related to the HEIs dropout rates, the variables related to HEI were considered (CATADM, ORGACA), the Course (MODENS, CURGRA) and the Student (TURALU, ETNALU, SEXALU, IDAALU, FINEST, APOSOC, ENSMED and TCHINT).

4 ANALYSIS AND DISCUSSION OF THE RESULTS

Initially, the descriptive statistics of the study variables are presented in Table 2. For the quantitative variables, the means and the standard deviations are related. For the qualitative variables, the absolute and relative frequencies are evidenced.

The general dropout rate mean is relatively high, indicating that 31% of the Accounting Sciences Courses in Brazil evade. Regarding the HEI variables, it is noteworthy that the majority of students study in private HEIs (89%), being the predominant academic organization the university (51%). Concerning the 'Course' variables, it should be noted that

the majority of students study through the in-class modality (69%) and they need to pay for their studies (90%). The 'Students' variables indicate that the largest portion studies in the evening period (62%), white (34%), female (57%), does not have student funding to defray the course (65%), has no social support of HEI (86%), attended high school at a public institution (75%) and that already completed , on average, 43% of the workload of the Accounting Sciences course.

Table 2 Descriptive statistics of the study variables

HEI variables	Type	N	Mean /Frequency Absolute	DP/Frequency Relative
EVAGER	Quantitative	512.971	0.31	0.22
CATADM	Qualitative	514.886	514.886	100%
Public			52.769	10%
Private			457.640	89%
Special			4.477	1%
ORGACA	Qualitative	514.886	514.886	100%
University			260.940	51%
Others			253.946	49%
Course variables	**Type**	**N**	**Frequency Absolute**	**Frequency Relative**
MODENS	Qualitative	514.886	514.886	100%
In-class			354.238	69%
Distance			160.648	31%
CURGRA	Qualitative	513.850	513.850	100%
Yes			51.222	10%
No			462.628	90%
Student Variables	**Type**	**N**	**Mean /Frequency Absolute**	**DP/Frequency Relative**
TURALU	Qualitative	514.886	514.886	100%
Distance			160.648	31%
Morning			22.646	5%
Afternoon			5.539	1%
Night			319.685	62%
Full time			6.368	1%
ETNALU	Qualitative	514.886	514.886	100%
White			174.488	34%
Non-white			164.875	32%
Not declared			163.908	32%
No information			11.615	2%
SEXALU	Qualitative	514.886	514.886	100%
Female			292.562	57%
Male			222.324	43%
IDAALU	Quantitative	514.886	27.7	7.69
FINEST	Qualitative	464.918	464.918	100%
Yes			161.444	35%
No			303.474	65%
APOSOC	Qualitative	514.886	514.886	100%
Yes			74.107	14%
No			440.779	86%
ENSMED	Qualitative	514.886	514.886	100%
Public			388.163	75%
Private			111.479	22%
No information			15.244	3%
TCHINT	Quantitative	514.886	0.43	0.35

Source: Research data.

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To avoid problems with the results interpretation, it was decided to exclude those observations which do not contain information or were inaccurate. The ETNALU and ENSMED variables, for example, have categories "No information" and/or "not declared". Thus, the total number of observations fell from 514,886 to 291,418. This represents a decrease of approximately 43% of the total initial data. Despite this, it is emphasized that the number of observations is still significant to draw robust conclusions about the impacts of the HEI factors, the course and the students in the dropout rate.

After this treatment, relationship between the dropout (dependent variable) and the HEI factors were analyzed, the course and the students (independent variables) by means of multiple linear regression in cross-section. However, when testing the normality of residues, the Shapiro-Wilk and Shapiro-Francia tests ($p < 0.05$) indicated that the regression model did not meet this assumption. Thus, the Binomial Logistic Regression was used. Therefore, the dependent variable was divided from the median, in two categories: (a) HEI with high rates of dropout (median of the maximum value); and (b) HEI with low dropout rates (median to minimum value). Equation (2) represents the logistic model:

$$EVAGER = g(x) = ln\left[\frac{\pi(x)}{1-\pi(x)}\right] = \beta_0 + \beta_1 CATADM_{1i} + \beta_2 ORGACA_{2i} + \beta_3 MODENS_{3i} + \beta_3 CURGRA_{3i} - \beta_4 TURALU_{4i} + \beta_5 ETNALU_{5i} + \beta_6 SEXALU_{6i} + \beta_7 IDAALU_{7i} + \beta_8 FINEST_{8i} + \beta_9 APOSOC_{9i} + \beta_{10} ENSMED_{10i} + \beta_{11} CATADM_{11i}$$

(2)

It should be emphasized that the qualitative variables were transformed into *dummies*, as instructed by Favero (2015). In addition, due to multicollinearity, CURGRA variable and the categories "Distance" and "Full time" of variable TURALU were omitted. The data were analyzed by means of Stata v.13. The results are shown in Table 3.

Table 3 Results of the binomial logistic regression

EVAGER	Coefficient	EP	z	p
CATADM - Private	1.9386	0.1735	11.17	0.000
CATADM - Special	-0.006	0.1831	-0.03	0.974
ORGACA	0.7523	0.0096	78.49	0.000
MODENS	2.5418	0.0994	25.56	0.000
TURALU - Morning	0.9477	0.1007	9.41	0.000
TURALU - Afternoon	1.1386	0.1134	10.04	0.000
TURALU - Night	0.5285	0.0987	5.35	0.000
ETNALU	-0.2567	0.0087	-29.50	0.000
SEXALU	-0.0439	0.0088	-5.01	0.000
IDAALU	0.0248	0.0006	38.77	0.000
FINEST	-0.0602	0.0091	-6.60	0.000

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EVAGER	Coefficient	EP	z	p
APOSOC	1.1244	0.0227	49.63	0.000
ENSMED	0.0538	0.0105	5.11	0.000
TCHINT	-0.7491	0.0139	-54.07	0.000
CONSTANT	-3.2254	0.2007	-16.07	0.000
N	291.418	LR CHI2(14)		82.547
PSEUDO R2		PROB CHI2		0.000
LOG LIKELIHOOD	-158,882			

Source: Research data.

The results indicate that the HEI variables have significant impact on the dropout rates. The positive and significant coefficient (1.9386) of CATADM - Private shows that the EIS of private initiative have greater propensity to have more high dropout rates than low ones. This suggests that, in the private sphere, there are more evasion of students in the Accounting Sciences course compared to the public sphere. This result is consistent with the study by Silva et al. (2007), which argues that, due to the private HEIs hold the majority of students in higher education, the weight on the average is higher, raising the dropout rate.

On the other hand, there was no statistically significant difference between the dropout rate of public and special HEIs (p = 0.974), which indicates that the dropout in the HEI, whose administrative category is special, is similar to the public HEIs dropout. Additionally, the EIS with academic organization considered non-university (faculty, university centers, etc.) are more likely to have high dropout rates in relation to the EIS with university academic organization (coef. = 0.7523; p < 0.00). This relationship was also identified in the study by Silva et al. (2007), which found that the colleges represented the segment with a higher dropout rate (29%) compared with the universities (19%) and university centers (19%).

A possible explanation for this finding is that universities are more efficient in retaining students, being important to interpret the results as a whole. Upon assessing the variables CATADM and ORGACA, it is noted that the public universities represent the type of HEIs that have a lower probability of presenting high dropout rates. Beyond the point of view of efficiency, it is possible that students are more interested in the conclusion of the undergraduate course in public universities than if they were in private ones, since it is assumed that the admission process is more competitive and arduous than in private HEIs, generating greater motivation (SILVA FILHO et al., 2007).

Another possible explanation involves the reputation of public universities, which is generally higher than that of private ones, in addition to their implications for the labor market. It is possible to understand that obtaining a degree in a public university provides the

future worker, in general, greater likelihood of achieving employment (BUENO, 1993). Therefore, the public universities students would tend to employ more efforts to conclude the graduation, thus reducing the dropout rates.

With respect to the course variables, it is realized that these are relevant to determine the level of dropout rates. Specifically in relation to the type of education, the positive and significant coefficient (2.5418) indicates that EaD has a higher probability of obtaining high dropout rates in comparison with in-class education. According to SEMESP (2016), the dropout in distance education was 32%, and in in-class courses, 25.4%. The dropout in EaD is a reality in Brazil and in the world, and has progressively, called the attention of educational managers, since it represents higher costs for the HEI, especially, in the case of fixed costs. A possible explanation for this finding is that the classroom education brings more motivation or, at least, encourages more students to perform the undergraduate course, while, in the EaD, the student needs to be more disciplined to avoid the non-completion of the course.

The shift in which the student makes the undergraduate course is also relevant to explain the dropout level. In this sense, it is realized greater dropout in HEIs where the Accounting Sciences courses are offered in the afternoon shift (1.1386) in relation to the full time education (category omitted). This information matters because academic managers can make decisions to offer Accounting Sciences courses only in the periods when the dropout is lower, increasing the efficiency of the education service. This result is similar to the studies of Silva et al. (2017) and Dias, Theóphilo and Lopes (2010), who found higher dropout rates for the night period. On the other hand, Vieira and Miranda (2015) found higher dropout at full time shift.

Similarly to the variables of HEI and the course, the variables of students are relevant to establish the dropout levels. With respect to ethnicity (ETNALU), it should be noted that students who consider themselves whites evade less than those that report being non-whites. The negative and significant coefficient (-02567) suggests that the student's ethnicity may be a factor that interferes with the course completion, especially when it is associated with the income and the opportunity of access to quality basic education. To explore in greater depth this result, cross table was elaborated (not reported) of the variable ETNALU with ENSMED and it was found that 24.73% (42,186) of white students studied the high school in private schools, while this percentage is 21.42% (34,537) for the non-whites. This is an indication that the proportion of white students who had greater access to quality basic education is

higher than the proportion of non-white students. Considering that the basic formation can affect the persistence of students in higher education (DIOGO et al., 2016), it is reasonable to assume that a poor basic education will lead the student to evade.

The students' sex (SEXALU) It is also important to determine the HEIs dropout rate. The negative and significant coefficient (-0,0439) indicates that female students reduce the likelihood of the HEI to obtain high dropout rates. This is arguable   from the point of view that the individuals' sex determines behavior. Men and women, due to having different levels of motivation and persistence, can take different decisions (NAGAI, 2015). This can occur with academic decisions aimed to academic dropout. The findings of Dias, Theóphilo and Lopes (2010), Krüger Júnior et al. (2011), Furtado and Alves (2012), Vasconcelos, Silva and Miranda (2013) and Vieira and Miranda (2015) found higher rates of dropout associated to male students.

The positive and significant coefficient of the variable IDAALU points out that students of higher age increases the likelihood of the HEI to obtain greater dropout rate, with multiple explanations for this result. First, older students do not have the same motivation of younger students due to various personal commitments and/or professionals already undertaken. Furtado and Alves (2012) identified that married or divorced individuals have a greater probability of evasion since the external commitments may have a higher priority. Secondly, older students may not have had a basic quality formation, missing them essential knowledge to achieve complete higher education (MEC, 1996). Thirdly, older students may be attending the second graduation, which will not always complement the income or meet professional goals, influencing, thus, in his or her commitments with graduation and with the institution (BUENO, 1993; TINTO, 1975; DIOGO et al., 2016). Fourthly, it is common that the students' profile in EaD is individuals who are more experienced and who are already inserted in the job market and, therefore, may face difficulties in reconciling the studies with the work and the external commitments (DIAS; THEÓPHILO; LOPES, 2010; KRÜGER JÚNIOR et al., 2011; FURTADO; ALVES, 2012; VASCONCELOS; SILVA; MIRANDA, 2013; NAGAI, 2015).

It is also noticeable, either by significant and negative coefficient (-0,0602), that the student financing collaborates to reduce the university dropout. Students who do not have funding to defray the undergraduate course are more likely to evade (SILVA FILHO et al., 2007; FURTADO; ALVES, 2012; DIOGO et al., 2016). According to the report of SEMESP (2016), in 2014, the private HEIs that have relied on the FIES financing presented, in the first

year of the course, a relatively low dropout rate (7.4%) compared with those that did not have this type of funding (25.9%). Therefore, the policy of financing of higher education, particularly in relation to the responsibilities of the government, is important to establish the HEI efficiency.

The variable APOSOC was positively correlated with the dropout level (1.1244), suggesting that students who have social support of the HEI tend to evade more, having been expected of this variable an inverse relationship (KRÜGER JÚNIOR et al., 2011; DIAS; THEÓPHILO; LOPES, 2010; FURTADO; ALVES, 2012; DIOGO et al., 2016). A possible explanation is that students who are looking for social support are naturally already in a state of need and, therefore, they are more prone to evade. This is another point that deserves further investigation.

In turn, the variable ENSMED showed positive and significant coefficient (0.0538), indicating that students who attended secondary education in public schools tend to evade more in higher education than students who attended private schools. This occurs because there is the assumption that the elementary and m high school of private schools are of better quality than the public schools. Therefore, students from private schools that enroll in higher education will find it easier to conclude the undergraduate course when compared to students from public schools, because the first had more robust basic formation (MEC, 1996; DIOGO et al., 2016).

Finally, the variable TCHINT obtained negative and significant coefficient (-0,7491). This finding argues that students who completed more hours of undergraduate course tend to evade less than students with high rates of workload to be completed (FURTADO; ALVES, 2012). This result is expected, considering that it is reasonable to assume that students of the last periods are less likely to withdraw from the course than those who are in the beginning. According to Vieira and Miranda (2015), the dropout in the first periods is related to the adaptation to university life and/or professional area.

5 CONCLUSION

The study aimed to analyze the factors that are related to the dropout in the Accounting Sciences courses. To do so, data were collected from the National Census of Higher Education, which made it available the calculations of dropout rates of HEIs by means of the methodology of Silva Filho et al. (2007). In addition, independent variables related to HEI, the course and the students were collected.

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In general, all variables considered in this study showed to be statistically relevant to determine the dropout level of IHES referring to Accounting Sciences courses. It is noteworthy that dropout in the private non-university HEIs is superior to the public and special ones with university administrative category.

The courses in the modality EaD showed higher probability of high rates when compared to in-class courses. These are issues related to reputation of public and private higher education and the types of students' profile in relation to their goals and commitments. The student with the goal of achieving the diploma has motivation and academic ability which can directly reflect in their university experience and dropout.

The student, upon starting the university life, carries along the characteristics prior to the ingress and these are reflected in his or her integration into the new environment. It was found that the variables related to the pre-university period (family context, individual attributes and previous schooling) have a strong influence on dropout.

For the causes external to the institution, actions should be promoted to remedy the financial difficulties such as student finance offer and discounts (private HEIs) and scholarships and social support (EIS). Vocational guidance becomes relevant, which may be carried out in High School through informative talks, conversations with professionals, among other actions which could be undertaken by the educational institutions that offer higher education courses, which could occur in partnership with the high school institutions.

Thus, the results identified in this study may contribute with academic managers (directors and course coordinators) in the reformulation of the pedagogic project and the course syllabus, as well as in the offering of activities of pedagogical support to students with low performance, as well as pedagogical actions proposed for the subjects with high rates of failure and other activities in the accounting education sphere in order to minimize the dropout. It is emphasized, in the same way, the importance of the governmental role in offering and structuring of student financing policies for the dropout reduction, especially in higher education and in the provision of quality basic education.

Three main limitations for research are raised: (i) It was not possible to evaluate the effect of variables professors on the dropout as a result of the restriction on the data bases; (ii) there were variables with inaccurate information, such as "not declared" or "no information"; and (iii) it was not possible to analyze data through multiple linear regression. Despite this, the attempts of reduction of problems arising from these limitations are reflected in the methodological choices that authors have done, and which are described throughout the

work.

Finally, in addition to the suggestions already exposed, future studies are suggested that include professors, factors which could affect the dropout rates of HEIs, as well as increase the analysis period (longitudinal study). In addition, it would be instructive to the literature, the analysis of the determining factors in the light of other theoretical approaches.

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