

Pressure to work, health status, and work conditions of schoolteachers in Basic Education in Brazil

Pressão laboral, saúde e condições de trabalho dos professores da Educação Básica no Brasil

Presión laboral, salud y condiciones de trabajo de los profesores de Educación Básica en Brasil

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Abstract

Diseases in general and work absenteeism due to illness are prevalent among schoolteachers in Basic Education, whose mission is essential for preparing future citizens. This study aimed to produce information on demographics, characteristics of the schools and school systems, and health status of the group of teachers that felt pressured to work even when sick. The probabilistic sample was calculated by simple random selection in order to represent the total universe of 2,229,269 Brazilian schoolteachers working in Basic Education (preschool-12). Teachers answered a multi-thematic questionnaire by telephone. The question leading to the outcome variable, "Do you experience difficulty missing work even when you're feeling pain or have some other health problem?", was tested and validated. The answer allowed empirically operationalizing the concept of pressure to work when sick. The multivariate analysis used Pearson's chi-square test and the decision tree method. The final model's fit was assessed by estimating the risk of incorrect classification. The tree's subdivisions pointed to weak social support as the first determinant of pressure to work, 55% reported difficulty missing work when they were feeling pain or having some other health problem, and 70% of the group that rated their health as bad or very bad felt pressured to appear for work even when sick or in pain. The associated factors were: weak social support, an agitated workplace due to unruly students, and health problems that were considered work-related diseases. Given the goals of valuing schoolteachers in Basic Education, attention should be given to gender differences, management styles, and infrastructure in the schools.

Occupational Stress; Decision Trees; Occupational Health; School Teachers

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Introduction

The health of schoolteachers in Basic Education (preschool-12) in Brazil is a relevant issue, not only socially and politically, but also as an inter-sector challenge. Teaching is one of the professions that is most vulnerable to work absences due to voice problems ¹ and mental disorders ². Musculoskeletal problems and diseases in general are prevalent in this group of workers ^{3,4}, whose mission is essential for preparing future citizens, contributing to social stability and playing a fundamental role in the development of future generations.

In Brazil, 2,229,269 schoolteachers are distributed across urban and rural areas in municipal, state, and federal schools, in the public and private systems, working part-time or fulltime, in a single institution or in two or more, and under different types of employment contracts ⁵. In the intramural environment, the degree of autonomy and level of social relations depend on the school's administrative model ⁶. As a whole, these factors affect the degree of satisfaction and security in which schoolteachers perform their mission ⁷ in the current scenario, in which the amount and quality of educational services are government goals and demands by society at large ⁸.

The cultural diversity characterizing the school's surrounding communities and the technological development and innovations in the didactic/pedagogical models produced by educational reforms expand the spheres of the school's action, thereby modifying the teacher's traditional role. In the new context, studies have proven an increase in the workload devoted to administrative and extracurricular activities ^{3,6,8}. The teacher's workplace is the classroom, but he or she carries out multiple tasks in the intersections between the school and society, family, and community and between generations. Intensification of work is an appropriate construct for addressing work conditions and their consequences for schoolteachers ⁹.

The pressure for schoolteachers' time devoted to countless school tasks and time for activities in their lives outside of work may be limiting their time for self-care, leisure, and cultural activities and relations with friends and family ¹⁰. Such imbalances disturb their necessary rest and recovery after their workdays at school and when they finish their non-classroom activities, with probable negative effects on their health ¹¹. In a vicious circle, when tired or sick, schoolteachers are less able to respond to classroom demands ^{12,13,14,15}.

The study aimed to produce information on demographics, characteristics of the schools and school systems, and health status of the group of schoolteachers who felt pressured to appear for work at school even when experiencing health problems.

Methods

Sample and data collection

From October 2015 to March 2016, the research team in the Educatel Study randomly selected a group of schoolteachers to be interviewed by telephone, either while they were at school or at home, via prior scheduling. Training for the interviewers reinforced the necessary communications skills and attributes to guarantee safety and tranquility for the interviewees, avoid embarrassments, and deal with any distrust or suspicion that might arise in this type of survey ¹⁶. The questions were read by the interviewer from a computer screen, which recorded the answers in digital format in real time so as to feed them continuously into the database. A three-minute informational video was produced to outline the study's objectives, ethical procedures, and institutional responsibilities during the first contact with the teacher.

The sample of active classroom schoolteachers was calculated by simple random selection in the strata defined according to the following variables: major geographic region (North, Northeast, Central, Southeast, and South); census area (urban, rural); age bracket (≤ 34 , 35-44, 45-54, and ≥ 55 years); sex (male, female); school's administrative jurisdiction (federal, state, municipal, private, and others); teacher's employment format (public admissions/permanent/stable, temporary contract, private school system, covered by consolidated labor legislation, and others).

Before the selection process, which was performed according to the ID code from the data source (information compiled annually by the technical body of the Brazilian Ministry of Education), teachers not currently performing classroom teaching were considered ineligible. At the first contact, made via the school's telephone number listed in the data source, 3.7% either were not actually working at the specific establishment (difference between the data source and the field study) or were not located after 15 attempts; 2.87% belonged to schools with no access by telephone (despite that information being listed in the data source). Further details on the sample design have been published in a previous article ¹⁷.

Instrument

The pretested multi-thematic questionnaire included 54 short and simple questions on overall health, social protection, work absences, access to health services, behaviors, material work conditions, psychosocial work conditions, and characteristics of the school's work organization. After concluding the data collection, the consistency and quality of the answers were confirmed. The study's performance was assessed by examining the percentage of answers in each of the target categories in the sample's stratification.

All of the questions on social support from the *Job Stress Scale* (JSS) ¹⁸ were included. In the JSS, the options are: strongly disagree, disagree, agree, strongly agree. The Educatel questionnaire, considering the telephone interview format ¹⁹, used frequently, sometimes, rarely, and never or almost never.

The demographic questions reproduced the model used by the Brazilian Institute of Geography and Statistics (IBGE) ²⁰: age bracket, sex, marital status, children, race, and schooling. Several questions aimed to explore the overall conditions in the school environment (workweek, available teaching materials, students' behavior, exposure to noise); job characteristics (multiple jobs, multiple schools, income, time on the job at that school); and commuting time to and from school. The questions related to the school environment were adapted from previous surveys in Brazilian schools ^{21,22}. The respondent's employment status, school census area (rural versus urban), and government sphere (municipal, state, federal), and type of school system (public, private) were obtained from the original source (administrative data) and combined with the data collected by telephone.

Finally, respondents were asked whether they had been diagnosed with any work-related disease and to rate their own health status. Self-rated health is a consistent indicator, widely used in population studies ^{23,24}. Further details on the study instrument have been published elsewhere ¹⁹.

Data analysis

The question that led to the outcome variable was based on the ErgoEnf (*Questionnaire for Examining Ergonomic Risk in Nursing Personnel*), and its elaboration followed all the methodological procedures proposed in the specialized literature: development of the domains, item selection based on an exhaustive literature review, interviews with the target population, content validation by two expert committees, and pretest ²⁵.

The original question from ErgoEnf ("Do you continue working when you have some pain or lesion?") was adapted in Educatel to "Do you have any difficulty missing work even when you're feeling pain or have some other health problem?". Rather than using the scale from 0 to 10 from ErgoEnf (0 – no influence, 10 – great influence), the answers in Educatel were yes, no, or don't know. This adaptation aimed to provide coherence with the type of interview used in the Educatel Study ¹⁹. This categorization allowed empirically operationalizing the feeling of being pressured to appear at school for work even when the teacher was feeling ill. The adapted question was tested and validated in the pilot phase of the Educatel Study.

A descriptive analysis of all the study variables was performed initially. Pearson's chi-square test was used to verify differences in the prevalence of pressure to work in the different groups, with significance set at 5%.

The decision tree method was used to further characterize the report of pressure to work according to the different schoolteachers' profiles. This is a nonparametric method which is also considered

a type of multivariate analysis, since it simultaneously considers the influence of all the explanatory variables in relation to the target outcome, based on classification rules. This method of multivariate analysis allows adjusting for the possible confounding factors and elaborating a more descriptive and illustrative profile of the target information. The tree begins with a root node that contains all the sample's observations. The subsequent nodes represent the data's subsets and subdivisions. Each division results in exactly two nodes. This strategy allows identifying homogeneous subgroups by systematic comparison of their characteristics, aimed at establishing a relationship between the explanatory variables and a single response variable (in this case, perceived pressure to work). The process of division is repeated until none of the selected variables shows any significant influence on the division or when the subset's size becomes very small²⁶.

The decision tree used the CART algorithm (Classification and Regression Tree). In the analysis via the CART algorithm, the criterion for excluding variables from the model is a measure called "improvement", which assesses the degree of "impurities" that were eliminated from the model by adding new variables. The higher the improvement value, the greater the variable's importance in the classification and thus the more homogeneous the new nodes. The criterion for concluding the process was a minimum improvement of 0.001²⁶.

The final model's fit was assessed by estimating the risk of incorrect classification, which indicates the degree to which the tree predicts the results correctly, comparing the difference between the adjusted value estimated by the model and the real value observed in the sample.

All the analyses used the Stata software, version 12.0 (<https://www.stata.com>), and considered the weightings required by the study's sampling design. The study was approved by the Institutional Review Board of the Federal University of Minas Gerais (protocol CAAE 48129115.0.0000.5149).

Results

A total of 6,510 interviews were performed, or an 85.2% response rate. More than half of the schoolteachers (55%) reported difficulty in missing work even when they are experiencing pain or some other health problem. There were large variations in this prevalence: 69% and 36.8% in the states of Rio Grande do Norte and Espírito Santo, respectively (Figure 1).

As shown in the results in Table 1, the sociodemographic variables that showed a statistically significant association with perceived pressure to work ($p < 0.05$) were: sex, marital status, educational level, having children, and major geographic region. Prevalence of pressure to work was higher among women (56.2%), married schoolteachers (56.5%), with university degrees (55.4%), with children (55.7%), and living in the Central region of Brazil (62%).

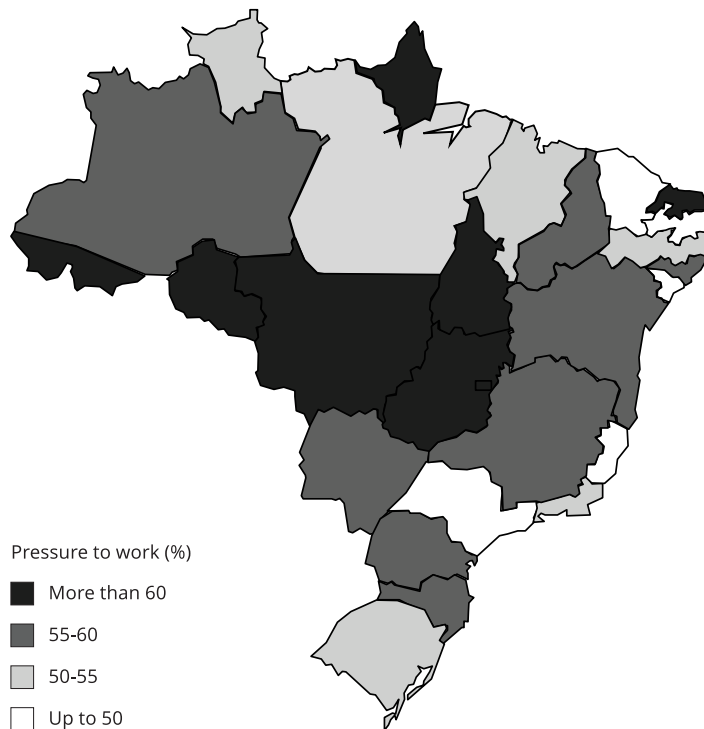
As for the school's characteristics and work conditions (Table 2), prevalence of perceived pressure to work was higher in schoolteachers working in more than one school (57%), on permanent or stable contracts or those involving public admissions (57.5%), teaching in state schools (57.5%), long workweeks (56.2%), weak social support (62.3%), agitated school environment due to unruly students (63.7%), and noise (64.6%). The last three characteristics showed particularly high prevalence of pressure to work, exceeding 60%.

As shown in Figure 2, in the multivariate analysis using the decision tree with the CART algorithm, the following factors remained associated with perceived pressure to work: weak social support, agitated school environment due to unruly students, worse self-rated health, and health problems considered work-related diseases. The latter two health indicators (Table 3) showed significant associations with pressure to work ($p < 0.05$). Two out of three schoolteachers that assessed their health as bad or very bad felt pressured to appear for work when sick or with pain. Likewise, the group of teachers that reported health problems considered work-related diseases showed higher prevalence of pressure to work (63%).

The tree's subdivisions indicated that the leading determinant of perceived pressure to work was weak social support. Schoolteachers that reported weak social support and fair, bad, or very bad self-rated health showed 70% likelihood of suffering pressure to work. Meanwhile, in the context of weak support, when self-rated health was good, the likelihood of pressure to work dropped to 61.1%, and when self-rated health was very good it dropped to 50.9%.

Figure 1

Prevalence of pressure to work according to Federation Units of Brazil among schoolteachers in Basic Education in 2016.



On the other hand, schoolteachers with strong social support but working in agitated classrooms with unruly students showed nearly 59% likelihood of reporting difficulty in missing work even when sick. For teachers not working in agitated classrooms but who reported health problems considered work-related diseases, this likelihood was 54.9%. Meanwhile, schoolteachers with strong social support, not working in agitated classrooms, and without work-related diseases, the likelihood of pressure to work dropped to 45.1%.

Importantly, the proposed decision tree model showed a good fit, with a risk of incorrect classification of 0.15 (standard error = 0.03), indicating that the model correctly predicts 85% of the data.

Discussion

The frame of reference for this study's design assumes the multidimensional nature of the health/disease process. Schoolteachers' sociodemographic characteristics, schools' and school systems' characteristics, type of teaching contracts, and other aspects are inextricably connected dimensions. Individuals act and react to the circumstances they find to work, which in turn are determined by the macrostructural level²⁷. To examine hypotheses elaborated from the perspective of this intersection between the macrostructure and microsocial levels, the study took an innovative approach to workers' health by adopting the decision tree model for analyzing the data from the Educatel Study. This non-traditional regression technique has the advantage of facilitating interpretation of the results when addressing multidimensional phenomena, since it is nonparametric.

Table 1

Association between sociodemographic characteristics and pressure to work when sick among schoolteachers in Basic Education in Brazil in the year 2016.

Characteristics	Total sample (%)	Pressure to work (%)	p-value *
Sex			
Male	19.7	48.4	< 0.001
Female	80.3	56.2	
Age bracket (years)			
18-24	4.2	47.9	0.115
25-34	28.8	55.9	
35-44	30.1	53.6	
45-54	26.3	56.5	
> 54	10.5	52.4	
Race/Color			
White	50.8	55.4	0.646
Black or brown	43.6	54.0	
Others **	5.6	53.9	
Marital status			
Without partner ***	40.8	52.0	0.004
With partner #	59.2	56.5	
Educational level			
≤ Secondary	9.4	46.5	0.001
University (complete or in progress)	90.6	55.4	
Children			
No	33.5	52.4	0.040
Yes	66.5	55.7	
Income (minimum wages)			
< 2	41.8	52.6	0.065
2-3	27.3	55.7	
> 3	30.9	56.6	
Major regions			
North	8.8	57.0	0.001
Northeast	28.4	54.3	
Central	7.2	62.0	
Southeast	40.5	52.1	
South	15.1	57.2	

* Pearson's chi-square test;

** The category "others" includes indigenous and Asian-descendant teachers;

*** The category "without partner" includes singles, widowers, and separated/divorced;

The category "with partner" includes married individuals and those in stable union.

The results confirm the challenges of Basic Education in Brazil, besides underscoring the troublesome situation for schoolteachers when confronted with illness, as identified previously by other researchers in the field of education ^{6,8,9} and public health ^{1,2,3,4,7,9,12,13,14}. The situations identified here emphasize the urgency of meeting the goals for valuing schoolteachers, as provided in Brazil's National Plan for Education (PNE) ²⁸.

Social support is a construct that reflects different types of transaction between individuals ²⁹. It refers to the quantity and quality of social relations and the instrumental resources that an organization uses to support its members ³⁰. Whether to appear for work or to miss work is a decision with strong repercussions, given the school system's difficulties in supplying substitute teachers to avoid

Table 2

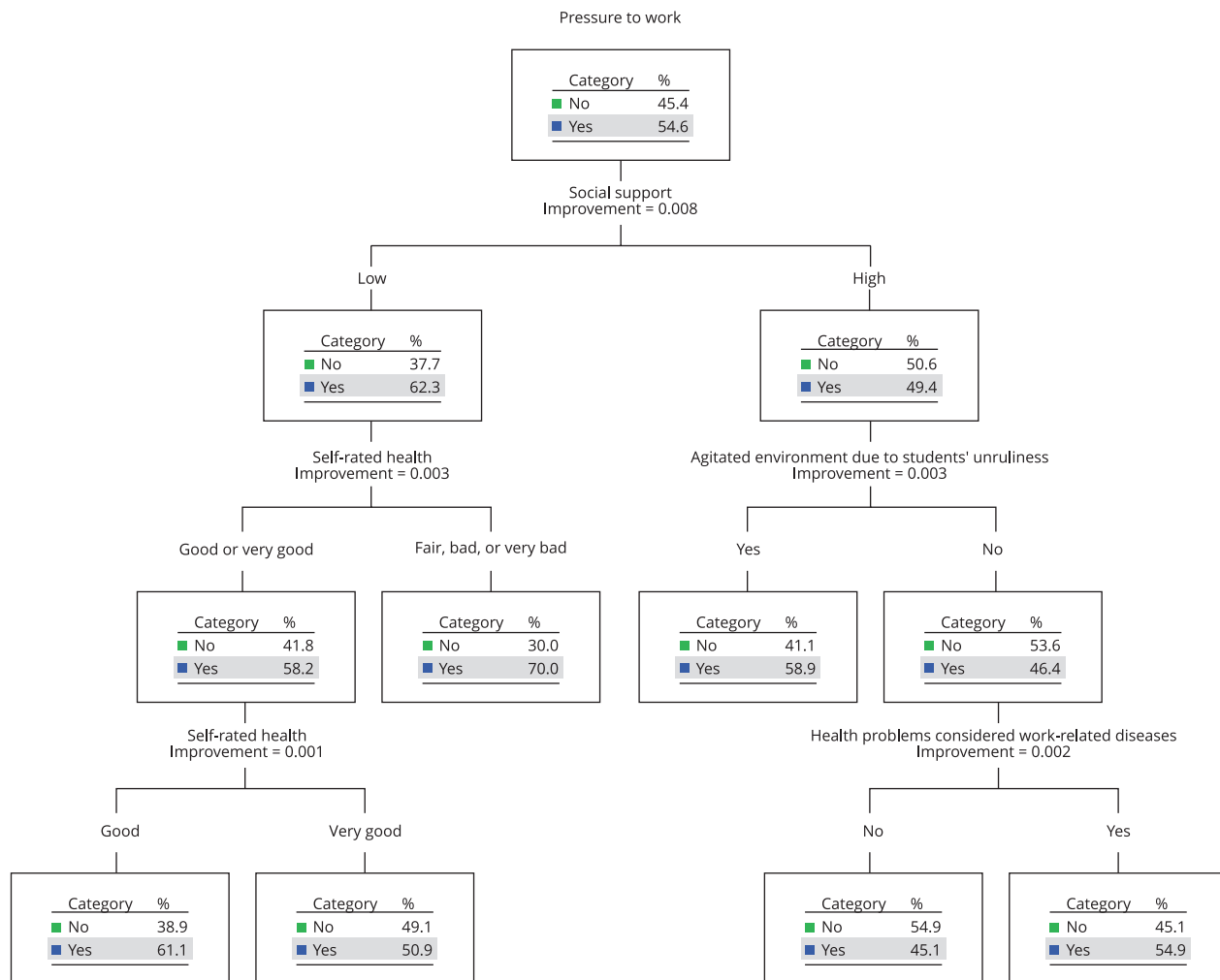
Association between school characteristics, work conditions, and pressure to work when sick among schoolteachers in Basic Education in Brazil in 2016.

Characteristics	Total sample (%)	Pressure to work (%)	p-value *
School's location			
Urban	84.1	55.0	0.190
Rural	15.9	52.4	
Teacher works in more than one school			
No	51.4	52.4	0.003
Yes	48.6	57.0	
Teacher works at something else besides teaching			
No	89.6	54.9	0.289
Yes	10.4	52.4	
Type of employment			
Public admissions/Stable/Tenured	39.7	57.5	0.002
Temporary contract	17.7	52.3	
Private school system	13.9	48.8	
Covered by Consolidated Labor Legislation	2.6	50.3	
Stable in private school system	6.3	55.5	
Time on the job at this school (years)			
< 10	34.6	53.0	0.102
10-20	33.2	54.2	
> 20	32.2	56.7	
Administrative jurisdiction			
Federal	5.9	55.8	0.006
State	40.2	57.5	
Municipal	33.4	53.3	
Private	20.5	50.8	
Long workweek (> 40 hours)			
No	39.4	52.4	0.016
Yes	60.6	56.2	
Social support			
Strong	59.4	49.4	< 0.001
Weak	40.6	62.3	
Number of items of teaching equipment			
0-10	8.8	55.0	0.050
11-30	27.7	51.6	
> 30	63.5	55.9	
Agitated environment due to student's unruliness			
No	68.1	50.4	< 0.001
Yes	31.9	63.7	
Noise			
No	66.9	49.7	< 0.001
Yes	33.1	64.6	
Daily commuting time (minutes)			
10-20	35.8	52.3	0.084
21-50	31.1	55.7	
> 50	33.1	56.0	

* Pearson's chi-square test.

Figure 2

Decision tree (CART algorithm) assessing factors associated with pressure to work among schoolteachers in Basic Education in 2016.



leaving youngsters without classes³¹. The results here are consistent on the association between weak social support and teachers' perception of having to appear at school when sick, because they reflect a reality with limitations to self-determination: without support to deal with the consequences of being sick or missing school, the only option is to be present³⁰. This phenomenon of "presenteeism" has been described extensively in the literature and is known to be associated with worse health status and negative repercussions for the school's faculty body and objectives³².

Perceived pressure to work when sick was significantly associated with female gender in the univariate analysis. This finding was not surprising, since work relations are mediated by gender relations³³. The disciplinary rules and devices are more rigorous for women, who face more barriers than men in accessing jobs and positions³⁴. Sexual segregation reproduces the gender power that marginalizes women when facing disciplinary norms and reporting their indispositions, illnesses, or disagreements³⁵. Would transposition of these configurations to school settings explain why female schoolteachers feel more pressure to work when sick, compared to their male counterparts? This type of transposition from the social sphere to work has been analyzed³⁶. Masculinity is embedded not only

Table 3

Association between health indicators and pressure to work when sick among schoolteachers in Basic Education in Brazil in 2016.

Characteristics	Total sample (%)	Pressure to work (%)	p-value *
Self-rated health			
Bad or very bad	3.5	68.8	< 0.001
Fair	23.5	63.4	
Good	49.5	52.4	
Very good	23.5	48.5	
Health problem considered work-related disease			
No	59.3	53.3	< 0.001
Yes	40.7	63.0	

* Pearson's chi-square test.

in productive organizations: see for example the sexual division of housework, leaving women with most or all of the responsibility for caring for family members and performing household chores³⁷. These gender relations are also important interpretative lines for examining direct associations between pressure to work and life with spouse and children. Finally, the higher the teacher's educational level, the higher the prevalence of perceived pressure to work even when sick. This finding apparently converges with a study³⁸, where the more educated the teachers are, the greater the tendency to perceive and report their health situation.

Noise is a prevalent occupational problem, the measurement of which in schools has identified various sources. Activities in the schoolyard and interactions in the hallways and elsewhere in the school overlap with the classroom noise³⁹. The results of the Educatel survey are consistent when observing higher prevalence of pressure to work among teachers that reported exposure to classroom noise and students' unruliness. A noisier environment and worse psychosocial background (e.g., students' lack of discipline) are common and coexisting events³⁹. They generally demand more effort by teachers, with negative effects on health¹³. Importantly, a precarious school infrastructure, one of the determinants of sound pollution, coincides with schools where students' performance is worse^{40,41}.

At the national level in Brazil, a double workday at the same school or in different schools is common among schoolteachers^{21,22}. The workday's extension prolongs the time of exposure to risk factors and decreases the time for recovery⁴², a factor for balancing one's health^{12,13}. The length of the workweek for Brazilian schoolteachers in Basic Education increased from 2002 to 2013. The proportion of schoolteachers that reported workweeks of 36 to 40 hours increased from 31.9% in 2006 to 38.7% in 2011 and 41.3% in 2013. According to a study by the Inter-Union Department of Statistics and Socio-Economic Studies (DIEESE)⁴³, this may be an effect of teachers' attempts to increase their earnings.

The educational process and quality of learning depend on more than a balanced budget. Students' socioeconomic status affects the demand for (and results from) schooling, with socially underprivileged students at a disadvantage^{43,44}. Of course, these characteristics are expressed differently when comparing communities in the same state⁴⁴, due to intersections between other determinants of the educational process, including administrative characteristics⁸, distribution of students according to color/race and gender, and the school's infrastructure and complexity⁴¹, in addition to the census area where the school is located (urban versus rural)⁴⁵. The highest prevalence of pressure to work when sick was identified in schools in the Central region of Brazil. Curiously, this geographic region has schools with better infrastructure⁴⁰. How does one interpret this apparently paradoxical result? The current study on pressure to work is unprecedented in schoolteachers, and it suggests exploring regional differences in greater detail in future research.

The states of Espírito Santo and Rio Grande do Norte, respectively, showed the lowest and highest prevalence of perceived pressure to work when sick. It is not simple to interpret these differences between states. Does pressure to work affect schoolteachers' tasks and thus influence students' performance? If so, in which direction? Let us examine the results of the Development Index of Basic Education (Ideb), disaggregated by states of Brazil. Ideb is calculated according to the schools' pass rate and students' performance on nationwide tests conducted by the Ministry of Education. The state of Espírito Santo ranked 8th, while Rio Grande do Norte ranked 21st on the Ideb index in 2015 ⁴⁶. In this case, is it plausible to assume that more pressure to work is associated with worse quality of teaching? Educatel is a cross-sectional study, so two explanatory directions are possible. First, it is conceivable that schoolteachers in Rio Grande do Norte are feeling more pressure because the students' performance is low and the schools' performance in that state is equally low. Meanwhile, one could assume that the two indicators are weak in Rio Grande do Norte because schoolteachers are discouraged by the perceived pressure to work. Using data from *Prova Brasil* (a nationwide scholastic performance test), studies have associated (with some caution) students' performance in the 5th and 9th grades with teachers' absenteeism rate ⁴⁷. It would be risky to try to answer these questions or to propose interpretative hypotheses because the variable that generated the results has its limits. Even so, one might well ask whether a higher score on Ideb depends on more personal effort by schoolteachers, which in the case of insufficient material and pedagogical resources would lead to greater strain, illness, and need to miss work ⁹, which is not a desirable behavior in schools and is thus discouraged, as discussed previously when interpreting the association with weak social support.

Working in municipal schools is not the same as working in state and federal schools. First, there are differences in their mission. Brazilian municipalities are responsible for preschool and primary schools. The states are responsible for primary and secondary education, and the federal government is in charge of financing the federal public schools and redistributing and supplementing funds to the states and municipalities ⁴⁸. Second, both the score on infrastructure assessment ⁴⁰ and the socioeconomic index of Brazilian schools in Basic Education ⁴⁹ are low in the municipal schools. No fewer than 61.8% of the municipal schools received the worst scores in terms of infrastructure ⁴⁰. As for the socioeconomic level in public schools, the federal schools scored the highest, followed by the state schools and finally the municipal schools ⁴⁹. The results of the Educatel Study shed light on the teachers' situation in state schools. It is worthwhile to consider another group of determinants for this result. Our suggestion is to investigate the effect of management models with a more administrative approach ⁵⁰ in order to understand the mechanisms that generate perceived pressure to work among teachers.

Thus far we have interpreted the prevalence of perceived pressure to appear for work according to the association with factors related to teachers' individual characteristics and the school's life. Let us now examine the effects of different types of teaching contracts. One would expect that conditions would be better for the formally employed group with stable contracts, compared to the temporary teachers, due to better labor benefits and social security coverage in the former ⁵¹. However, the results of the Educatel survey indicate higher prevalence of perceived pressure to work in the group with stable or tenured contracts (hired on the basis of public admissions) or with formal contracts (hired with full labor rights, called CLT in Brazil). Does this finding bear a relationship to other determinants such as the school's organizational model, for example? One hypothesis is that schoolteachers hired through public admissions or under formal labor contracts are working under an administrative system that uses more rigorous and standardized control models ³¹.

With all the caveats pertaining to interpretations in cross-sectional studies, the results of this first nationally representative study of Brazil's school system are sufficiently consistent to justify the call to elaborate policies to protect the health of schoolteachers in Basic Education, having identified a positive gradient between worse health status and perceived pressure to work. Before moving ahead, it is important to address the study's limitations.

The types of questions used to investigate the workplace itself (e.g., physical environment) or the subject's reactions (e.g., difficulty missing work when sick) merits special attention by researchers, because there may be an effect from measurement bias. Do self-reported characteristics of the physical environment objectively portray the environment, or do they reflect the subject's perception? Perception is an essential way to assess workplaces. However, on the one hand, social acceptance influ-

ences interviewees' answers to sensitive issues (e.g., problems with illness, administrative practices, and performance) in order to produce under or overestimation of results, since social acceptance is a latent variable, or whether it is manifest with dimensions not captured by current measurements. On the other hand, medical records or personnel spreadsheets are susceptible to distortions, as well as not capturing essential dimensions of the health/disease process⁵². In order to obtain the desired representativeness, this study opted for an interview with a computer-assisted questionnaire applied via telephone, a data collection modality known for speed in obtaining and processing data, and whose validity had been tested previously⁵³. Estimates via telephone surveys for risk factor surveillance in Brazil are consistent, having adopted the strategy of adjusting the distribution of the sample population with telephones to the total population's composition according to the peculiar characteristics of the groups with access to telephone lines⁵⁴. In the case of the Educatel survey, the comparison of respondents was not based on personal access to telephone lines, since the original data (from an administrative database) provide the schools' phone numbers, without listing the teachers' home phones. Importantly, one can generally assume agreement between information on diseases obtained by telephone when compared to that obtained by face-to-face interviews⁵².

Focusing on the teachers' perceptions of their situation in school is a way of appreciating the quality of Basic Education in the school. How are schools working for full personal development, a duty specified in Brazil's *Federal Constitution*, if schoolteachers are perceiving barriers to their own development and activity, in this case pressure to work when sick? Rulings have introduced items related to absenteeism when counting actual time on the job over the course of their careers³¹. This circumstance and others related to school administration contribute to the lack of the teaching profession's recognition. In a vicious circle, it may produce effects such as less interest by young people in entering the teaching career and discouragement and abandonment by those who originally persevered⁵⁵. The phenomenon is complex, considering the lessons learned from qualitative studies that highlight teachers' efforts to compensate for the precarious school infrastructure and to relieve the tensions experienced in the classroom microenvironment⁵⁶. Publishing these results in the context of the implementation of the PNE can be useful for orienting policies and programs to value schoolteachers. Despite budget constraints, strategies are still possible to produce changes at different levels in the school system rather than punitive practices or attitudes that generate the perception of pressure for to work even when ill^{57,58}.

Mechanisms for valuing teachers have included intramural measures to foment critical reflection⁵⁸ on the tensions, including work absences. There is a striking paucity of indicators to monitor schoolteachers' experience. To the contrary, the devices for evaluation feature audit procedures⁵⁰ that fail to foster critical reflection. It is certain that schoolteachers' responses to school demands mobilize subjectivity and require emotional disposition. The lack of recognition for such efforts is inconsistent with goals for valuing teachers. Evaluations based on auditing techniques in the school system's testing and inspection systems fail to capture the daily responses to what is demanded of schoolteachers, in addition to devaluing efforts, individuals, and the teaching profession^{50,58}.

Rather than "administrative colonization"⁵⁷, which burdens schoolteachers with a growing level of pressure, guilt, and frustration, it would be more productive to deal with the difficulties and problems experienced in the organization of work in schools⁵⁸. Along this line, we recommend comprehensive approaches rather than prescriptive or punitive practices. Good practices include self-assessment and peer assessment. Finally, it would be worthwhile to pursue comprehensive actions and to plan long-term interventions with monitoring in order to reinforce an ecological approach to work and health⁵⁹.

Conclusion

The results of the Educatel survey reaffirm problems related to infrastructure – exposure to noise and lack of classroom discipline, for example – as relevant factors for understanding the situation with illness in schoolteachers and its consequences for assiduousness. If teachers' absenteeism is a determinant of low quality of learning, it is essential to deal with the dimensions involved and their determinants, as proposed in the specialized literature. The perception of pressure to work when sick

clashes with widely accepted guidelines for transforming schools with democratic administration and proper appreciation for schoolteachers. Gender differences are relevant dimensions for establishing programs to value schoolteachers. Future studies are needed to enhance the understanding of the results that identified higher prevalence of pressure to work in schoolteachers that entered the school system via public admissions and/or were formally employed and working in regions of the country with better scholastic performance indicators.

Contributors

A. A. Assunção participated in the study's conception and design and wrote the article. M. N. S. Abreu analyzed and interpreted the data and participated in writing the article.

Additional informations

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Resumo

Morbidades em geral e licenças médicas são prevalentes no grupo dos professores da Educação Básica, cuja missão é essencial para a formação dos cidadãos. O objetivo foi produzir informações sobre as características demográficas, características da escola e da rede de ensino, e situação de saúde do grupo que percebeu pressão laboral. A amostra probabilística foi calculada por seleção aleatória simples, de maneira a representar o universo de 2.229.269 professores da Educação Básica no Brasil. O questionário multitemático foi respondido ao telefone. A pergunta que deu origem à variável desfecho, "Você tem dificuldade para faltar ao trabalho mesmo quando está com dor ou outro problema de saúde?", foi testada e validada. A resposta viabilizou operacionalizar empiricamente o conceito de pressão laboral. Utilizou-se o teste do qui-quadrado de Pearson e o método de árvore de decisão na análise multivariada. O ajuste do modelo final foi avaliado por meio da estimativa de risco de classificação incorreta. As subdivisões da árvore indicam o apoio social como o primeiro determinante da pressão laboral, 55% relataram que têm dificuldade para faltar ao trabalho, mesmo quando estão com dor ou qualquer outro problema de saúde, 70% do grupo que avaliou sua saúde como ruim e muito ruim se sentiram pressionados para comparecer ao trabalho quando doentes ou com dor. Os fatores associados foram: fraco apoio social, ambiente agitado em função da indisciplina dos alunos e problema de saúde considerado como doença ocupacional. Diante das metas de valorização dos professores da Educação Básica, diferenciais de gênero e estilos de gestão, além da infraestrutura nas escolas, devem ser considerados.

Estresse Ocupacional; Árvores de Decisões; Saúde do Trabalhador; Professores Escolares

Resumen

Morbilidades en general y bajas médicas son prevalentes en el grupo de los profesores de Educación Básica, cuya misión es esencial para la formación de ciudadanos. El objetivo fue producir información sobre las características demográficas, características de la escuela y de la red de enseñanza, y situación de salud del grupo que percibió presión laboral. La muestra probabilística se calculó por selección aleatoria simple, de manera que represente el universo de 2.229.269 profesores de Educación Básica en Brasil. El cuestionario multitemático se respondió por teléfono. La pregunta que dio origen a la variable desenlace: ¿usted tiene dificultad para faltar al trabajo incluso cuando sufre dolor u otro problema de salud? Se probó y validó. La respuesta hizo viable visibilizar empíricamente el concepto de presión laboral. Se utilizó el test del chi-cuadrado de Pearson y el método del árbol de decisión en el análisis multivariado. El ajuste del modelo final se evaluó mediante la estimativa de riesgo de clasificación incorrecta. Las subdivisiones del árbol indican el apoyo social como el primer determinante de presión laboral, un 55% informaron que tienen dificultad para faltar al trabajo, incluso cuando sufren dolor o cualquier otro problema de salud; un 70% del grupo, que evaluó su salud como mala y muy mala, se sintió presionado para comparecer al trabajo cuando estaban enfermos o sufrían dolores. Los factores asociados fueron: escaso apoyo social, ambiente agitado en función de la indisciplina de los alumnos y problema de salud considerado como enfermedad ocupacional. Ante estas metas de valorización de los profesores de educación básica, se deben considerar diferenciales de género y estilos de gestión, además de las infraestructuras en las escuelas.

Estrés Laboral; Árboles de Decisión; Salud Laboral; Maestros

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