




CORRELATION BETWEEN SOCIAL-DEMOGRAPHIC FACTORS AND BURNOUT SYNDROME IN THE STUDENT BODY

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ABSTRACT

This study aims at analysing the relationship of social-demographic variables with the burnout syndrome (BOS) prevalence in the student body of the Administration course in a Federal Institute of Education in North-eastern Brazil. To this end, the BOS prevalence level was measured through the Maslach Burnout Inventory-Student Survey (MBI-SS), taking into account gender, marital status and number of children in a sample with 189 students. The data were analysed with the help of the Statistical Package for the Social Sciences (SPSS) IBM software, version 24.0. Based on the *t* test, which is used to identify whether there were statistical differences among the population means, the results show that the variable concerning gender presented a statistic difference in the dimension concerning emotional exhaustion. In the variable concerning children, a higher level of significance was identified in the dimension concerning reduced professional efficacy. On the other hand, the variable concerning marital status presented no relationship with the BOS dimensions. This means that the factors concerning gender and children are presented as those associated to the syndrome's development and prevalence, unlike marital status.

Key words: Burnout Syndrome. Student Body. Administration Course.

CORRELACIÓN ENTRE FACTORES SOCIODEMOGRÁFICOS ASOCIADOS AL SÍNDROME DE QUEMADURA EN ESTUDIANTES

RESUMEN

El objetivo de este estudio es analizar la relación de las variables sociodemográficas con la prevalencia del síndrome de burnout (BS) entre los estudiantes de un curso de Administración de Empresas IFES en la región semiárida del noreste de Brasil. Con este fin, el nivel de prevalencia de BS se midió utilizando la Encuesta de Inventario de Estudiantes Burnout de Maslach (MBI-SS) y se identificaron el sexo, el estado civil y el número de hijos de una muestra de 189 estudiantes. Los datos se analizaron

utilizando el software estadístico IBM Statistical Package for Social Sciences (SPSS) 24.0. Con base en la prueba t, utilizada para identificar si hubo diferencias estadísticas entre dos medias poblacionales, los resultados indican que la variable de género presentó una diferencia estadística en la dimensión de agotamiento emocional. En la variable niños, se identificó un mayor nivel de significación en la dimensión de efectividad profesional reducida. Por el contrario, la variable de estado civil no estaba relacionada con ninguna de las dimensiones SB. Esto significa que los factores sexo y niños se presentan como factores asociados con el desarrollo y la prevalencia del síndrome, mientras que el estado civil del estudiante no.

Palabras clave: Síndrome de Burnout. Estudiantes. curso de negocios.

CORRELAÇÃO ENTRE OS FATORES SOCIODEMOGRÁFICOS ASSOCIADOS À SÍNDROME DE BURNOUT EM DISCENTES

RESUMO

Neste estudo, tem-se por objetivo analisar a relação de variáveis sociodemográficas com a prevalência da síndrome de *burnout* (SB) nos discentes do curso de Administração de uma Ipes no semiárido do Nordeste Brasileiro. Para tanto, mensurou-se o nível de prevalência da SB, por meio do *Maslach Burnout Inventory-Student Survey* (MBI-SS), levando em consideração o sexo, o estado civil e a quantidade de filhos de uma amostra de 189 estudantes. Os dados foram analisados com o auxílio do software estatístico IBM *Statistical Package for the Social Sciences* (SPSS) 24.0. Com base no teste *t*, utilizado para identificar se houve diferenças estatísticas entre duas médias populacionais, os resultados apontam que a variável sexo apresentou uma diferença estatística na dimensão exaustão emocional. Na variável filhos, foi identificado um maior nível de significância na dimensão reduzida eficácia profissional. Em contraponto, a variável estado civil não apresentou relação com nenhuma das dimensões da SB. Isso significa que os fatores sexo e filhos apresentam-se como aqueles associados ao desenvolvimento e à prevalência da síndrome, enquanto o estado civil não.

Palavras-chave: Síndrome de *Burnout*. Discentes. Curso de Administração.

Introduction

The burnout syndrome (BOS), also known as physical and mental depletion, can be characterised by the response of the chronic exposition to stressful agents. Since the person has no sufficient tools to face them, they end up developing it. This pathology is composed of three dimensions: emotional exhaustion, depersonalisation and low professional achievement (FERNANDES; NITSCHKE, 2018; MASLACH; JACKSON, 1981; VIANA *et al.*, 2014).

The burnout expression was described in 1974 by Doctor Freudenberger. The author describes BOS as an error that comes from exhaustion and tiredness caused by excessive work, and which makes individuals become idle in their activities (PORCIUNCULA, 2015).

According to Fogaça *et al.* (2012), this syndrome has been considered as a relevant issue of mental health that has been studied in several countries. In the past few years, Brazil started researching about it as well (SCHUSTER; DIAS, 2018). However, even with all the interest around it, BOS is still new to the population, generally speaking (SILVA *et al.*, 2015).

According to Llorent and Calzado (2016), BOS has currently been the aim of several investigations due to its major importance and to its high impact on the professionals' lives. Among the several variables that explain this trend in the studies, the increase in stress inside and outside the workplace has stood out.

Furthermore, although BOS is more emphatically present in the labour context, it is also present in the academic environment (GOULART, 2014; VIANA, 2014). Since it is a space of interaction between teaching and learning that is highly demanding and competitive, the university can be considered as a generator of stress to their students (BARLEM, *et al.*, 2013; VIANA, *et al.*, 2014). Thus, some studies address this topic, such as DA MOTA *et al.*, 2017; LOPES; GUIMARÃES, 2016; AGUIAR; AGUIAR; MERCES, 2018; DELALATA *et al.*, 2016; PELEIAS *et al.*, 2017.

The BOS assessment in the student body encompasses three dimensions, according to Maslach's social-psychological perspective and her collaborators in the model by Maslach and Jackson (1981): Emotional Exhaustion, Disbelief and Reduced Professional Efficacy. The first one refers to the fact that the student feels exhausted due to study demands; the second one concerns a cynical and detached attitude of the student body in relation to study; the last one is characterised by the feeling of incompetency from these individuals concerning their role as students (CARLOTTO; CÂMARA, 2006; FOGAÇA, *et al.*, 2012).

Several factors may be considered as stressful factors within the academic environment. These can be harmony between work and study, the accumulation of

evaluations, psychological pressures for grades, and the observance of deadlines and course terms (AGUIAR; AGUIAR; MERCES, 2018; BARLEM *et al.*, 2013; BENAVENTE *et al.*, 2014; FERRAZ; CARDONA; MONTE, 2009; PINTO *et al.*, 2018).

Besides these factors, BOS may also be associated to social-demographic factors. This work chose to evaluate three aspects of this type of cause, which are gender (AGUIAR; AGUIAR; MERCES, 2018; CAMPOS *et al.*, 2012; GONÇALVES, 2016; LOPEZ *et al.*, 2017; MEYER, *et al.*, 2012; PINTO *et al.*, 2018), marital status (AGUIAR; AGUIAR; MERCES, 2018; GONÇALVES, 2016) and children (AGUIAR; AGUIAR; MERCES, 2018; VIANA *et al.*, 2014).

According to Carlotto (2011), researching about this topic contributes to the study on the theme nationwide, since the production of researches on BOS in Brazil is still considered scarce when compared to the large international collection. In the social sphere, the topic is relevant when it checks the damages that can be caused by BOS concerning the individual's well-being and life quality, and also the social costs that come from this condition. As for the institutional sphere, the Federal Institute that was investigated also benefits from this study, since the results may collaborate to improvements concerning the psychic health of their student body, enabling the development of teaching methodologies that allow the inclusion of different social-demographic profiles.

This way, as a research problem, the following question arises: what is the relationship between social-demographic factors and BOS prevalence in the student body of the Administration course? Therefore, in order to answer this question, to decrease the literature shortage about the topic in Brazil and to contribute to the social and institutional sphere, the objective of this work is to analyse the relationship between the social-demographic variables with the BOS prevalence in the student body in the Administration course in a Federal Institute in the semiarid region of Northeastern Brazil. In order to achieve that, it was necessary 1) to measure the level of burnout prevalence in the students from the Federal Institute's Administration course, 2) identify the social-demographic variables such as gender, number of children and

marital status, and 3) relate the social-demographic variables identified to the BOS prevalence level.

The present study is based on the following items: introduction, concept, dimensions, BOS-related factors, methods used and results found from the tools applied. Then, the conclusions, recommendations for future studies and the bibliographic references used are presented next.

1. Theoretical Framework

Studies show that the BOS prevalence may be associated to social-demographic factors, such as the individuals' gender, marital status and whether they have children or not. The following topics will explain the results of the researches that investigated the relationship of the syndrome with these causes. However, it should be mentioned that, due to the shortage of studies carried out with the student body concerning the variables marital status and number of children, this study chose to include analyses that were also performed with the teaching body and/or other occupational groups in order to improve this review.

1.1. Gender

Campos *et al.* (2012) carried out a study with the objective to estimate the BOS prevalence in 300 dentistry students from the School of Dentistry of Araraquara – UNESP, São Paulo, Brazil, in which the MBI-SS was used as a collection tool. In this research, it was possible to see there is a higher prevalence of BOS and its components in males from the student body.

Furthermore, Lopez *et al.* (2017) performed a study which aimed mostly at analysing the relationships between the social-demographic characteristics, the academic burnout and the academic students' psychological welfare in a university from Barranquilla, Colombia. A quantitative approach and a descriptive-correlational research were suggested. The Unidimensional Scale of Student Burnout was used as a tool to measure the academic burnout in a population of 452 individuals. According to the results, and concerning gender, males are more likely to suffer from the

academic burnout syndrome.

Pinto *et al.* (2018), on the other hand, performed an integrative review about the prevalence and the factors associated to burnout in dentistry, medical and nursing students. For this purpose, they searched in the Pubmed database in 2017. This research enabled to identify that, although no meaningful differences related to gender were found, males presented higher scores in the Reduced Professional Efficacy than females.

These studies' results (CAMPOS *et al.*, 2012; LOPEZ *et al.*, 2017; PINTO *et al.*, 2018) are justified by the fact females look for help and familiar support more frequently than males, besides having a better support from society. Thus, it is assumed that the fact they are more open to expressing their weaknesses contributes to the syndrome's non-intensification.

On the other hand, Meyer *et al.* (2012) performed a study with the objective to analyse life quality and occupational stress in senior medical students. The sample was composed of 302 students from public and private universities from the state of Santa Catarina, Brazil. These students answered a self-applicable questionnaire.

Through this evaluation, it was possible to identify that, concerning the difficulties to reconcile internship with study, females present more difficulties with full-time dedication when compared to males. Women present more difficulties to manage their time and keep a high load of academic activities. Consequently, they are more prone to stress and work depression. This investigation identified higher scores in males concerning psychological domain. Furthermore, it was evident that females tend to suffer more from psychological stressful factors, such as depression, mourning, anxiety and sadness.

Aguiar, Aguiar and Mercedes (2018) also carried out a study with the objective to describe the prevalence of BOS in medical students from the Bahia State University (UNEB) from the 1st to the 8th terms. The idea was to check whether there are social-demographic, academic and psychosocial variables associated to the syndrome. A questionnaire was applied to survey these causes, besides MBI-SS. The result supports Meyer *et al.* (2012) since it showed a higher prevalence of BOS in female

students.

However, with the objective to compile and systematise the information concerning BOS in medical students in order to see the state of art and increase the awareness in medical schools, Gonçalves (2016) carried out a work that presented different results. The study used the Pubmed database to search for articles that have been published in the last ten years based on the following search terms: Burnout; Burnout Syndrome; Medicine; Students; Portuguese. The author of this study stated that the association of burnout with gender is not clear, since there are contradictory data in different studies. In some of them, there is a higher prevalence in males; in others, BOS prevails in females. There were also results with no statistically meaningful differences in both males and females.

In short, there is no common ground in the studies presented concerning whether the prevalence of the syndrome is higher in males or in females. This lack of agreement justifies the need to check whether there is a meaningful difference in the prevalence. This led to the establishment of the following hypotheses:

H₁: The prevalence of emotional exhaustion is different for the female students in relation to males.

H₂: The prevalence of disbelief is different for female students in relation to males.

H₃: The prevalence of the reduced professional efficacy is different for female students in relation to males.

1.2. Marital status

In her master's degree dissertation, Gonçalves (2016) points out that single medical students present levels of emotional exhaustion and burnout that are meaningfully higher in relation to those who are married. Similarly, studies carried out with health professionals (SÁ; SILVA; FUNCHAL, 2014; PANTOJA, 2017) also presented the same results and highlighted that the BOS prevalence is higher among single or separated individuals, that is, among those who are not married or who are not in a common-law marriage. Such results suggest that those who are married or in

a common-law marriage may experience feelings of responsibility in the family, besides emotional support, which results in a higher resistance against burnout.

On the other hand, based on empiric evidences obtained from a study carried out with 216 UNEB medical students, Aguiar, Aguiar and Mercedes (2018) state that there is higher syndrome prevalence in married students. Complying with these data, Carlotto (2011) noticed that teachers from schools in the greater Porto Alegre, in the state of Rio Grande do Sul, Brazil, who do not have a steady relationship, are more pleased at work. This way, the married students were also more likely to developing the syndrome.

Unlike the findings from the studies previously presented, Carlotto and Palazzo (2006) and Santos (2015) highlighted that there are no meaningful differences in any of the BOS dimensions concerning the demographic variable of marital status. It should be mentioned that these two studies were not carried out with students but with teachers. As of today, there are no reports of this kind of study carried out with students.

In short, the two studies that were carried out with students (GONÇALVES, 2016; AGUIAR; AGUIAR; MERCES, 2018), besides those carried out with employees and which relate marital status to BOS, also presented inconclusive results. This way, for the purpose of this article, here are the following hypotheses:

H4: The prevalence of emotional exhaustion is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.

H5: The prevalence of disbelief is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.

H6: The prevalence of reduced professional efficacy is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.

1.3. Children

Viana *et al.* (2014) performed a study with the objective to determine the BOS prevalence and its dimensions. They evaluated its relationship with anxiety disorder and with the level perception of life quality among students of health sciences in a higher education institution in the city of Montes Claros, state of Minas Gerais, Brazil. A total of 352 students took part and they responded to the following tools: MBI-SS, Anxiety Inventory, State-Trait Anxiety Inventory, WHOQOL-Bref, The Brazilian Criteria for Economic Classification, and the Social-Demographic Questionnaire. Thus, there was a minor chance of BOS syndrome among the students who stated they had no children. The authors justify this result because they believe the act of taking care of a child may be characterised as a source of gratification and of a sharper time delimitation of academic stressful agents.

Besides, Aguiar, Aguiar and Mercedes (2018) noticed there is higher syndrome prevalence among students who have no children. Likewise, a study carried out with nursing professionals pointed out that people who have no children are negatively associated to the dimension concerning emotional exhaustion (SÁ; SILVA; FUNCHAL, 2014).

Similarly, based on a research that took place in Porte Alegre, in the state of Rio Grande do Sul, Brazil, Carlotto and Palazzo (2006) concluded that teachers who have children presented lower burnout levels in the three dimensions. In another similar study, Carlotto (2011) confirms that students without children face more emotional exhaustion and depersonalisation than those who are parents. However, unlike their previous analysis, she identified that these professionals who have children present lower job achievement.

In short, the results of the five studies presented, with only two being specifically performed with students, showed that individuals who have children have lower chances of developing BOS. In only one research, the results showed that the individuals who have children present lower job achievement. Thus, in the face of the results presented, here are the following hypotheses:

H₇: The prevalence of emotional exhaustion is different for the students who have children in relation to those who don't.

H₈: The prevalence of disbelief is different for the students who have children in relation to those who don't.

H₉: The prevalence of reduced professional efficacy is different for the students who have children in relation to those who don't.

2. Methodological Procedures

With the objective to reach the objectives suggested, a descriptive study of quantitative approach and cross-sectional design was performed with students of the Administration course in a Federal Institute located in the semiarid region of North-eastern Brazil.

The data concerning the students were supplied by the course administration office based on the criteria described. The sample size was calculated by considering a total of 424 Administration students who were regularly enrolled in the first semester of 2018. From this total, 189 students from every semester composed the sample. This number is considered as representative according to the method based on the confidence level of 95% and estimation error of 6% (RICHARDSON, 2014).

The instrument applied to measure the BOS dimensions was the Maslach Burnout Inventory-Student Survey (MBI-SS), besides questions pertaining to the participants' gender, marital status and number of children. The version suggested by Carlotto and Câmara (2006) was used. It is specific for students and was translated and adapted for use in Brazil from the tool designed by Schaufeli *et al.* (2002). Such tool is composed of 15 statements about feelings and attitudes that encompass the three BOS fundamental aspects: Emotional Exhaustion (EE), Disbelief (DE) and Reduced Professional Efficacy (rPE).

Concerning data analysis, and after the questionnaires were collected, the items were coded and the questions were tabulated in the Excel software. Then, the data were processed in the Statistical Package for the Social Sciences (SPSS) IBM statistic software, version 24.0.

Next, the tool's reliability (MBI-SS) analysis was performed through the Cronbach's alpha and the following values were found: EE ($\alpha = 0,800$), DE ($\alpha = 0,742$) and rPE ($\alpha = 0,741$). Therefore, the data obtained through MBI-SS presented acceptable reliability, since the value accepted for the Cronbach's alpha is 0,70 (MAROCO; GARCIA-MARQUES, 2006).

In order to evaluate whether the distribution is normal, the Kolmogorov-Smirnov (KS) test was used and it presented the following significance values: EE ($\rho = 0,272$), DE ($\rho = 0,472$) and rEP ($\rho = 0,094$), with a total of $\rho = 0,387$. Considering that all these number are above 0,5, it can be stated that these research data present a normal distribution.

In the latter case, the distribution was characterised as normal for all the BOS dimensions. Then, the student *t* test was applied. It was used to identify whether there was a variation among the burnout level in each group of factors. For that purpose, each variable was divided into two groups: gender (male and female), marital status (single/divorced/widowed and married/in a common-law marriage), and children (yes/no).

According to Larson and Farber (2016), the *t* test is a hypothesis based on two samples. It can be used to test the difference among the two population means. The null hypothesis (H_0) is a statistic possibility that normally states there is no difference among the parameters of the two populations. The alternate hypothesis (H_a), on the other hand, is a statistic supposition that is true when H_0 is false. If $\alpha < 0,050$, then the alternate hypothesis is accepted, that is, there is a variation among the population means. If $\alpha > 0,050$, the null hypothesis is kept and there are no differences among the groups. In this study, the *t* test was used to identify whether there was a variation among the burnout level in each group of factors. With the objective to sequence the *t* test, the following hypotheses were developed in order to guide the study:

Hypotheses
H1: The prevalence of emotional exhaustion is different for the female students in relation to males.
H2: The prevalence of disbelief is different for female students in relation to males.
H3: The prevalence of the reduced professional efficacy is different for female students in relation to males.
H4: The prevalence of emotional exhaustion is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.
H5: The prevalence of disbelief is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.
H6: The prevalence of reduced professional efficacy is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.
H7: The prevalence of emotional exhaustion is different for the students who have children in relation to those who don't.
H8: The prevalence of disbelief is different for the students who have children in relation to those who don't.
H9: The prevalence of reduced professional efficacy is different for the students who have children in relation to those who don't.

Table 1 – Research hypotheses.
 Source: Research data (2018).

3. Data Presentation and Analysis

The results showed a slight predominance in females, with 55%. From the participants, 75% are single, 21,3% are married or in a common-law marriage, 3,2% are divorced, and only 0,5% are widowed. Among the students who have no children, there is a predominance of 88,4%.

As for the results of an analysis about the BOS prevalence, they show that, among the students investigated, only 8,5% present a low level in all three dimensions, and 31,2% present a high level in only one of them. However, 50,2% of the students show a high level in two dimensions, and 10,1% show a high level in the three dimensions. Special attention is given to the high number of students found emotionally exhausted, which corresponds to 66,1%, as well as to those found with reduced professional efficacy, with 71,4%.

By analysing the three dimensions, it is possible to state that the BOS prevalence in students of the Administration course tends to be considerably high, based on the research findings (exhaustion = 66,1%; reduced professional efficacy = 71,4%), that is, they are highly prone to developing such mental issue.

3.1. Hypotheses Tests

As for the variable concerning gender, there are differences in the mean comparative among the groups. Females presented higher means in comparison to males, according to Table 2. They also present a higher level of significance in the dimension concerning EE ($\alpha = 0,026$), which, consequently, interfered in the total ($\alpha = 0,049$). This shows that they feel more emotionally exhausted than the males and, as such, are more likely to develop BOS.

		Levene's Test		t test for equality of means						
		F	Sig.	T	GI	Sig. (2-ext.)	Mean difference	Standard error difference	Confidence Interval of Difference 95%	
									Inf.	Sup.
EE	*	,062	,803	-2,239	187	,026	-1,967	,879	-3,701	-,234
	**			-2,230	176,675	,027			,882	-3,708
DE	*	1,170	,281	-,207	187	,836	-,183	,884	-1,928	1,561
	**			-,209	183,715	,835			,878	-1,916
rPE	*	2,883	,091	-1,178	187	,240	-,983	,834	-2,628	,663
	**			-1,156	163,135	,249			,850	-2,661
Total	*	,151	,698	-1,983	187	,049	-3,133	1,580	-6,250	-,017
	**			-1,994	182,786	,048			1,572	-6,234

Equal variances assumed*; Equal variances not assumed**

Table 2 – t test for independent samples – Variable concerning students' gender

Source: Research data (2018).

As for the variable concerning marital status, no meaningful difference was identified between the two population means, as shown in Table 3. This means that the fact the students are either married or single has no influence on the development of the syndrome.

		Levene's Test		t test for equality of means						
		F	Sig.	T	GI	Sig. (2-ext.)	Mean difference	Standard error difference	Confidence Interval of Difference 95%	
									Inf.	Inf.
EE	*	,000	,993	-,859	187	,391	-,872	1,016	-2,876	1,131
	**			-,871	83,361	,386			1,001	-2,864
DE	*	,721	,397	-,435	187	,664	-,439	1,010	-2,433	1,554
	**			-,419	76,421	,676			1,048	-2,527
rPE	*	,822	,366	-,451	187	,653	-,431	,956	-2,318	1,455

	**			-,440	77,955	,661		,980	-2,383	1,520
Total	*	,701	,404	-,958	187	,339	-1,743	1,820	-5,333	1,847
	**			-,926	76,817	,357		1,882	-5,491	2,005

Equal variances assumed*; Equal variances not assumed**

Table 3 – *t* test for independent samples – Variable concerning students' marital status in the second semester of 2017.

Source: Research data (2018).

Concerning the variable children, the results showed that there was a difference among the groups in the mean comparative. The students who have children, no matter the number, presented a higher significance level in the dimension concerning rPE ($\alpha = 0,022$), as shown in Table 4. This means that the students who are parents have higher reduced professional efficacy and, consequently, a higher probability to develop the syndrome in comparison with those who have no children.

		Levene's Test		<i>t</i> test for equality of means						
		F	Sig.	T	GI	Sig. (2-ext.)	Mean difference	Standard error difference	Confidence Interval of Difference 95%	
									Inf.	Inf.
EE	*	1,176	,280	,448	187	,655	,618	1,380	-2,105	3,341
	**			,401	25,320	,692		1,543	-2,557	3,793
DE	*	,126	,723	1,201	187	,231	1,642	1,367	-1,055	4,338
	**			1,136	26,021	,266		1,445	-1,328	4,612
rPE	*	1,551	,214	-2,318	187	,022	-2,968	1,281	-5,495	-,442
	**			-2,724	30,120	,011		1,090	-5,194	-,743
Total	*	4,567	,034	-,286	187	,775	-,708	2,476	-5,592	4,175
	**			-,235	24,408	,816		3,018	-6,932	5,515

Equal variances assumed*; Equal variances not assumed**

Table 4 – *t* test for independent samples – Variable concerning children of students in the second semester of 2017.

Source: Research data (2018).

Based on the *t* test, which is used to identify whether there were statistic differences among the population means, it was possible to see that, in relation to the variables concerning gender and children, the hypotheses have been only partially confirmed for a few BOS dimensions. As for the variable concerning marital status, the hypotheses have not been confirmed. These results are abridged in Table 5.

Hypotheses	Status
H ₁ : The prevalence of emotional exhaustion is different for the female students in relation to males.	Confirmed
H ₂ : The prevalence of disbelief is different for female students in relation to males.	Not confirmed
H ₃ : The prevalence of the reduced professional efficacy is different for female students in relation to males.	Not confirmed
H ₄ : The prevalence of emotional exhaustion is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.	Not confirmed
H ₅ : The prevalence of disbelief is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.	Not confirmed
H ₆ : The prevalence of reduced professional efficacy is different for the single/divorced/widowed students in relation to those who are married/in a common-law marriage.	Not confirmed
H ₇ : The prevalence of emotional exhaustion is different for the students who have children in relation to those who don't.	Not confirmed
H ₈ : The prevalence of disbelief is different for the students who have children in relation to those who don't.	Not confirmed
H ₉ : The prevalence of reduced professional efficacy is different for the students who have children in relation to those who don't.	Confirmed

Table 5 – Abridgement of the hypotheses' test results
 Source: Research data (2018)

The variable concerning gender presented a statistic difference in the dimension concerning emotional exhaustion. Moreover, in the variable concerning children, a higher level of significance in the dimension concerning reduced professional efficacy was identified. On the other hand, in relation to the variable concerning marital status, the population groups presented no variation for any of the BOS dimensions. This means that the factors concerning gender and children were identified as related to the development and prevalence of BOS, but don't present any relation to the factor concerning marital status.

3.2. Discussions

The variable concerning gender turned up as a factor related to emotional exhaustion. This result shows that females are more likely to develop BOS than males, which confirms the researches by Carlotto (2011), Meyer *et al.* (2012), Santos (2015), Fernandes, Nitsche and Godoy (2018), Aguiar, Aguiar and Mercedes (2018). This finding differs from the results described by Carlotto and Palazzo (2006), who assert the absence of statistically meaningful differences in relation to gender, along with studies

by Campos *et al.* (2012) and Carlotto (2002), which assure that males are more prone to BOS than females.

The fact women feel more emotionally exhausted than men may be due to the pressure they go through to take care of children, to do chores and, oftentimes, to reconcile these tasks with work and/or study. Thus, the female role in society usually presents more onus than that of males. The increase of emotional exhaustion in females may be interpreted by the emotional issue linked to womanly matters, since this requires them to deal more with caring, feeding and worrying about other people's well-being (CARLOTTO, 2011).

The variable concerning children turned up as a factor related to reduced professional efficacy. Thus, the students who have children presented a higher prevalence in this dimension, which attests the study by Carlotto (2011). Unlike this finding, Carlotto and Palazzo (2006) and Viana *et al.* (2014), Sá, Silva and Funchal (2014) and Aguiar, Aguiar and Mercedes (2018) stated that people who have children are less prone to acquiring BOS. The result of this research about individuals who have children being more prone to developing BOS may be explained by the fact these students have to dedicate most of their time to their offspring, being left with little time for other daily activities. This may make the individuals feel incompetent and unsuccessful in their personal or professional life.

On the other hand, the variable concerning marital status didn't turn up as a factor related to any of the BOS dimensions. However, it is worth mentioning the need for deeper investigations to be able to explain and/or validate the results found in this study.

Concerning the variable marital status, such result attests the studies by Carlotto and Palazzo (2006) and Santos (2015). However, Carlotto (2011) and Aguiar, Aguiar and Mercedes (2018) confirmed that married individuals are more prone to developing the syndrome. On the other hand, the authors Sá, Silva and Funchal (2014) and Pantoja (2017) revealed that single students presented higher BOS prevalence.

In conclusion, it should be mentioned that the individual's social-demographic characteristics, such as gender and number of children, do not trigger the

phenomenon. They are facilitators or inhibitors of the stressful agents' action. However, this assertion supports the results presented in this study, which highlight that certain social-demographic characteristics may influence the appearance of BOS, such as the fact of being a woman and having children.

Final Remarks

In short, it can be stated that the present study reveals the need to perform more researches on BOS and the search for factors related to its development, bringing more relevance to the topic. After all, even if it has a major important social impact, it is still under-explored in terms of investigations.

These results suggest the need of preventive actions that may lessen the symptoms identified. The search for well-being, physical and mental health, and the improvement of life quality in the academic environment are essential to reduce students' psychic suffering. The universities should also consider setting up students' attention and support units. Moreover, it is important to develop teaching methodologies that enable the reconciliation of work with other chores, especially for female students and those who have children, thus preventing the appearance of illnesses in future workers.

Therefore, the burnout syndrome may be avoided as long as teachers, students and society as well work together in order to devise activities that prevent risk factors and chronic stress. Based on changes in the institutional structure, it is possible to improve personal relationships through lectures and training sessions with teachers and the student body with the objective to guide them and inform them about the condition. Upon playing the educator's role, the teachers may become an important piece in the early prevention and detection of the male and female students' psychic suffering. After all, teachers are constantly interacting with their disciples.

These research's limitations lie on the study's cross-sectional design by investigating a specific course in a Federal Institution in North-eastern Brazil. On the suggestions for future researches, it is our desire that new studies are carried out with individuals from several courses and in different higher education institutions. Only

then will it be possible to better know and assess the factors which contribute with the appearance of the burnout syndrome. It is interesting to perform new studies that involve students from private institutions or even post-graduation students.

Furthermore, it is important to carry out new researches, especially qualitative researches, which try to deepen the investigation of the factors that either trigger or are associated to BOS among the remaining students. The continuation of the studies will contribute with the syndrome's early identification, prevention and treatment.

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