

Burnout syndrome and depression in elementary school teachers: a correlational study

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ABSTRACT

This study aimed to determine the prevalence of burnout and depression in elementary school teachers and to investigate possible correlations between this syndrome, depression, sociodemographic and organizational variables. Study conducted in public municipal schools, with the participation of 100 teachers of the second to fifth grades. The General Questionnaire — Teachers and the Burnout Syndrome Inventory (ISB) and the Patient Health Questionnaire (PHQ-9), specific for depression, were used for data collection. Teachers' mean age was 41.95 years (SD=9.91), with most of them (80%) being married, 61% working up to 30 hours per week. Prevalence values found were: burnout 29%, emotional detachment 40%, emotional exhaustion 37%, dehumanization 22%, and personal fulfilment 11%. Depression was identified in 23% of teachers, with strong positive correlations between depression and the dimensions of burnout.

KEYWORDS

burnout; depression; teachers; elementary education.

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BURNOUT E DEPRESSÃO EM PROFESSORES DO ENSINO FUNDAMENTAL: UM ESTUDO CORRELACIONAL

RESUMO

Objetivou-se verificar a prevalência de *burnout* e depressão em professores do ensino fundamental e investigar possíveis correlações entre *burnout*, depressão, variáveis sociodemográficas e organizacionais. O estudo foi realizado em escolas públicas municipais e participaram 100 professoras do 2º ao 5º ano. Para a coleta de dados foram utilizados o Questionário Geral — Professores; o Inventário da Síndrome de *Burnout* — ISB; e o Questionário sobre Saúde do/da Paciente — PHQ-9, específico para identificação de depressão. As professoras tinham idade média de 41,95 anos ($dp=9,91$), a maioria (80%) era casada e trabalhava até 30 horas semanais (61%). Quanto ao *burnout*, foi identificada a prevalência de 29%, sendo constatado distanciamento emocional (40%), exaustão emocional (37%), desumanização (22%) e realização pessoal (11%). A depressão foi identificada em 23% dos professores, além de correlações positivas e fortes entre a depressão e as dimensões do *burnout*.

PALAVRAS-CHAVE

burnout; depressão; professores; ensino fundamental.

AGOTAMIENTO Y DEPRESIÓN EN LOS MAESTROS DE PRIMARIA: UN ESTUDIO CORRELACIONAL

RESUMEN

Este estudio tuvo como objetivo determinar la prevalencia de agotamiento y depresión en los profesores de primaria e investigar las posibles correlaciones entre el agotamiento, la depresión, demográficos y variables organizacionales. El estudio se llevó a cabo en las escuelas públicas, con la asistencia de 100 docentes del segundo al quinto año. Para la recolección de datos se utilizaron el Cuestionario General - Los maestros; síndrome de agotamiento por el Trabajo — ISB; y para la depresión del Cuestionario de Salud/Paciente — PHQ-9. Los maestros tenían una edad promedio de 41,95 años ($DE=9,91$), la mayoría (80%) se casó, trabajar hasta 30 horas por semana (61%). Con respecto al agotamiento se identificó prevalencia del 29%, las dimensiones del distanciamento emocional se encontró en un 40% de los maestros, agotamiento emocional (37%), la humanización (22%) y el cumplimiento (11%). La depresión se identificó en el 23% de los profesores, y las correlaciones positivas y fuertes entre la depresión y el agotamiento de las dimensiones.

PALABRAS CLAVE

agotamiento; la depresión; los maestros; la escuela primaria.

INTRODUCTION

In recent years, there has been a significant increase in mental disorders among workers in general, particularly teachers, with reference to a number of determinants and/or contributing factors. These factors include increase in work rate, reduction in number of teachers, increase of tasks and new responsibilities assumed, as well as excessive demand for results (Asunción and Oliveira, 2009), repetitive activities, impaired interpersonal relationships with students, disturbed work environment, decrease in teaching autonomy, lack of materials and equipment, and precarious situation of classrooms (Araújo and Carvalho, 2009). Cezar-Vaz *et al.* (2015) made a research and addressed the need for greater professional recognition of teachers by school management boards, students and their parents, which could act as a mental health protective factors in these professionals.

The prevalence figures of common mental disorders in teachers found by Araújo and Carvalho (2009), in a study conducted in Bahia, were 20.1 to 45.5% in private schools and 18.7 to 55.4% in public schools, with highest occurrence in the female gender (values between 20 and 56.8%) when compared to males. Varying from 11.2 to 35.6%, mental disorders were proven significant and associated with activities related to greater psychological demand (pressure) and allowing little control over work. Vedodato and Monteiro (2008) identified, in Campinas and São José do Rio Pardo, municipalities in the interior of São Paulo State, 20.9% of mental disorders among teachers of primary and secondary schools.

Among the mental health problems described in teachers, burnout syndrome and depression stand out. National Decree 3,048, annex II, dated May 6, 1999, issued by the State Secretariat for Social Assistance, Ministry of Social Welfare, recognizes burnout syndrome as an occupational disease, therefore being referred to as “professional exhaustion syndrome” (Brasil, 1999). The most unanimous definition in the literature regards burnout as a three-dimension syndrome: emotional exhaustion, decreased personal fulfillment and depersonalization (Maslach and Jackson, 1981). These can be briefly conceptualized as follows:

- emotional exhaustion is characterized as a marked and progressive loss of energy for work activities, with consequent physical and mental exhaustion;
- depersonalization is related to impairment in the capacity of relationship with people and achievement of goals;
- decrease in self-fulfillment is defined as a negative judgment of one’s own capacities towards demands to be fulfilled, with impaired self-esteem and self-confidence.

One can point out a set of possible factors leading to the burnout syndrome, involving individual, organizational (Benevides-Pereira, 2008; Carlotto, 2011) and social characteristics, with emphasis to low social and family support (Maslach, Schaufeli and Leiter, 2001). Burnout is a combination of chronic exhaustion and negative attitudes towards work, with harmful effects on health and productivity, thus favoring daily losses, exhaustion and self-destruction, and possibly decreas-

ing access to usual resources in the activity, engagement and use of worker skills (Bakkera and Costa, 2014). Another difficulty faced is imprecise diagnosis and/or one that is based on comorbidities of behavioral and mental disorders, such as depression and anxiety, which contributes to the underreporting of the syndrome (Batista et al., 2011).

Studies on burnout syndrome prevalence among teachers have been carried out in Brazil and across the world with screening instruments. Benevides-Pereira, Yamashita and Takahashi (2010) assessed 101 elementary school teachers from Maringá, Paraná, using the Stress Symptoms Inventory (SSI) and the Maslach Burnout Inventory (MBI). Most participants evaluated presented with symptoms of stress (physical, 51.5%, and psychological, 53.5%). When it comes to burnout dimensions, the same study reported 36.6% of teachers with emotional exhaustion, 31.7% with depersonalization and 36.6% with decrease in personal achievement. Carlotto (2011), while evaluating 881 public and private school teachers of the three levels of education using MBI, found, in Porto Alegre, Rio Grande do Sul, high levels of emotional exhaustion in 5.6% of their sample, depersonalization in 0.7% and low professional achievement in 28.9%. In a study conducted in six States of Brazil's Southeast region, with 100 high school teachers of six public schools, Santana et al. (2012) used MBI and found high levels of depersonalization, with prevalence of 31.8%, high emotional exhaustion in 47.1% and decrease in personal achievement in 80% of participants. Mesquita et al. (2013) conducted a study with 357 high-school and elementary-school teachers from the public network of São Luís, Maranhão, using the Lipp's Stress Symptoms Inventory for Adults (LSSI) and MBI, and identified burnout syndrome with moderate levels of emotional exhaustion in 81.22% of the sample and depersonalization in 62.71%. Studies on this syndrome conducted in other countries have also showed significant prevalence rates of burnout in teachers. Pedditz and Nonnis (2014) studied 882 primary and secondary-school teachers from Italy using MBI and reported high levels of emotional exhaustion (33.8%), depersonalization (28.3%) and sense of professional achievement (8.2%). Chennoufi et al. (2012), applied the MBI in a survey with 398 teachers from public high schools in Tunisia and found 21% of participants with burnout syndrome, being 16.4% moderate level and 4.6% severe level; high emotional exhaustion was identified in 27.4%; depersonalization in 16.1%, and low sense of personal achievement in 45.5%. In China, Wang et al. (2015) evaluated 559 primary and secondary school teachers with MBI and reported 11.98% with emotional exhaustion, 5.5% with depersonalization, and 26.85% with low personal achievement.

The analysis of literature showed that among teachers from different levels of public and private school education, with different cultural peculiarities, rates identified tended to be high, although varied. Despite being dissonant, such prevalence figures characterize teachers as a professional group that is vulnerable to the burnout syndrome. Several other studies have also addressed the burnout syndrome as related to other variables such as stress (Benevides-Pereira, Yamashita and Takahashi, 2010; Mesquita et al., 2013); stress and working conditions (Cezar-Vaz et al., 2015;

Chennoufi *et al.*, 2012; Llorens-Gumbau e Salanova-Soria, 2014; Pedditzi e Nonnis, 2014; Wang *et al.*, 2015), interpersonal relationships, and workload (Droogenbroeck, Spruyt and Vanroelen, 2014).

Other variables, like gender, have also been addressed (Carlotto, 2011), and a higher prevalence was found among women; organizational variables such as working hours (Carlotto, 2011; Cezar-Vaz *et al.*, 2015; Santana *et al.*, 2012), the presence of environmental variables such as noise (Carlotto, 2011), and factors such as low salary (Cezar-Vaz *et al.*, 2015) are also mentioned. In addition, some studies reported an association of burnout syndrome with anxiety (Cezar-Vaz *et al.*, 2015) and stress (Benevides-Pereira, Yamashita and Takahashi, 2010), disorders that, like depression, are relevant, although studies involving the assessment of depression as associated with burnout are still scarce.

Depression, according to the American Psychiatric Association (DSM-V), is a mental disorder in which a significant change in mood or affection occurs, being frequently associated with functional disability and decreased quality of life. Common reported symptoms are sadness, apathy, decrease in motivation, interest and concentration, apparent tiredness, increased or reduced sleep and appetite, feelings of guilt, and impaired self-esteem and self-confidence.

Data from the World Health Organization (2017) point that more than 300 million people in the world suffer from depression, with an increase by 18% from 2005 to 2015.

In a review on depression and teaching, Gontijo, Silva and Inocente (2013) stated that this is a nation-wide problem among teachers, at different levels of education, being influenced by factors such as age, workload, number of students (the larger the number, the lower the sense of achievement and the greater the disenchantment with work), work shift, school violence, interpersonal relationships at work, with students and their parents, and work conditions.

The national literature was shown to have few studies on the subject. Strieder (2009) studied teachers from the municipal and state networks of Santa Catarina using Beck's Depression Inventory (BDI) and reported depression in 25% of teachers from the municipal network and in 37.5% from the State network. Batista *et al.* (2013), in a research with primary-school teachers of João Pessoa, Paraíba, found 51% of depression using BDI. Scandolara *et al.* (2015) surveyed 106 elementary and middle-school teachers from state public schools in Francisco Beltrão, Paraná, and reported 21.7% of them with indicators of depression. The literature also brings a set of studies investigating depression in association with other variables. In a survey conducted in Italy with 113 teachers from public schools, Borrelli *et al.* (2014) identified that depression was positively correlated with work demand and negatively related with social support, besides noting that teachers' mental health was significantly associated with high work demands and low social support. Droogenbroeck, Spruyt and Vanroelen (2014) studied interpersonal relationships and workload as directly related to teaching and other activities, focusing on burnout syndrome and autonomy among experienced teachers (age over 45 years). They found interpersonal relationships to be associated with the syndrome in both

activities (which were related to emotional exhaustion), and autonomy was more associated to workload of activities not directly related to teaching.

By analyzing the referred studies, a relevant index of depression was pointed out among teachers in association with other variables such as gender (Bermejo-Toro and Prieto-Ursúa, 2014); work demand and social support (Borrelli et al., 2014), and interpersonal relationships (Droogenbroeck, Spruyt and Vanroelen, 2014).

There is a questioning about the possible overlap of depression and burnout syndrome, a theme permeated by controversies (Bianchi, Schonfeld and Laurent, 2015). Pocinho and Perestrelo (2011) and Pliegera et al. (2015) consider that the most notable difficulty of this syndrome is expressed in professional life, and personal and social lives may not be affected, while in depression all spheres of a subject's life is impacted. For Pocinho and Perestrelo (2011), an important differential characteristic is the common feeling of guilt of depression, while in burnout the fury facing professional inefficiency is most common. Gil-Monte (2012) performed a study with 700 workers and found that guilt is an important indicator to be considered when screening individuals with burnout. In these authors' understanding, burnout and depression refer to distinct pictures, each with peculiar characteristics. In contrast, Bianchi, Schonfeld and Laurent (2015) consider that this distinction is delicate and little clear in the literature when it comes to the final stage of burnout as opposed to clinical depression, questioning the main definition of burnout. The authors even consider that exhaustion and depersonalization can be best conceptualized as depressive responses to inadequate occupational environments than as components of another entity. Bianchi and Schonfeld (2016) investigated burnout syndrome associations with depressive cognitive style in 1,386 teachers from public schools in the United States and showed that individuals who present it have characteristics that resemble the depressive cognitive world, hence burnout was considered a depressive syndrome.

Although there is no consensus on burnout and depression as distinct or overlapping manifestations, some studies have investigated the possible associations between them. In Spain, Bermejo-Toro and Prieto-Ursúa (2014) surveyed 71 high-school teachers in Madrid, using CBP-R, BDI and Check List 90 R adjusted for sociodemographic variables and did not find different patterns of stress, burnout, depression and absenteeism among teachers of both genders, even though females presented higher rates of psychiatric issues. Pliegera et al. (2015) used MBI and BDI in a sample of 397 participants in Germany and identified a closer relation between depression and life stress than between burnout and life stress.

When analyzing the studies conducted, in general, one may state that they investigated some variables in association with burnout, depression and working conditions, but not these three variables simultaneously, which is the gap the present study aims to fulfill, possibly contributing to expanding the possibilities of understanding this complex theme, and favoring the proposition of mental health preventive and interventional actions directed to teachers.

OBJECTIVES

The general objective was to assess the prevalence of burnout syndrome and depression among elementary school teachers, and to investigate possible correlations between the syndrome, depression, sociodemographic and corporate variables.

METHOD

This study was evaluated and approved by the Research Ethics Committee of Universidade Estadual Paulista “Júlio de Mesquita Filho” (Unesp), with CAAE opinion 43187115.6.000.5398, n. 1,021,194 from April 9, 2015. Schools and teachers were informed about the objectives of the study, the absence of losses and damages from part-taking, and the commitment of secrecy of information obtained during the research. Participation was voluntary, with participants signing the informed consent form, which was presented to them in written form and through group reading. The design adopted was cross-sectional, correlational.

PARTICIPANTS

This study was carried out in municipalities of the central region of São Paulo State, having the public-school network as data source, specifically elementary schools. Twenty-five schools were contacted, of which 13 joined the survey. The study was attended by 100 teachers from a convenience sample composed of elementary school teachers (second to fifth grades) from municipal schools. Inclusion criteria were: being a female and having at least two years of experience in teaching; exclusion criteria were: working for the current school for less than six months, being retired for less than one year, having had a health-related leave of more than 30 days in the last year.

INSTRUMENTS

For data collection, three instruments were used:

1. General Questionnaire for Teachers: built for the purposes of the study, it addresses aspects related to work condition, encompassing: personal and occupational data (professional performance, training, lifetime teaching time, time working for the school, main activities developed); and working conditions (work environment, working hours, number of students per class);
2. The Burnout Syndrome Inventory (BSI): proposed by Benevides-Pereira (2007), it aims to assess the presence of burnout syndrome in any professional category. BSI is composed of 35 items organized in 2 blocks, the first with 16 questions on antecedent and organizational factors, commonly indicated in the literature as triggers or modulators of

occupational stress and, consequently, the onset of burnout syndrome. The second block, composed of 19 questions, evaluates the syndrome and its dimensions: emotional exhaustion, emotional detachment, dehumanization, and personal fulfillment. The items bring affirmations that should be classified per the 5-point Likert scale, allowing answers to be graded by frequency of occurrence: from 0 meaning never to 4 meaning very frequently; in the second part, from 0 meaning never to 4 every day. In part I, the cut-off scores range from 22 to 26 points for the Positive Organizational Conditions (POC), and scores lower than averages indicate problems. Concerning Negative Organizational Conditions (NOC), the average score is 8 to 13 points, with scores greater than 13 indicating problems. In Part II of the BSI, emotional exhaustion comprises averages from 4 to 9; emotional detachment, from 2 to 6; dehumanization, from 4 to 7; and personal fulfillment, from 10 to 15. Scores above 9 for emotional exhaustion, 6 for emotional distancing, 7 for dehumanization, and below 10 for personal fulfillment are indicative of problems. According to the manual, two criteria must be met so that burnout syndrome is considered: Criterion 1 requires high emotional exhaustion + emotional detachment or dehumanization; Criterion 2 requires high emotional exhaustion + low personal fulfillment + high emotional detachment or dehumanization.

3. Patient Health Questionnaire – PHQ-9: adapted from PRIME-MD by Spitzer et al. (1994) for the diagnosis of mental disorders aimed at health services, with emphasis on primary care. PHQ-9 is a tool for depression screening based on the diagnostic criteria for major depression disorder by DSM-IV, which allows for the tracking of signs and symptoms of current severe depression, as well as classifying its severity. It consists of nine items, evaluated by an ordinal scale that measures the frequency of signs and symptoms of depression in the last two weeks (0 = none, 1 = several days, 2 = more than half days, 3 = almost every day). To achieve total score, items are summed, ranging from 0 to 27, and to detect positive indicators of major depression, values greater than or equal to 10 are considered (Kroenke, Spitzer and Williams, 2001 Spitzer, Kroenke and Williams, 1999). In the present study, indicators corresponding to severity (moderate, moderately severe, severe) mean presence of depression.

In Brazil, a psychometric study was conducted using the PHQ-9, with the structured clinical interview for the DSM-IV as gold-standard instrument, and results showed that scores greater than or equal to 10 are more appropriate to screen depression. Diagnostic effectiveness was 0.999, with a 0.998 ROC curve (AUC), sensitivity (S) of 1.00, specificity (E) of 0.98, positive predictive values of 0.97 and negative of 1,00 (Osório et al., 2009). The Portuguese version used in this study was translated by Pfizer.

PROCEDURES

DATA COLLECTION

The Secretary for Education was initially contacted and presented the objectives of the research, then requested authorization for access to educational institutions and municipal primary schools. Upon the secretariat authorization, the management board of schools were contacted and, when parts agreed, a meeting would be scheduled for face-to-face presentation of the study, official invitation and explanation of data collection authorization.

After that, teachers were contacted to be shown the objectives of study and officially invited to participate; should they agree to participate, the Informed Consent form would be signed, a meeting would be scheduled for evaluation, as well as the place for data collection agreed — the school or their residence —, aiming for comfort and privacy in all situations. In individual sessions, the General Questionnaire for Teachers, SSI and the PHQ-9 were fulfilled by them. The evaluations were carried out by the first author and by a master's degree student. Each session lasted 40 minutes on average, varying in up to 20 minutes.

DATA TREATMENT AND ANALYSIS

Instruments were codified according to the technical standards, considering the criteria proposed for each of them. For data analysis, the indicators obtained by means of the instruments were considered based on each's correction norms. A descriptive statistical analysis for continuous variables was performed (mean and standard deviation) for categories (frequency and percentage). In order to verify the associations between the variables addressed in the study (burnout indicators, depression, sociodemographic, organizational and academic characteristics), Pearson's correlation tests were used, with significance level at $p \leq 0.05$.

RESULTS

This section brings the sociodemographic characteristics of academic training and organizational conditions of the study sample, frequency of burnout and depression, and the correlation between both burnout syndrome and depression with demographic and work-related variables.

Table 1 lists the sociodemographic characteristics, academic background and work conditions of participants.

The sample held only teachers with mean age of 41.95 (sd = 9.91), most of them (80%) having a partner (married, stable union). As to academic training, only 12% had attended postgraduate courses, and 81% had been acting in the field for more than six years (Table 1). Regarding work characteristics, the number of students per class was up to 25 (79%), and 42% of teachers had students with special needs in their groups, 39% had jobs in more than one school, 61% worked up to 30 hours weekly (temperature, airing/ventilation, lighting, physical structure

and availability of resources), and most of them evaluated these factors as partially satisfactory or satisfactory (above 60%).

According to Table 2, 77 teachers (77%) did not have depression and 23 (23%) had scores indicative of depression. Considering Criterion 1, 29% of the teachers had burnout syndrome, 40 of them presenting emotional detachment (40%), followed by emotional exhaustion, 37 (37%), dehumanization, 22 (22%), and only 11 (11%) with low personal fulfillment.

Table 3 shows correlations between burnout, depression and demographic and organizational variables.

The following were verified:

- negative and weak correlations between teacher age and presence of emotional detachment (one of burnout dimensions), between the length of work time in school and depression, and between depression and personal fulfillment;
- positive and strong correlations were found between depression and burnout dimensions (emotional exhaustion, emotional detachment, dehumanization), Criterion 1 was met, which means presence of burnout, as well as negative correlations between depression and personal fulfillment.

DISCUSSION

Regarding burnout rates, other studies conducted in Brazil had different results, for example showing lower values, like Carlotto (2011), who found high emotional exhaustion in the three levels of education (5.6%), depersonalization (0.7%) and low sense professional achievement (28.9%). Other studies with teachers of primary and secondary education, including that of Mesquita et al. (2013), reported higher values, with prevalence of emotional exhaustion (81.22%) and depersonalization (62.71%). Santana et al. (2012) found high level of depersonalization (31.8%) emotional exhaustion (47.1%) and decrease in personal fulfillment (80%) among high-school teachers. In other countries, Pedditzi and Nonnis (2014) identified similar values in high school teachers, with emotional exhaustion (33.8%), depersonalization (28.3%) and personal fulfillment (8.2%). Chennoufi et al. (2012) reported burnout syndrome in 21% of their sample, with emotional exhaustion in 27.4%, high depersonalization in 16.1%, and personal fulfillment in 45.5% of high school teachers. Wang et al. (2015), in China, found emotional exhaustion in 11.98% and depersonalization in 5.5%.

Therefore, the literature has significant figures of burnout syndrome that have similarities with the findings of the present study: 29% of the teachers presenting burnout syndrome with emotional detachment (40%), emotional exhaustion (37%), dehumanization (22%) and personal fulfillment (11%).

As for burnout, one must emphasize that the dimensions of the syndrome are related, with possibility of impairment in several dimensions, because in emotional exhaustion, the workload experienced by the teacher may impair their acting as a teaching, which can be aggravated by decreased self-confidence and

Table 1 – Profile of teachers: sociodemographic characteristics, educational background and work conditions (n=100).

Age, mean (standard deviation)	
Marital status, frequency (%)	41.95 (9.91%)
No partner (single, widower, divorced)	20 (20%)
Partner (married or in a stable union)	80 (80%)
Schooling	
Post-graduation, frequency (%)	
Yes	12 (12%)
No	88 (88%)
Time of teaching (years), frequency (%)	
1 – 5	19 (19%)
>6	81 (81%)
Work conditions	
Time in school (years), frequency (%)	
1 – 5	55 (55%)
>6	41 (41%)
Number of students per class	
Up to 25	79 (79%)
More than 25	21 (21%)
Students with SEN, frequency (%)	
Yes	42 (42%)
No	58 (58%)
Work in more than one school	
Yes	39 (39%)
No	61 (61%)
Weekly work hours	
Up to 30	61 (61%)
More than 30	39 (39%)
Adequacy of working conditions	
Temperature	
Unsatisfactory	65 (65%)
Partially satisfactory/Satisfactory	34 (34%)
Lighting	
Unsatisfactory	39 (39%)
Partially satisfactory/Satisfactory	61 (61%)
Airing/ventilation	
Unsatisfactory	34 (34%)
Partially satisfactory/Satisfactory	64 (64%)
Physical space	
Unsatisfactory	38 (38%)
Partially satisfactory/Satisfactory	62 (62%)
School furniture	
Unsatisfactory	37 (37%)
Partially satisfactory/Satisfactory	61 (61%)

SEN: special educational needs.

negative evaluation of one’s own abilities, thus reducing personal fulfillment, and resulting in a process of untying with quality of teaching offered to the student, expressed by depersonalization. Carlotto (2011) considers emotional

Table 2 – Prevalence of depression and burnout syndrome in female teachers (frequency and percentage) (n=100).

PHQ-9	With disorder	Without disorder
	23 (23%)	77 (77%)
ISB (frequency and percentage)		
ISB	Com problema	Sem problema
Positive work conditions	36 (36%)	64 (64%)
Negative work conditions	33 (33%)	67 (67%)
Emotional Exhaustion	37 (37%)	63 (63%)
Emotional detachment	40 (40%)	60 (60%)
Dehumanization	22 (22%)	78 (78%)
Personal fulfillment	11 (11%)	89 (89%)
Criterion 1	29 (29%)	71 (71%)

BSI: Burnout Syndrome Inventory.

Table 3 – Correlations between depression, burnout syndrome, and demographic/organizational variables (n=100).

	Age	Time/role	Time/school	Working hours	Number of students	PHQ9	Em. Exhaustion	Em. detachment	Dehumanization	Pers. fulfillment	BSI criterion 1
Age	1	.602**	.334**	.004	-.036	-.103	-.112	-.238*	-.095	.139	-.046
Time/role		1	.456**	.130	-.096	-.048	.018	-.053	.031	.110	-.001
Time/school			1	-.004	-.342**	-.228*	-.195	-.300**	-.106	.162	-.227*
Working hours				1	-.034	.071	.019	.140	.111	-.140	.111
Number of students					1	.088	.052	.102	.032	.007	.205*
PHQ-9						1	.669**	.478**	.522**	-.213*	.542**
Em. Exhaustion							1	.585**	.615**	-.149	.758**
Em. detachment								1	.720**	-.205*	.713**
Dehumanization									1	-.273**	.656**
Pers. fulfillment										1	-.081
BSI criterion 1											1

BSI: Burnout Syndrome Inventory.

exhaustion in teachers worrisome, as it may interfere with motivation, interest and creativity. Thus, lesson planning could be impaired and cause changes in their engagement in teaching activities and loss in relation to students, a fact aggravated by their permanence in classrooms. Llorens-Gumbau and Salanova-Soria (2014), in a study with high-school teachers, pointed out the need for intervention actions in school environment, considering the adoption of facilitating strategies in the context of work, that is, which stimulate engagement and self-efficacy at work, mentioning the need for the worker to enter a positive spiral, eliminating obstacles.

Thus, in addition to its possible interference in the quality of teaching, when the burnout syndrome is present, there is loss in the means of relating to people, first at work, with further possibility of extension to personal and affective life, which may favor the development of depression, as suggested by Bianchi and Schonfeld (2016). For Shin et al. (2013), in a study with high-school and higher-education professors in Korea, burnout is an initial phase of depression in teachers and could therefore result in symptoms of depression, not the other way around. Although there is no consensus on the presence of depression before or after burnout is established and on the contingency relationship, there is indication of connection between both manifestations.

As for prevalence of depression, we can cite studies with results similar to ours, in which depression was found in 23% of teachers. For example, the study by Strieder (2009), which identified 25% of teachers in the municipal network and 37.5% in the State network with the syndrome, and by Scandolaro et al. (2015), with a rate of 21.7% among teachers of primary and secondary education. Batista et al. (2013) reported higher percentages in their research, identifying depression in 51% of elementary-school teachers. Such divergences are likely to be related to specificities of samples.

When it comes to the several positive and strong correlations found between burnout, depression and sociodemographic and organizational variables, this is also supported by previous studies. Bianchi, Schonfeld and Laurent (2014) found 90% of teachers with burnout also meeting the diagnostic criteria for depression, of which 92% scored on 15 or more items of PHQ-9.

Also considering sociodemographic and organizational variables in the present study, in which factors such as age, time in the function, time in school, workload and number of students in groups were assessed, only weak negative correlations were found as to age and time of work at school. Association between depression and burnout was also found, for example, in a study by Gomes and Quintão (2011) conducted in Portugal, in which teachers with more hours worked had higher levels of depression, but no association was found between burnout and life satisfaction. Women had higher mean values for emotional exhaustion and depersonalization, while lower weekly load of classes and teaching in higher education were associated with greater satisfaction in life. It should be emphasized that a more stable work bond, performance in initial education levels and high weekly load resulted in higher prevalence of depression. Initial grades of education were also associated with higher prevalence of emotional exhaustion. Minor indices of

emotional exhaustion and depersonalization and greater personal fulfillment were associated with greater life satisfaction, while high emotional exhaustion, high depersonalization and low personal fulfillment were associated with higher rates of depression. Bianchi, Schonfeld and Laurent (2015), in France, found that the imbalance between effort and reward and overwork were predictors of both burnout syndrome and depression.

The influence of variables such as age of teachers, which may have had a positive effect on avoiding emotional detachment, and the long length of time teaching could be functioning as factors decreasing chances of developing depression.

CONCLUSIONS

This study investigated correlations between burnout syndrome, depression, and demographic and organizational variables, all addressed in an integrated way and allowing to broaden the understanding of previous studies that analyzed them in isolation.

Associations between burnout and depression were identified, with strong and positive correlations with emotional exhaustion, detachment and dehumanization, which suggests mutual influence of one condition on the another, as well as a negative correlation between depression and personal fulfillment, indicating that the greater the satisfaction with work, the lower the chances of developing depression.

Thus, we could state that teachers with burnout syndrome may also manifest depression; also, factors such as age may decrease the possibility of developing emotional detachment and longer periods of profession and activity in a school could minimize the possibility of developing depression. The investigation of burnout, depression and personal and organizational characteristics clarified the relationships between these variables, contributing to a better understanding of teachers' mental health conditions.

The sample of convenience, the fact that a single region of the State was considered, the cross-sectional design and the use of an instrument that evaluates current depression as screening method are limitations of this study. Positive points include the use of validated instruments, data collection by systematic procedures and the combination of multiple variables.

The burnout and depression indexes found in this study were similar to data previously reported in the literature and state that teachers are a vulnerable group that requires prevention measures to favor their well-being. Given the implications and responsibilities of the work performed by elementary-school teachers, these measures could also protect children indirectly. It is worth noting that, due to interpersonal relation nature of teaching, which involves direct contact with their target population, teachers affected by burnout and depression, may also have their relationship with students impaired in addition to their own health. Both burnout and depression can affect teachers' motivation, engagement and relational capacity, requirements that are essential for their activity and, therefore, demand actions to address the problem. Interventions should contem-

plate personal aspects, since some characteristics are predisposing factors, and take into account the work context (environment, infrastructure, organization of activities, and interpersonal relationships). A favorable working environment and positive personal relationships can act as protective factors and prevent sickness. On the other hand, the presence of predisposing personal factors, unfavorable working conditions and impaired relationships, conditions that may be considered obstacles to good professional performance, are an incipient means for the emergence of mental health problems by teachers. Prevention measures that stimulate work and engagement can minimize difficulties and favor their performance in teaching activities.

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