

## Research Article

# Assessment of Stress, Depressive, and Anxiety Symptoms in Teachers in the Public Education Network

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## Abstract

Stress events and depressive and anxiety symptoms present in public education network teachers involve factors that may affect the good performance of themselves and of their students. The objective of this study was to evaluate the levels of anxiety, depression, and stress, and compare the data from elementary schools with high school and refers the subject to psychiatric service, when required. The research instruments were applied to 139 teachers from public schools in Alfenas-MG. After application, a lecture at each school was given to enlighten the teachers and give feedback about their condition, and affected individuals were referred for care and treatment. Data were analyzed using Bioestat 5.0 software through short steps. The results showed that levels of stress, depression, and anxiety symptoms of teachers in the public education network are high.

**Keywords:** Stress; Education; Teachers; Depression

## Introduction

Stress and symptoms of depression and anxiety in the workplace arise through lack of good work space structure, moodiness of people who interact in this period and pressure from superiors demanding improvements for effective work, according to a survey carried out by the newspaper O Globo (The Globe) on 22 September 2012 [1].

Stress is considered a challenge to workers, making them vulnerable, causing illness and lower productivity, lack of motivation, and insecurity in what they do [2]. Teachers are people who suffer from these consequences and can have a direct impact on the education of those who depend on this professional.

Accompanying this stimulus response to external and internal actions are anxiety and depressive symptoms that affect the mental health of teachers, since wear and fatigue are not offset by compensation and moral gratification. The burnout concept [3] justifies such causes as burnout, impacting on emotional, psychological and physical [4] aspects.

It is known that at the present time the teacher's role has expanded; in addition to fulfilling their study plan in the classroom they have to maintain the link between the community and the students/school. In addition to the teacher exercising their role as educators, they must attend school management planning. It is noted that the teacher, beyond their duties in the workspace, also involves participation from families and the community [5], which often causes a lot of stress, anxiety and depression due to overloading.

There are several studies that aim to assess the health of teachers [6-8]. However, none of them aimed at the inclusion of some level of intervention.

Studies in other countries indicate that there is a direct relationship between increased stress at work and high levels of fatigue sleep disturbance, depressive problems and consumption of medication [9]. In addition, currently more is demanded of the

teacher's responsibilities, they are less valued and are often subjected to violence that has built up over the years in their work environment.

In Brazil, teachers of elementary and secondary education has faced and a double shift or triple work, situations of disrespect and violence in schools reported by major media outlets. So the elementary and high school teachers were chosen as the object of study of this research.

Thus, this study aims to assess levels of stress; anxiety and depression present in public school teachers, compare the results obtained in elementary school teachers with those of high school, and provide guidance on the subject and refer those affected to psychiatric service.

## Materials and Methods

### Study location and data collection period

Research was conducted in state and municipal public schools in the city of Alfenas-MG. The field of research through data collection was developed in the period from January to November 2013.

### Inclusion and exclusion criteria

All teachers of state and municipal public schools in Alfenas operating in the elementary and high school levels of public education were included in the research. Those teachers who were not present on the interview day, after two attempts, were excluded and also those who declined to participate.

### Procedure

This was an observational cross-sectional study. Teachers received a statement about the research objectives through the management of schools and were invited to participate. Those who accepted were instructed on how to fill out the forms after signing the free and informed consent terms. Teachers received a questionnaire with socio-demographic data and questions about their working lives, the Beck anxiety and depression inventory and the work stress scale. They

were instructed on how to complete the documents in their homes or at another appropriate time and to deliver the questionnaires to the school board after 3 days, for collection by the researchers.

After collecting the questionnaires, a lecture on depression, anxiety and quality of life was scheduled that was given by one of the researchers and lasted approximately two hours. This lecture was given at the school on a date previously scheduled with the board. The purpose of this lecture was to provide guidance on depression, anxiety and stress and also on pharmacological and non-pharmacological treatment. On the same day each teacher received feedback about their screening, conducted through questionnaires. Although the scales may not be used as a diagnostic tool, they give us evidence of which people/patients need to be referred to the health facility for evaluation and if necessary, treatment. In this case, the subject would be forwarded to the municipal psychiatric service.

### Research instruments used

**Beck depression and anxiety inventory:** The Beck Depression Inventory (BDI) is a scale of economic self-assessment because it requires less time of the mental health team. However it has obvious disadvantages: its reliability is difficult to analyze and its use assumes patients have some degree of education, are cooperative and have no serious psychopathology. In addition, many patients find it difficult to assess the severity of their symptoms [10].

Still, the Beck depression inventory is a self-assessment scale most widely used both in research and in the clinic, and has been translated into several languages and validated in different countries [11].

The original scale consists of 21 items, including symptoms and attitudes whose intensity varies from 0 to 3. The items refer to sadness, pessimism, sense of failure, lack of satisfaction, guilt, feelings of punishment, self-deprecation, self-accusation, suicidal thoughts, crying spells, irritability, social withdrawal, indecision, body image distortion, inhibition to work, sleep disturbance, fatigue, loss of appetite, weight loss, somatic concern, and decreased libido.

The competitive validity of the BDI with respect to other clinical depression assessments such as the scales of Hamilton and of Zung, are high for psychiatric patients (0.72 and 0.76), respectively [11].

The BDI has been extensively validated in Brazilian clinical and population samples by Cunha and colleagues, who found the following points for different intensities of depressive symptoms: minimal (0-11), mild (12-19), moderate (20-35) and severe (36-63).

The Beck anxiety scale (BAS) was developed to assess the severity of anxiety symptoms in depressed patients. The scale consists of 21 items describing common symptoms of anxiety. The summed items result in a score which can range from 0-63, and the cut-off points are the same as those of the BDI.

The average score for each subject and for the groups (elementary and high school) was calculated.

**Work Stress Scale (WSS):** The WSS proposal by Paschoal & Tamayo (2004) [12] has satisfactory psychometric characteristics and can contribute both to research on the subject and to diagnose the organizational environment, completing information resulting from other instruments. Commonly, tools used to evaluate occupational

stress consider a range of stressors or a range of reactions and, when considering the two, do not establish a link between them. The WSS avoids making two separate reviews and considers the individual's perception in line with the criticism relating to approaches that focus on stressors or reactions alone, and thus fills in some gaps in occupational stress assessment tools.

This scale consists of 23 items answered in a rating scale from 1 to 5, with 1 being the minimum stress and 5 being the maximum stress. The average score for each subject and for the groups (elementary and high school) was calculated. The higher the score, the higher the stress level. When the average value is equal to or greater than 2.50 it is to be understood as a considerable stress indicator [12].

### Ethical aspects

This study was approved by the Ethics Committee of the Federal University of Alfnas (UNIFAL-MG) under number: 183.256.

### Statistical analysis

Data were analyzed using summary measures (mean, standard deviation and percentage frequency). Bioestat 5.0 software used in the research.

### Results

In this study 139 teachers were interviewed, with an average age of 39.30 years ( $\pm 10.70$  years), 78.40% (n = 109) were female and 20.10% (n = 28) male, and 1.40% (n = 2) did not identify.

Regarding education, 0.72% (n = 1) of the respondents have technical/high school, 46.76% (n = 65) have higher education, 49.64% (n = 69) have specialisms and 1.44% (n = 2) have a master's degree, and 1, 44% (n=2) did not answered.

Evaluating the duration of work in the profession, 15.10% (n = 21) have worked less than two years, 11.51% (n = 16) between two and five years, 22.31% (n = 31) between five and ten years, 17, 99% (n = 25) between ten and fifteen years and 32.37% (n = 45) worked more than fifteen years, and 0.72 (n=1) did not answered.

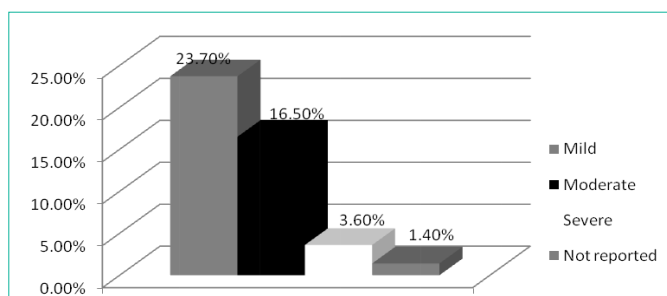
Of the respondents, 52.52% (n = 73) work in more than one school, 15.10% (n = 21) have more than one activity at the same school and 67.63% (n = 94) work in more than one work shift.

Teachers who reported having been humiliated in the workplace total 46.76% (n = 65) of all respondents, and many have already been humiliated by more than one individual. The biggest offenders are students (38.80% of teachers have been assaulted), followed by directors or supervisors (19.41%), professional colleagues (17.32%), parents of students (15.31%) and others (8.23%).

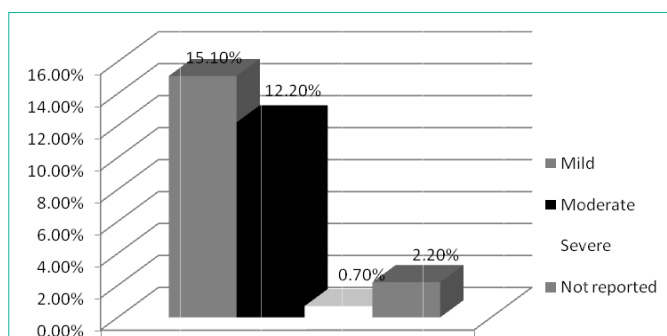
Of the professionals interviewed, a very significant number, 63.31% (n = 88) reported ever having been verbally or physically abused by students. Among these, 13, 63% (n = 12) had to move away to recover, 27.27% (n = 24) required some medication and 10.22% (n = 9) required therapy with a psychologist.

The percentage of teachers who have at least one diagnosed illness was 31.00% and, using some type of medication was 31.71%. Additionally, 33.81% reported having used some medication to sleep.

With regard to leisure, 7.22% stated that they do not engage in any leisure activity.



**Figure 1:** Percentage of elementary and high school teachers with anxiety symptoms according to the Beck Inventory.



**Figure 2:** Percentage of elementary and high school teachers with depressive symptoms according to the Beck inventory.

Analyzing the Beck anxiety inventory, the percentage of teachers who received some degree of anxiety above normal was 43.84% (Figure 1).

In Beck depression inventory, the percentage of teachers who obtained a degree of depressive symptoms above normal was 28.00% (Figure 2).

**Table 1:** Work stress scale, Responses obtained from 84 teachers.

Questions	1	2	3	4	5	Total	Average±SD
1. The way tasks are distributed in my area has left me nervous	25	16	27	9	7	84	2,49±1.26
2. The type of control in my work irritates me	26	16	26	10	6	84	2,45±1.25
3. The lack of autonomy in the implementation of my work has been exhausting	32	17	21	10	4	84	2,25±1.22
4. I feel uncomfortable with the lack of confidence from my superior about my work	44	17	13	6	4	84	1,92±1.18
5. I feel irritated with the way information on organizational decisions is poorly disseminated	30	17	22	8	7	84	2,35±1.28
6. I feel uncomfortable with the lack of information about my tasks at work	31	20	21	7	5	84	2,23±1.21
7. The lack of communication between myself and my coworkers makes me irritated	42	22	15	4	1	84	1,81±0.98
8. I feel uncomfortable with my supervisor treating me badly in front of co-workers	57	13	8	4	2	84	1,58±1.01
9. I feel uncomfortable with the existing communication between myself and my supervisor	42	18	13	7	4	84	1,96±1.20
10. I'm in a bad mood for having to work long hours	38	13	14	14	5	84	2,23±1.34
11. I feel uncomfortable with the existing communication between myself and my supervisor	42	20	15	3	4	84	1,89±1.12
12. I get angry at discrimination/favoritism in my work environment	39	11	21	9	4	84	2,14±1.25
13. I feel uncomfortable with the lack of training for my job	24	24	19	8	9	84	2,45±1.29
14. I'm in a bad mood due to feeling isolated in the organization	47	20	8	6	3	84	1,79±1.11
15. I'm irritated for being undervalued by my superiors	47	17	13	6	1	84	1,77±1.03
16. The few growth prospects in my career has left me distressed	29	12	19	8	16	84	2,64±1.51
17. I'm feeling uncomfortable by working on tasks below my skill level	47	17	10	6	4	84	1,85±1.18
18. The competition in my work environment has left me in a bad mood	45	16	14	6	3	84	1,88±1.14
19. The lack of understanding about what are my responsibilities in my work has caused irritation	46	18	14	3	3	84	1,80±1.07
20. I have been made nervous by my supervisor giving me contradictory orders	51	21	7	4	1	84	1,61±0.92
21. I feel irritated due to my supervisor hiding my good work from other people	54	19	6	3	2	84	1,57±0.95
22. Insufficient time to perform my workload makes me nervous	25	18	20	10	11	84	2,57±1.37
23. I feel uncomfortable with my supervisor avoiding allocating me important responsibilities	52	21	7	3	1	84	1,57±0.88

Concerning the work stress Scale, on a scale of 23-115 points, the average score of the teachers was 42.6 points, but this number may be masked because of the 139 respondents, only 84 (60.43%) responded to the work stress scale (Table 1).

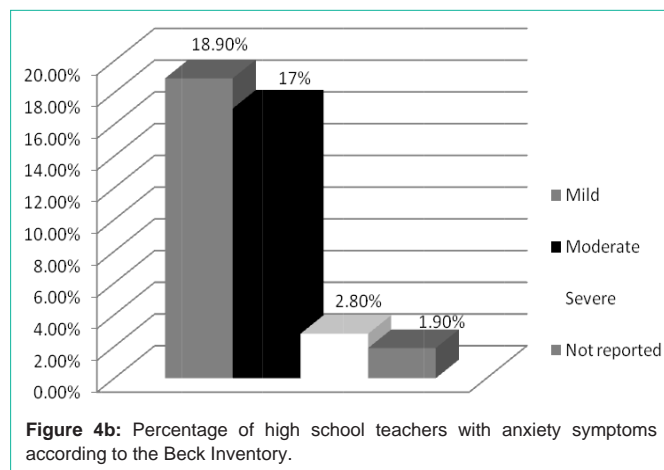
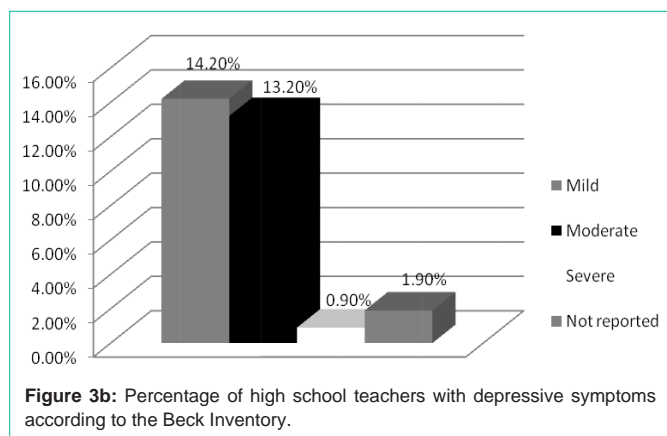
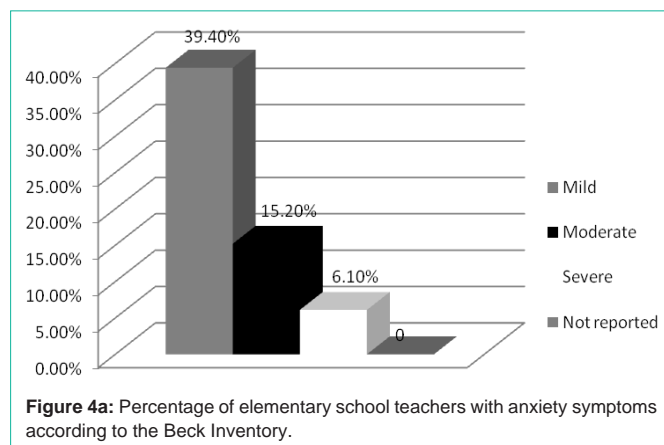
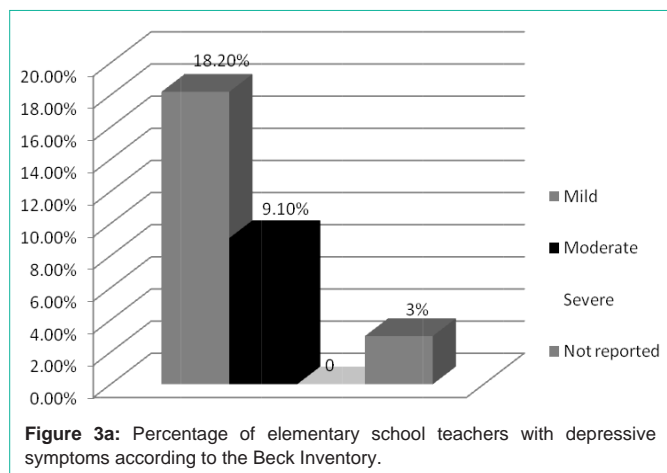
The percentage of teachers who obtained some degree of depressive symptoms above normal in elementary school (n = 33) was 27.30%, while in high school (n = 106) was 28.31% (Figures 3a and 3b). Comparing the elementary school with high school, it was observed that in elementary school (n=33), the percentage of teachers who received some degree of anxiety above normal was 60.72%, while in high school (n=106), this percentage was 38.74% (Figures 4a and 4b), from which we can conclude that elementary school teachers have presented higher anxiety levels when compared with high school teachers, but with no statistically significant difference (p>0.05). Regarding the work stress scale, the score obtained by elementary school teachers was 42.71 points while high school teachers scored 42.53 points.

It was listed the medications that act on the central nervous system, most used by teachers from the public network. The most frequently cited medication class was that of antidepressants (Table 2).

## Discussion

Most respondents reported having experienced some form of physical or verbal aggression from students, a result similar to that obtained by Levandoski et al., 2011, although the latter has assessed situations of violence only against physical education teachers [13].

Currently, the family tries to escape from authoritarian patterns and thus cannot establish rules and limits necessary for their children when it comes to interpersonal relationships. Another important aspect is that in this process, many parents completely delegate the



education of their children to the school, wrongly of course.

Situations of disregard in the classroom are common, not only in elementary and high school education, but also in higher education as reported by ROSA et al., 2009 [14].

Another relevant aspect was that many teachers said they were humiliated by people other than students, such as directors, supervisors and even parents of students.

Everyone deserves respect and to be valued in the workplace. Many teachers, by being humiliated or beaten, needed professional support to overcome the incident as mentioned in this work and, and as a consequence may become discouraged in their profession. This has a negative impact on the quality of education and the greatest impact is on the student's themselves [15].

However, the main focus of this study was not to seek the causes of such attacks, but check the levels of stress, anxiety, and depression in teachers. The percentage of teachers who obtained some degree of depressive symptoms above normal in elementary school (n = 33) was 27.3%, while in high school (n = 106) was 28.3%, a result very similar to that obtained by Strieder (2009) in a study conducted in the Amerios and AMEOSC regions [16].

These results may be due to several factors such as the duration of action of teachers, the fact that many practice their profession in more than one school, have more than one activity at the same school and

work in more than one shift. Moreover, many teachers are humiliated and verbally or physically abused in their work environment by students and other people involved in the educational process, which can exacerbate these symptoms.

Comparing elementary school with high school, it was observed that in elementary school (n = 33), the percentage of teachers who received some degree of anxiety above normal was 60.7%, while in high school (n = 106), this percentage was 38.7%. These findings are also similar to those obtained by Strieder (2009) [16].

**Table 2:** Medications used by the teachers interviewed.

Medications	N° of teachers
Fluoxetine	5
Clonazepam	4
Venlafaxine	1
Amisulpride	1
Duloxetine hydrochloride	1
Sertraline hydrochloride	2
Nortriptyline	1
Phytotherapeutic tranquilizer	1
Levomepromazine	1
Paroxetine hydrochloride	1
Alprazolam	2

Costa and Boruchovitch (2004) point out that in environments laden with anxiety, stress, and little incentive for motivation, intellectual and self-efficacy skills are impaired and thus the quality of education decreases. This is because the teachers divide their attention between the increasing demands in terms of teaching and education with feelings of insecurity, self-depreciation, and low self-esteem, among others that are present in individuals with depression [17].

The situation of depression among education professionals seems to be more complicated than is thought. The number of sick people is gradually increasing and in a worrying way [2]. Often the professional in a depressive state continues in the exercise of their teaching activities, and for various reasons refuses to have proper treatment, especially when it involves drugs. The beliefs of the population about depression can influence the process of looking for adequate treatment and adherence, due to the attitude and behavior of the community in relation to holders of this disorder [18]. Although there are several studies about the stigma of mental health, most of them deal with the conceptions of the subjects (patients, families, professionals) with respect to diseases such as schizophrenia, and not in relation to depression [19-21]. The stigma associated with schizophrenia appears to be more evident than what seems to happen with depression. However, this does not mean that there is no stigma attached to depression, it is believed that this is occurring, but in a less obvious and more veiled form.

This was one of the reasons that encouraged the researchers to deliver lectures on the subject of depression, anxiety and stress. The aim of the lectures was to try to reduce stigma and clarify for the subjects about various aspects of the issues involved.

It is recognized that the scales or inventories are assessment tools that do not have diagnostic characteristics. Therefore, to have a diagnosis of a psychiatric disorder such as depression and anxiety, it is necessary for a medical specialist in this area to review. Thus, after application of the scales, the teachers who had higher levels were asked to consult with the medical researcher. However only one teacher expressed interest and their visit was scheduled, but this individual did not attend the consultation.

In the work stress scale, according to Table 1, two questions presented an average above 2.5 points, being considered questions that arouse a higher stress level in teachers. The first was question 16 that asks "The low growth prospects in my career have left me distressed" had an average of 2.64 points. According Ballone (2002) [22], the urgency of time, excessive responsibility, expectations and lack of support are some of the factors that contribute to the development of stress at work. Aspects related to the lack of stability and job insecurity, and the fear of obsolescence in the face of technological change and little prospect of promotion and career growth, is major stressors relating to the organizational environment [23].

The second issue that had an average above 2.5 points was "Insufficient time to perform my workload makes me nervous". Several studies have linked the lack of time to carry out activities and stress. Silvano and colleagues report that more than half of men and women have difficulty performing everyday work activities with satisfaction, and this is associated with high rates of leaving the profession [6]. Delcor and colleagues (2004) cite excessive workload as one of the most stressful job characteristics of teaching [8].

Some teachers reported in the questionnaire the use of medications that act on the central nervous system. The most frequently cited medication class was that of antidepressants. It is known that depression is a disorder whose notoriety is still relatively recent; it is known that it has a high prevalence, affecting up to 11% of the population, and beyond public health significance, has financial impacts on a global scale<sup>2</sup>. Benzodiazepines were widely prescribed to treat anxiety disorders throughout the nineteen seventies as a safe and low-toxicity option, replacing barbiturates. The initial excitement gave way to concern about consumption at the end of the decade: concern about the risks and addiction that these substances can cause [24].

One concern is that teachers are taking refuge in medications that can take them to a controlled state of their feelings, allowing work to then be performed in less stressful way. This may be due to the high burden of responsibility, several hours of restless work, and pressures inflicted by superiors, students, professional colleagues and even parents of students.

Teachers who obtained high levels of stress, depressive, and anxiety symptoms were referred to appropriate treatment and it is expected that with psychiatric intervention these symptoms may disappear (remission) or be controlled.

The study limitation lies in the fact that we have not been able to get the answers to the questionnaires of all teachers of the schools involved in the study. Another important aspect is that only 60.43% answered to the work stress scale.

## Conclusion

Stress levels, depressive, and anxiety symptoms in public school teachers evaluated in this study are at high levels; these data may be related to several factors. The lecture in schools has contributed to the knowledge of teachers, as the interest and discussion on the subject were large, and the reflective approach was put on the agenda because these issues are not treated commonly among the population.

## References

1. Research shows that the main causes of stress at work. The Globe: Economy.
2. World Health Organization. The Global burden of disease. 2004.
3. Freudenberger HJ. Staff burn-out. *Journal of Social Issues*. 1974; 30: 159-165.
4. Pines AM, Aronson E. *Career burnout: causes and cures*. New York: Free Press. 1988.
5. Gasparini SM, Barreto SM, Assunção AA. O professor, as condições de trabalho e os efeitos sobre sua saúde. *Educação e Pesquisa*. 2005; 31: 189-199.
6. Silvano Neto AM, Araújo TM, Kawalkiewicz C, Dutra FRD, Azi GR, Alves RI, et al. Condições de trabalho e saúde dos professores da rede particular de ensino, Salvador, Bahia. *Rev Baiana Saúde Pública*. 2000; 24: 42-56.
7. Araújo TM, Reis EJFB, Kawalkiewicz C, Silvano Neto AM, Paranho I, Carvalho FMP, et al. Saúde e trabalho docente: dando visibilidade aos processos de desgaste e adoecimento docente a partir da construção de uma rede de produção coletiva. *Educação em Revista*. 2003; 37: 183-212.
8. Delcor NS, Araújo TM, Reis EJ, Porto LA, Carvalho FM, Oliveira e Silva M, et al. [Labor and health conditions of private school teachers in Vitória da Conquista, Bahia, Brazil]. *Cad Saude Publica*. 2004; 20: 187-196.
9. Gasparini SM, Barreto SM, Assunção AA. [Prevalence of common mental

- disorders among schoolteachers in Belo Horizonte, Minas Gerais, Brazil]. *Cad Saude Publica*. 2006; 22: 2679-2691.
10. Caill HM, Pires MIN. Aspectos gerais das Escalas de avaliação de Depressão. In: Gorenstein C, Andrade Lhsg, Zuardi AW. *Escalas de Avaliação Clínica em Psiquiatria e Psicofarmacologia*. São Paulo: Lemos Editorial. 2000.
  11. Gorenstein C, Andrade L. Inventário de Depressão de Beck – propriedades psicométricas da versão em português. In: Gorenstein C, Andrade Lhsg, Zuardi AW. *Escalas de Avaliação Clínica em Psiquiatria e Psicofarmacologia*. São Paulo: Lemos Editorial. 2000.
  12. Paschoal T, Tamayo A. Validação da Escala de Estresse no Trabalho. *Estudos de Psicologia*. 2004; 45-52.
  13. Levandoski G, Ogg F, Cardoso FL. Violência contra professores de Educação Física no ensino público do Estado do Paraná. *Motriz, Rio Claro*. 2011; 17: 374-383.
  14. Rosa MCC, Silva GAS. Situações de desrespeito ao professor em sala de aula: uma problemática atual no ensino superior. *Revista Eletrônica de Educação*. 2009; 3.
  15. Abramovay M. (coord.). *Cotidiano das escolas: entre violências*. Brasília: Unesco/ Observatório de Violências nas Escolas/ Ministério da Educação. 2006.
  16. Strieder R. Depressão e ansiedade em profissionais da educação das regiões da Amerios e da AMEOSC. *Roteiro*. 2009; 34: 243-268.
  17. Costa ER, Boruchovitch E. Compreendendo relações entre estratégias de aprendizagem e a ansiedade de alunos do ensino fundamental de Campinas. *Psicol Reflex Crit*. Porto Alegre. 2004; 17.
  18. Marques LAM, Galduróz JCF, Noto AR. Perceptions of depressed patients on depressive disorder and antidepressant treatment: elements for the clarification of pharmaceutical care. *Lat Am J Pharm*. 2012; 31: 869-876.
  19. Spadini LS, de Mello e Souza MC. [Mental illness in the view of patients and their families]. *Rev Esc Enferm USP*. 2006; 40: 123-127.
  20. Rodrigues CR, Figueiredo MAC. Concepções sobre a doença mental em profissionais, usuários e seus familiares. *Estudos de Psicologia*. 2003; 8: 117-125.
  21. Nunes M, Torrenté Md. Stigma and violence in dealing with madness: narratives from psychosocial care centers in Bahia and Sergipe, Northeastern Brazil. *Rev Saude Publica*. 2009; 43: 101-108.
  22. Ballone GJ. *PsiquWeb Psiquiatria Geral*.
  23. Jex SM, Elacqua TC. Self-esteem as a moderator: a comparison of global and organization-based measures. *Journal of Occupational and Organizational Psychology, Leicester*. 1999; 72: 71-81.
  24. Nastasy H, Ribeiro M, Marques ACPR. "Abuso e dependência de benzodiazepínicos." *Projeto Diretrizes*. 2008.