

Hypotheses, design, and instruments in the Educatel Study, Brazil, 2015/2016

Hipóteses, delineamento e instrumentos do Estudo Educatel, Brasil, 2015/2016

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Ada Ávila Assunção ¹
Adriane Mesquita de Medeiros ¹
Rafael Moreira Claro ²
Marcel de Toledo Vieira ³
Emanuella Gomes Maia ²
Juliana Mara Andrade ¹

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Abstract

The Educatel Study 2015/2016 was designed to evaluate health and work conditions in a representative sample of the 2,220,000 schoolteachers working in Basic Education in Brazil. The article aimed to describe the telephone survey's basis and design, using a questionnaire consisting of 54 short, simple questions, most of which with multiple-choice answers (closed questions) addressing diseases, accidents, absenteeism, frequency of healthy behaviors, physical and psychosocial environment, and employment characteristics. In the pilot stage, the multi-theme questionnaire was assessed in order to verify the effects of the terminology, the format of the questions and the multiple-choice answers, the questionnaire's internal organization, production of the answers, and duration of the interview. The interviewers' training and follow-up and listening of the calls in real time aimed to identify communications problems. The teachers were interviewed at school after prior contact with the school assistant to set appointments. The advantages and risks of biases related to the telephone interview modality should be considered to interpret the results. The results on the teachers' profile, illnesses, and school environment will provide inputs for elaborating inter-sector measures to improve the target group's health, which is related to Brazil's school system indicators based on the concepts presented here.

Methods; Health Surveys; School Teachers; Occupational Health

Correspondence

A. A. Assunção
Faculdade de Medicina, Universidade Federal de Minas Gerais.
Av. Alfredo Balena 190, Belo Horizonte, MG 30310-450, Brasil.
adavila@medicina.ufmg.br

¹ Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, Brasil.

² Escola de Enfermagem, Universidade Federal de Minas Gerais, Belo Horizonte, Brasil.

³ Instituto de Ciências Exatas, Universidade Federal de Juiz de Fora, Juiz de Fora, Brasil.



Introduction

A survey is a concepts-based activity developed with methodological resources planned to collect and analyze data in a given population. Survey procedures are well-defined and accompanied by an exercise of data processing, treatment, and compilation ¹.

Health surveys have been conducted in industrialized countries since the 1960s as valid resources for formulating and evaluating public policies. They are generally developed on the basis of the need for information when there are no data, or when data are available but insufficient to define the health situation in a population or in specific groups, aimed at assessing access to services or to identify risks of certain diseases ².

Meanwhile, occupational surveys are intended to study groups – fractions of the overall population – who have in common the fact that they are connected to the same employment under particular work conditions. This type of study is widely used in the workers' health field, given the advantage of simultaneously examining the health situation and work conditions possibly associated with the target phenomena ³. In short, the strategy of conducting surveys in occupational groups allows examining the hypothesis concerning the contribution of work conditions to adult workers' health ^{4,5}.

Survey results are descriptive but allow obtaining analytical results via adjustments to statistical models ⁶. It is thus possible to evaluate associations between the respondents' characteristics (e.g., teacher's age), context (characteristics of the school and surrounding area), and target outcomes (voice disorders, etc.). They do not refer either to objective measurements in the physical environment (dust and noise) or measurements of vital data or objective approximations of the individuals' behaviors (verification, at the worker's home, of sleep duration and hours), although such measurements are feasible, as attested by recent surveys ^{7,8}.

The Educatel Study – a telephone survey on health, work conditions, and work absences in schools in Basic Education in Brazil – is part of the activities developed in the debate and development of the Brazilian National Educational System (SNE). The prevalence of illnesses and their consequences for teachers' well-being and work attendance clash with widely accepted guidelines on the relevance of valuing teachers for achieving educational objectives, as indicated in targets 15, 16, 17, and 18 of the Brazilian National Plan for Education ⁹. These specific targets are considered strategic for achieving the others ¹⁰. Valuing teachers is related to both classroom teaching conditions and the interfaces with external dimensions of teaching work per se: training, career plans, wage policies, and social recognition ¹¹. Two components, namely teachers' workday and salaries, are key health issues on the agenda of teachers' unions ¹² and are frequently mentioned by specialists in education ^{10,13}.

Most local governments in Brazil fail to ensure time in the formal workday for teachers to perform non-classroom activities or guarantee exclusive and fulltime employment for teachers in the same school, both of which are formally provided for under the country's legislation ¹⁴. From 1981 to 2009 there was a mean increase of four hours in the workweek of teachers that answered the Brazilian Institute of Geography and Statistics (IBGE) survey on workweeks in the person's primary employment. During this same period, 10 to 20% of teachers reported having more than one job, or a 5% increase in this contingent in recent years ¹³. According to Oliveira & Vieira ¹⁵, three-fourths of teachers interviewed in seven states of Brazil routinely took work home to finish after hours. Among these, more than half were not paid for this non-classroom overtime work. In 2016, ten Brazilian states and more than half the municipalities (counties) ¹⁶ fell short of complying with the law establishing a nationwide minimum wage for schoolteachers ¹⁷. Teachers received lower salaries than other professionals with similar educational levels. This likely explains why 18% of Brazilian teachers hold two or more jobs ¹⁸.

One can conjecture on the relationship between such data on teachers' health indicators and issues of quality of education ¹⁹. First, how can a teacher with such a long workday manage to study and keep up with the dynamics of the cultural and scientific world? Besides, these characteristics of employment in Basic Education may limit teachers' access to health services, leisure-time activities, and decent transportation ^{20,21}. These conditions are stressful, reduce quality of life, and produce effects that result in illness ²². Second, how can the system expand the students' school day, induce greater teacher retention in the same school, and open new learning opportunities for pupils if teachers are discouraged, plagued with health problems, and facing financial dilemmas in their lives?

In the attempt to provide inputs to operationalize the targets for valuing teachers, Educatel 2015/2016 was designed to directly measure the prevalence of diseases and accidents and absenteeism and its factors, in addition to identifying employment status, work attendance, and healthy behaviors in a representative sample of the 2,220,000 teachers working in preschool, elementary, and secondary school or in special education, which jointly comprise Basic Education in Brazil. The article describes the basis and techniques used in the representative nationwide survey of Brazilian schoolteachers.

Study design

Preliminary stage, prior to data collection

Since 2001, this group of researchers has focused on teachers' health in Basic Education. In addition to qualitative (clinical and ergonomic) studies, in 2004 a survey was held in the municipal schools in Belo Horizonte, Minas Gerais State, providing the main references adopted in the Educatel Study ²³.

The first results of the microdata available at the Brazilian National Institute for Educational Studies and Research "Anísio Teixeira" (INEP) ²⁴, covering the entire universe of Brazilian schoolteachers, revealed differences when the schools were compared according to the country's five major geographic regions and census areas (rural vs. urban). The parameters for the sampling plan were thus prepared to reflect this diversity: teachers in relation to their own characteristics and their employment and the schools where they worked as to geographic location, teaching modality, and physical and psychosocial environments. Absenteeism for health reasons was considered a relevant event and was incorporated as the principal outcome both in the sampling plan and in calculating the study's size. Additional details have been published in a previous study ²⁵.

A "face-to-face" survey would have been unfeasible, because it would have been too expensive, given the objective of obtaining information on a national scale. To achieve a response rate consistent with the desired representativeness, we opted for a telephone interview with a computer-assisted questionnaire, based on speed in obtaining and processing data with this survey modality ²⁶. Telephone interviews are a valuable method for avoiding the costs and difficulties involved in moving the interviewer from site to site ²⁷. This strategy's consistency had been proven in previous studies that identified similar results when comparing telephone and face-to-face interviews ²⁸. The most recent and robust Brazilian experience – VIGITEL ²⁹ – was corroborated by results that identified similarity in the prevalence of chronic diseases when comparing home interviews with a telephone survey ²⁶.

Concerning the location for the interview, there is a known advantage to approaching workers during their normal workday, which facilitates their recalling workplace conditions and related characteristics ³⁰. We thus used the INEP website ²⁴ to identify telephone numbers for the schools where the selected teachers worked, in order for them to answer the questionnaire.

While barriers related to efficiency are overcome with the telephone survey modality, there are well-known disadvantages. By telephone, the interviewer perceives the interviewee's embarrassment with the content of some questions. Sensitive questions become less embarrassing with a self-applied questionnaire than with a questionnaire applied by the interviewer by telephone or a face-to-face interview (in that order). This is an example of the modality. On the one hand, in a face-to-face interview, when the interviewer and the participant meet in person, the odds are lower for misunderstandings or for the participant to decide not to participate. The face-to-face modality also allows recording nonverbal communication, which is useful for expanding the understanding of what occurs when the participant interacts with the questions' content.

Finally, the survey was made possible thanks to authorization by INEP ²⁴ to access the information available in the institute's national registry of schoolteachers.

Developing the questionnaire

The study design's underlying concepts were reproduced as empirically testable elements through questionnaires developed to meet the specificities of a telephone survey ³¹.

The questionnaire took considerable time to develop, since it was done in step with the development of the theoretical framework and exploration of the field to characterize the study population and the scenario where the teachers work, plan the sample, and collect elements for the hypotheses based on the notion of the health/disease process, as appropriate in the field of workers' health.

In the Educatel Study, selection and measurement biases were minimized in order to ensure the interpretations' consistency and the study's credibility. To offset any selection bias, we adopted a complex sampling plan to obtain estimates with preestablished precision measurements. Having concluded the data collection, we identified the participation rates (for eligible teachers) according to major geographic regions of Brazil, school location (rural vs. urban), age bracket, gender, school's administrative status (public vs. private), and teacher's employment status. Sampling weights adjusted for non-response and estimation procedures were adopted. Further methodological details have been published elsewhere ²⁵.

The questionnaire was developed in careful detail, as we shall see, and the interviewers were adequately trained to avoid the measurement bias expected in epidemiological surveys, regardless of the interview modality (telephone or face-to-face). The variables and measurement format were based on careful study of the literature to identify validated and widely used formats, as described below. In addition to this care, the questions on the workplace and behaviors, commonly criticized in society (difficulty in missing work when sick, for example) were drafted in keeping with consistent recommendations in the literature. Box 1 lists the references for each scale or sensitive question used.

The questions formulated to obtain information from teachers on their health status and work conditions aimed to produce original data to fill gaps in this area. Knowing that the question constructs the object and that the answers depend on the question's format ³², tests and retests were performed to avoid measurement bias ³³. Essentially psychological questions are not always faced naturally by the respondent, besides requiring more concentration ³³, so some questions and choices of answers were adapted. The questionnaire's approval depended on the validation of these questions and answers that were adapted for the study's purposes.

During the development of the questionnaire, we examined the known and validated scales for multidimensional events (e.g., violence, social support, autonomy). Cross-cultural adaptation was the criterion for adopting both the scales and the key questions that had been developed outside of Brazil and in other languages ³⁴. We also examined the adequacy and sufficiency of the questionnaire's psychometric performance.

Teachers' exposure to interpersonal conflicts in the development of their activities at school ^{15,22,35}, including with the students themselves, motivated the inclusion of two specific questions: "In the last 12 months, have you suffered any VERBAL violence from students?" and "In the last 12 months, have you suffered any PHYSICAL violence from students?". The choices for answers were: "never", "once", and "twice or more". The two questions were drafted and validated in the Educatel Study.

The social support dimension was investigated with pertinent questions taken from the *Job Stress Scale* (JSS), which has been adapted and validated in Brazil ³⁶. The response categories for these questions are "strongly disagree", "disagree", "agree", and "strongly agree". In order to facilitate the telephone interview, which excludes other forms of communication between the interviewer and interviewee (e.g., facial expressions), the JSS answers were adapted to "frequently", "occasionally", "rarely", and "never or almost never". We did not identify any refusals or attempts by teachers to give at evasive answers or similar verbalizations that might denote embarrassment on the part of the interviewee.

As for autonomy, the question used previously was reproduced ³⁵ (Box 1): Does the school give teachers the opportunity to participate actively in decisions? ("frequently", "occasionally", "rarely", "almost never", or "never").

The physical activity scale adopted in the VIGITEL survey ²⁹ was used in full. Key outcomes in the study were defined with the same strategy used for the scales, whether reproducing consensus for the question's format and content, as in the case of absenteeism ³⁷, or adapting the format to the modality of choice (Box 1). We did not perform linguistic adaptations to local and regional specificities, considering the sample's relatively homogeneous schooling level.

Testing of the multi-thematic questionnaire aimed to verify the effects of its terminology, the questions' format (open or closed), the choices of answers, the questions' organization within the

Box 1

Thematic blocks, variables, and reference source or scale in the Educatel Study, 2015.

Thematic blocks	Variables	Reference for the question or scale
Overall workload	Aimed to identify the teacher's job, career, and work: time working in teaching, number of schools where the teacher currently works, length of workday, and other jobs	System for the Evaluation of Basic Education (SAEB) [Sistema de Avaliação da Educação Básica] ⁴⁴
Psychosocial work conditions	Social support	Full content of the dimension used in the JSS ³⁶
	Autonomy	Adaptation of questions from the TALIS ³⁵
	Investigated the demand and control dimensions	Adaptations of the JSS ³⁶
	Reward	Adaptations of the effort-reward scale ⁴⁵
Absenteeism	Included questions on frequency of absenteeism, reasons, length, and workplace accidents	Frequency of work absences was based on a question translated from the <i>Questionnaire for Fourth European Survey on Working Conditions</i> (2005) ³⁷
	Illnesses and healthcare	Used questions from different schoolteacher surveys in Brazil ^{46,47}
Workplace conditions	Aimed to identify exposure to noise	Questions extracted in full from the <i>Questionnaire for Fourth European Survey on Working Conditions</i> (2005) ³⁷
	Aimed to identify exposure to students' lack of discipline	TALIS ³⁵
	Aimed to identify exposure to physical and verbal violence from students	Questions elaborated and validated in the Educatel Study
Health and lifestyle	Addressed physical activity, self-rated health, regular medical examination	VIGITEL ²⁹
	Sleep	Adapted from the GHQ-12 ⁴⁸
	Use of medications	Adapted ⁴⁹
	Smoking	Extracted ⁵⁰
	Voice disorders	Adapted from V-RQOL ⁵¹
Demographic and socioeconomic characteristics	Covered means of transportation and commuting time to and from work	VIGITEL ²⁹
	Housework	Question from the PNAD 2008 ⁵²
	Race, marital status, salary, total number of children and number of children under 10 years of age	The first two were taken from the 2010 <i>Population Census</i> by IBGE ⁵³ . The others were created specifically for the Educatel Study

GHQ-12: *General Health Questionnaire*; IBGE: Brazilian Institute of Geography and Statistics; JSS: *Job Stress Scale*; PNAD: *Brazilian National Household Sample Survey*; TALIS: *Teaching and Learning International Survey*; VIGITEL: *Risk and Prospective Factors Surveillance System for Chronic Non-Communicable Diseases through Telephone Interview*; V-RQOL: *Voice-Related Quality of Life*.

questionnaire, the production of answers, and duration of the interview. This stage incorporated nine volunteers, including medical and nursing students who were currently teaching in Basic Education. The questionnaire's adequacy was confirmed after assessment of each question as to understanding of the wording and its objective. During the pilot stage, special attention was given to occasional impasses on the interviewee's part when asked about a specific event. Reports of failure to recall a certain event, doubts with the questions or choices for answers, and expressions of embarrassment, as described, were taken into account to adjust the questionnaire's structure and content.

As for recall bias, it is possible to minimize its interference when the questions refer to more recent time frames for the target event. However, in some cases we maintained the 12-month time frame for asking about work absences due to illness, for example. The justification for adopting longer time frames in these and other situations was the need to follow consensus in the literature in order to ensure the results' comparability with those from other studies.

The answers' validity was verified via tests to measure internal consistency. For example, we attempted to identify any inconsistency between the answer concerning the reason for the work absence and reports of symptoms related to that reason. Next, a new assessment of the questionnaire was performed with other participants. The questionnaire's structure, content, and basis were addressed in the Educatel instructions manual ³⁸.

Following weeks of work, the questionnaire was approved, consisting of 54 short and simple questions, mostly with multiple-choice answers (closed questions). Relevant information such as the teacher's gender, age (date of birth), employment status, area of residence, and schooling was obtained from the 2014 *School Census* ²⁴ in order to save time in the interview. The same source was used for the following data on the school: location, schooling level, administrative system, size according to number of teachers, census area, safe water supply, electricity, sewage disposal, garbage disposal, and the school's equipment and installations.

Telephone interview

The telephone interviews were conducted from October 2015 to March 2016. The team included 30 interviewers, two supervisors, and a general supervisor. They all received prior training and were accompanied by the study coordinators. Interviewees tend to have less patience answering questions by telephone when compared to face-to-face interviews. To avoid this unwanted effect, which might have interfered in the information's quality, we opted for a short interview. The team used a maximum of 8 minutes for the interview. This was a limiting factor, since some questions from validated scales had to be eliminated (Box 1), as mentioned.

Teachers were contacted first via a call to the landline telephone at the school where they worked. After confirming with the school assistant that the teacher worked there (eligibility criterion), the interview started right then if the teacher was able and agreed to answer. Some interventions were performed to adjust the approach to the school assistant that answered the first call looking for the selected teacher in order to schedule the interview per se or to interview the teacher right then whenever possible. If the teacher was not at the school or unable to participate in the interview at the time of the call, we attempted to obtain another telephone number or set another time according to the teacher's convenience and comfort. In case of impediments, further contacts were made on different days of the week and at different times until the interview was actually performed or the teacher effectively declined to participate. The number of attempts varied from one, in case of a successful call to initiate and conclude the interview, to fifteen, in cases when the interview was not initiated or had to be interrupted. During the first contact, the teacher was informed of the survey's website to access a 3-minute video explaining the objectives, ethical aspects, and institutional responsibility ³⁹. If the teacher was interested, he or she could also receive the video via WhatsApp.

The data were entered in real time thanks to the electronic system. In other words, the questions were read on a computer screen by an applier that directly and immediately recorded the answers digitally. The tool developed especially for this purpose allowed scheduling the interviews, automatically skipping questions that were not applicable due to previous answers and real time critique of the non-valid answers, in addition to directly and continuously feeding the system's databank. Twenty percent of the interviews were randomly selected and supervised. In addition, 10% of the calls not converted into interviews were audited. The supervisor monitored the quality of the interviews by listening to the recordings and identifying tendencies, lapses, etc., which (when identified) were corrected immediately to decrease the measurement bias. Selection and training of the interviewers before the data collection began emphasized the importance of empathy, listening skills, capacity to answer the teacher's doubts without generating insecurity in communicating the survey's objectives ⁴⁰.

Final remarks

Progress in the field of workers' health requires empirically confirming or refuting plausible hypotheses. Despite its limitations, the telephone survey is a means to know how subjects perceive their job situation and to allow researchers to formulate hypotheses on the target phenomena. Such results

are also powerful for orienting measures to transform workplace conditions, backed by social and community constructs that are more robust than those generated through spreadsheets applied by occupational risk managers.

The self-report method in relation to the physical work environment, for example, or on the subject's reactions to job circumstances (satisfaction, for example) received some criticism in the 1990s. However, other techniques (direct measurement of ambient sound levels, for example) are also subject to distortions⁴¹, since there is variation in exposure to specific factors over the course of the day, the week, and the months, besides seasonal problems that can influence a factor's concentration in the microenvironment in drier or hotter seasons compared to other times of the year. The above-mentioned limitation is compensated for by the advantage of considering self-perception of health-related facts according to the subjects' own ideas concerning such facts. This is known as representation, which is related to the individual's constructs within a given social milieu, and whose health is not disconnected from these ideas.

Finally, the area where the selected teacher was located may not have been covered by the land-line telephone system, as already mentioned and addressed by researchers using this strategy⁴². Post-stratification statistical adjustment procedures allow mitigating the effects of the bias related to telephone coverage⁴³. Details on these procedures have been published in another article²⁵.

The basis for the Educatel Study featured proper attention to the consensuses in the literature when elaborating the questions and drawing on validated and adapted scales^{3,4,5}, as well as by the adoption of the telephone interview modality. Despite the limits of a survey for identifying relations between health and work, the results of the study analyzing a probabilistic and representative sample of Brazilian schoolteachers²⁵ will provide useful input for programs in the school system to implement the Brazilian National Plan for Education⁹. This methodological strategy was inspired by Brazilian national surveys on noncommunicable diseases and was an innovative initiative in the field of workers' health.

Contributors

A. A. Assunção analyzed the literature and organized and wrote the article. A. M. Medeiros revised the literature and participated in writing the article. R. M. Claro and M. T. Vieira collaborated in writing the article. E. G. Maia collaborated in the data analysis and participated in writing the article. J. M. Andrade collaborated in the data analysis and interpretation and participated in writing the article.

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Additional informations

ORCID: Ada Ávila Assunção (0000-0003-2123-0422); Adriane Mesquita de Medeiros (0000-0002-2817-2555); Rafael Moreira Claro (0000-0001-9690-575X); Marcel de Toledo Vieira (0000-0002-0456-380X); Emanuella Gomes Maia (0000-0001-6655-0230); Juliana Mara Andrade (0000-0002-7480-519X).

References

- Mauz E, von der Lippe E, Allen J, Schilling R, Müters S, Hoebel J, et al. Mixing modes in a population-based interview survey: comparison of a sequential and a concurrent mixed-mode design for public health research. *Arch Public Health* 2018; 4:76-8.
- Malta DC, Leal MC, Costa MFL, Morais Neto OL. Inquéritos Nacionais de Saúde: experiência acumulada e proposta para o inquérito de saúde brasileiro. *Rev Bras Epidemiol* 2008; 11 Suppl 1:159-67.
- Gobbi T, Lima EP, Assunção AA. Panorama dos inquéritos ocupacionais no Brasil (2005-2015): uma revisão sistemática da literatura. *Ciênc Saúde Coletiva* 2018; ahead of print. <http://www.cienciaesaudecoletiva.com.br/artigos/panorama-dos-inqueritos-ocupacionais-no-brasil-20052015-uma-revisao-sistemica-da-literatura/16655?id=16655>.
- Iñiguez MJI. Encuestas de condiciones de trabajo y salud: su utilización en la investigación en salud laboral. *Med Segur Trab* 2012; 58:205-15.
- Benavides FG, Merino-Salazar P, Cornelio C, Assunção AA, Agudelo-Suárez AA, Amable M, et al. Cuestionario básico y criterios metodológicos para las Encuestas sobre Condiciones de Trabajo, Empleo y Salud en América Latina y el Caribe. *Cad Saúde Pública* 2016; 32:e00210715.
- Bernal RT, Malta DC, Morais Neto OL, Claro RM, Mendonça BC, Oliveira AC, et al. Vigitel-Aracaju, Sergipe, 2008: the effects of post-stratification adjustments in correcting biases due to the small amount of households with a landline telephone. *Rev Bras Epidemiol* 2014; 17:163-74.
- Szwarcwald CL, Malta DC, Pereira AC, Vieira MLFP, Conde WL, Souza Júnior PRB, et al. Pesquisa Nacional de Saúde no Brasil: concepção e metodologia de aplicação. *Ciênc Saúde Coletiva* 2014; 19:333-42.
- Ferreira LRC, Martino MMF. Padrão de sono e sonolência do trabalhador estudante de enfermagem. *Rev Esc Enferm USP* 2012; 46:1178-83.
- Brasil. Lei nº 13.005, de 25 de junho de 2014. Aprova o Plano Nacional de Educação – PNE e dá outras providências. *Diário Oficial da União* 2014; 26 jun.
- Nogueira FMB, Lambertucci AR. O SNE e o cuidado com a saúde para a valorização do educador. *Retratos da Escola* 2012; 6:355-64.
- Hypolito AM. Trabalho docente na educação básica no Brasil: as condições de trabalho. In: Oliveira DA, Vieira LF, organizadores. Trabalho na educação básica: a condição docente em sete estados brasileiros. Belo Horizonte: Fino Traço Editora; 2012. p. 211-29.
- Confederação Nacional dos Trabalhadores em Educação. Condições de trabalho e saúde dos profissionais da educação. *Retratos da Escola* 2012; 6:517-20.
- Fernandes DC, Silva CAS. Perfil do docente da educação básica no Brasil: uma análise a partir dos dados da PNAD. In: Oliveira DA, Vieira LF, organizadores. Trabalho na educação básica: a condição docente em sete estados brasileiros. Belo Horizonte: Fino Traço Editora; 2012. p. 43-62.
- Brasil. Lei nº 9.394, de 20 de dezembro de 1996. Estabelece as diretrizes e bases da educação nacional. *Diário Oficial da União* 1996; 23 dez.
- Oliveira DA, Vieira LF. Condições de trabalho docente: uma análise a partir dos dados de sete estados brasileiros. In: Oliveira DA, Vieira LF, organizadores. Trabalho na educação básica: a condição docente em sete estados brasileiros. Belo Horizonte: Fino Traço Editora; 2012. p. 153-90.
- Tokarnia M. Menos da metade dos municípios declararam cumprir o piso dos professores em 2016. Agência Brasil 2017; 12 jan. <http://agenciabrasil.ebc.com.br/educacao/noticia/2017-01/menos-da-metade-dos-municipios-declararam-cumprir-o-piso-dos-professores-em>.
- Brasil. Lei nº 11.738, de 16 de julho de 2008. Regulamenta a alínea “e” do inciso III do caput do art. 60 do Ato das Disposições Constitucionais Transitórias, para instituir o piso salarial profissional nacional para os profissionais do magistério público da educação básica. *Diário Oficial da União* 2008; 17 jul.
- Matijascic M. Professores da Educação Básica no Brasil: condições de vida, inserção no mercado de trabalho e remuneração. Rio de Janeiro: Instituto de Pesquisa Econômica Aplicada; 2017. (Texto para Discussão, 2304).
- Sampaio MMF, Marin AJ. Precarização do trabalho docente e seus efeitos sobre as práticas curriculares. *Educação & Sociedade* 2004; 25:1203-25.
- Pereira EF, Teixeira CS, Lopes AS. Qualidade de vida de professores de educação básica do Município de Florianópolis, SC, Brasil. *Ciênc Saúde Coletiva* 2013; 18:1963-70.
- Tabeleão VP, Tomasi E, Neves SF. Qualidade de vida e esgotamento profissional entre docentes da rede pública de Ensino Médio e Fundamental no Sul do Brasil. *Cad Saúde Pública* 2011; 27:2401-8.
- Assunção AA, Oliveira DA. Intensificação do trabalho e saúde dos professores. *Educação & Sociedade* 2009; 30:349-72.

23. Núcleo de Estudos Saúde e Trabalho, Faculdade de Medicina, Universidade Federal de Minas Gerais. Saúde dos professores da educação básica. <https://site.medicina.ufmg.br/nest/saude-dos-professores-educacao-basica/> (accessed on 29/Aug/2018).
24. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Censo Escolar. <http://inep.gov.br/web/guest/censo-escolar> (accessed on 29/Aug/2018).
25. Vieira MT, Claro RM, Assunção AA. Desenho da amostra e participação no Estudo Educatel. *Cad Saúde Pública* 2019; 35 Suppl 1:e00167217.
26. Francisco PMSB, Barros MBA, Segri NJ, Alves MCGP. Comparação de estimativas de inquéritos de base populacional. *Rev Saúde Pública* 2013; 47:60-8.
27. Biemer PP. Total survey error: design, implementation and evaluation. *Public Opin Q* 2010; 74:817-48.
28. Lee S, Tsang A, Mak A, Lee A, Lau L, Ng KL. Concordance between telephone survey classification and face-to-face interview diagnosis of one-year major depressive episode in Hong Kong. *J Affect Disord* 2010; 126:155-60.
29. Ministério da Saúde. VIGITEL Brasil 2013: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Estimativas sobre frequência e distribuição sociodemográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 estados brasileiros e no Distrito Federal em 2013. <http://www.prefeitura.sp.gov.br/cidade/secretarias/upload/saude/arquivos/morbidade/Vigitel-2013.pdf> (accessed on 05/May/2015).
30. Assunção AA. Uma contribuição ao debate sobre as relações saúde e trabalho. *Ciênc Saúde Coletiva* 2003; 8:1005-18.
31. Cassiani SHB, Zanetti ML, Pelá NTR. Entrevista por telefone: estratégia metodológica para coletar informações da população. *Rev Paul Enferm* 1992; 11:30-4.
32. Singly F. Le questionnaire. L'enquête et ses méthodes. Paris: Armand Colin; 2012.
33. Waldman EA, Novaes HMD, Albuquerque MFM, Latorre MRDO, Ribeiro MCSA, Vasconcellos M, et al. Inquéritos populacionais: aspectos metodológicos, operacionais e éticos. *Rev Bras Epidemiol* 2008; 11:168-79.
34. Reichenheim ME, Moraes CL. Operacionalização de adaptação transcultural de instrumentos de aferição usados em epidemiologia. *Rev Saúde Pública* 2007; 41:665-73.
35. Organização para Cooperação e Desenvolvimento Econômico. Pesquisa Internacional Sobre Ensino e Aprendizagem (TALIS) 2013. Questionário do Professor: Ensino Fundamental 6^o ao 9^o ano ou 5^a a 8^a série. http://download.inep.gov.br/acoes_internacionais/pesquisa_talis/2013/professor_quest_frequencias.pdf (accessed on 05/May/2015).
36. Alves MGM, Chor D, Faerstein E, Lopes CS, Werneck GL. Versão resumida da "Job Stress Scale": adaptação para o português. *Rev Saúde Pública* 2004; 38:164-71.
37. Parent-Thirion A, Fernández-Macías E, Hurley J, Vermeulen G. Fourth European Working Conditions Survey. Dublin: European Foundation for the Improvement of Living and Working Conditions; 2007.
38. Universidade Federal de Minas Gerais. Análise dos condicionantes de saúde e situação do absenteísmo doença em professores da Educação Básica no Brasil: manual explicativo do questionário. Belo Horizonte: Universidade Federal de Minas Gerais; 2016.
39. Universidade Federal de Minas Gerais. Saúde dos professores da educação básica. <http://site.medicina.ufmg.br/nest/2015/05/27/saude-dos-professores-da-educacao-basica> (accessed on 01/Jun/2018).
40. Rocheleau CM, Romitti PA, Sherlock SH, Sanderson WT, Bell EM, Druschel C. Effect of survey instrument on participation in a follow-up study: a randomization study of a mailed questionnaire versus a computer-assisted telephone interview. *BMC Public Health* 2012; 12:579.
41. Spector PE. Using self-report questionnaires in OB research: a comment on the use of a controversial method. *J Organ Behav* 1994; 15:385-92.
42. Bernal R, Silva NN. Cobertura de linhas telefônicas residenciais e vícios potenciais em estudos epidemiológicos. *Rev Saúde Pública* 2009; 43:421-6.
43. Bernal RTI, Malta DC, Araújo TS, Silva NN. Inquérito por telefone: pesos de pós-estratificação para corrigir vícios de baixa cobertura em Rio Branco, AC. *Rev Saúde Pública* 2013; 47:316-25.
44. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Prova Brasil 2013. Avaliação do rendimento escolar. Questionário do professor. http://download.inep.gov.br/educacao_basica/saeb/aneb_anresc/quest_contextuais/2013/questionario_professor_2013.pdf (accessed on 07/May/2015).
45. Silva LS, Barreto SM. Adaptação transcultural para o português brasileiro da escala *effort-reward imbalance*: um estudo com trabalhadores de banco. *Rev Panam Salud Pública* 2010; 27:32-6.
46. Araújo TM, Carvalho FM. Condições de trabalho docente e saúde na Bahia: estudos epidemiológicos. *Educação & Sociedade* 2009; 30:427-49.
47. Medeiros AM, Assunção AA, Barreto SM. Absenteeism due to voice disorders in female teachers: a public health problem. *Inter Arch Occup Env Health* 2012; 85:853-64.

48. Mari JJ, Williams P. A comparison of the validity of two psychiatric screening questionnaires (GHQ-12 and SRQ-20) in Brazil, using relative Operating Characteristic (ROC) analysis. *Psychol Med* 1985; 15:651-9.
49. Costa KS, Barros MBA, Francisco PMSB, César CLG, Goldbaum M, Carandina L. Utilização de medicamentos e fatores associados: um estudo de base populacional no Município de Campinas, São Paulo, Brasil. *Cad Saúde Pública* 2011; 27:649-58.
50. Giatti L, Barreto SM. Tabagismo, situação no mercado de trabalho e gênero: análise da PNAD 2008. *Cad Saúde Pública* 2011; 27:1132-42.
51. Gasparini G, Behlau M. Quality of life: validation of the Brazilian version of the voice-related quality of life (V-RQOL) measure. *J Voice* 2009; 23:76-81.
52. Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios: PNAD 2008. Questionário da pesquisa. http://biblioteca.ibge.gov.br/visualizacao/instrumentos_de_coleta/doc2462.pdf (accessed on 13/May/2015).
53. Instituto Brasileiro de Geografia e Estatística. Censo Demográfico 2010. Características da população e dos domicílios. Resultados do universo. http://biblioteca.ibge.gov.br/visualizacao/periodicos/93/cd_2010_caracteristicas_populacao_domicilios.pdf (accessed on 05/May/2015).

Resumo

O Estudo Educatel 2015/2016 foi delineado para avaliar a saúde e as condições do trabalho realizado nas escolas, de uma amostra representativa dos 2.220.000 professores que atuavam na Educação Básica no Brasil. O objetivo do artigo foi descrever as bases e o delineamento da pesquisa telefônica, que utilizou questionário composto por 54 perguntas curtas e simples, a maioria composta de respostas preestabelecidas (questões fechadas), versando sobre morbidades, acidentes, absenteísmo, frequência dos comportamentos saudáveis, ambiente físico e psicossocial, e características do emprego. Na etapa piloto, o questionário multitemático foi avaliado a fim de verificar os efeitos da terminologia usada, o formato das questões e das alternativas de resposta, a organização interna das perguntas, a produção das respostas e a duração da entrevista. O treinamento dos entrevistadores, o acompanhamento e a escuta das chamadas em tempo real buscaram identificar problemas de comunicação. Os professores foram entrevistados na escola, após contato prévio com o assistente escolar para agendamento. Para interpretar os resultados, alerta-se sobre as vantagens e riscos de vieses relacionados à modalidade de entrevista por telefone. Os resultados sobre o perfil dos professores, adoecimento e ambiente escolar fornecerão insumos para a elaboração de ações intersectoriais para melhorar a saúde do grupo alvo que, de acordo com as concepções que foram aqui apresentadas, estaria relacionada aos indicadores educacionais brasileiros.

Métodos; Inquéritos Epidemiológicos; Professores Escolares; Saúde do Trabalhador

Resumen

El Estudio Educatel 2015/2016 fue diseñado para evaluar la salud y las condiciones del trabajo realizado en las escuelas, de una muestra representativa de los 2.220.000 profesores que actuaban en la Educación Básica en Brasil. El objetivo del artículo fue describir las bases y el lineamiento de la encuesta telefónica, que utilizó un cuestionario compuesto por 54 preguntas cortas y simples, la mayoría compuesta de respuestas preestablecidas (cuestiones cerradas), que versaban sobre morbidades, accidentes, absentismo, frecuencia de comportamientos saludables, ambiente físico y psicosocial, y características del empleo. En la etapa piloto, el cuestionario multitemático se evaluó a fin de verificar los efectos de la terminología usada, el formato de las cuestiones y de las alternativas de respuesta, la organización interna de las preguntas, la producción de las respuestas y la duración de la entrevista. El entrenamiento de los entrevistadores, el seguimiento y la escucha de las llamadas en tiempo real procuraron identificar problemas de comunicación. Los profesores fueron entrevistados en la escuela, tras un contacto previo con el asistente escolar para fijar citas. Con el fin de interpretar los resultados, se alerta sobre las ventajas y riesgos de sesgos relacionados con la modalidad de entrevista por teléfono. Los resultados sobre el perfil de los profesores, enfermedad y ambiente escolar proporcionarán insumos para la elaboración de acciones intersectoriales, con el objeto de mejorar la salud del grupo objetivo que, de acuerdo con las concepciones que fueron aquí presentadas, estaría relacionada con los indicadores educacionales brasileños.

Métodos; Encuestas Epidemiológicas; Maestros; Salud Laboral

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