


Consequences of strikes on the professional and personal lives of teachers

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ABSTRACT

This report aims to present the results of the elaboration of a study instrument – a questionnaire – aimed at investigating the impact of strikes on the lives of teachers. Strikes, as a form of protest used by workers to demand better working conditions, fairer wages and career progression, have a significant impact on the lives of teachers, affecting not only their remuneration, but also their emotional and psychological well-being.

Keywords: Strikes, Teachers' lives, Working conditions.

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INTRODUCTION

This report aims to present the results of the elaboration of a study instrument – a questionnaire – aimed at investigating the impact of strikes on the lives of teachers. Strikes, as a form of protest used by workers to demand better working conditions, fairer wages and career progression, have a significant impact on the lives of teachers, affecting not only their remuneration, but also their emotional and psychological well-being.

Variation in questionnaire responses is anticipated, as they may reflect each participant's individual perspective and experience. Some may consider the strike as the only effective strategy to draw attention to teachers' rights and promote substantial changes in the education system. On the other hand, others may believe that there are more efficient alternative methods to solve such issues.

In this report, the steps followed for the preparation of the questionnaire will be detailed, which will be applied to teachers who have or have not participated in the strikes. The aim is to gather data that will allow a comprehensive understanding of how strikes affect the lives of teachers, both individually and collectively.

The study aims to develop solutions to improve the situation of these professionals who are essential to society, especially during periods of strike. To this end, the questionnaire was carefully designed to address various dimensions of the impact of strikes, from financial to emotional and psychological aspects.

It is hoped that the data collected will provide valuable insights into the consequences of strikes on teachers' lives, allowing for the formulation of more effective strategies to address the challenges faced by these professionals during strikes.

The construction of a pool of items is a widely used strategy in the elaboration of questionnaires for data collection. The quality of the items inserted in the pool is decisive for the final quality of the questionnaire.

CRITICAL ASPECTS IN ITEM POOL CONSTRUCTION

VALIDITY AND RELIABILITY

In building an item pool to investigate the impact of strikes on teachers' lives, it is essential to ensure the validity and reliability of the items. Validity refers to the ability of the questions to accurately measure the phenomenon in question, in this case, the impact of strikes. Reliability refers to the consistency of measurements, ensuring that items produce stable and replicable results.

RELEVANCE OF THE ITEMS

The items included in the pool must be relevant and meaningful to understanding the impact of strikes. The questions must address fundamental aspects and be directly related to the topic



investigated. The relevance of the items contributes to obtaining pertinent and useful data for the analysis.

CLARITY AND OBJECTIVITY

It is crucial that the items are formulated in a clear and objective manner, avoiding ambiguities and possible misinterpretations. The clarity of the questions makes it easier for respondents to understand, increasing the accuracy of the answers and the quality of the data collected.

PROCESS OF SELECTION AND VALIDATION OF ITEMS

After the preparation of the pool of items, a rigorous selection and validation process is required. This step involves critical analysis of the items to ensure that only the most effective and relevant ones are included in the final questionnaire. The validation process can include expert reviews and pilot testing.

Questionnaire Tests

Before final implementation, the questionnaire should be tested in a representative group to assess the feasibility, comprehensibility and effectiveness of the questions. This phase allows for the identification of possible problems and the making of necessary adjustments and improvements, ensuring that the final questionnaire is robust and effective.

ADDITIONAL STRATEGIES TO ENSURE QUALITY

Building a pool of items is a crucial technique, but not enough on its The authors to ensure the quality of a questionnaire. It is essential to adopt other strategies, such as:

- **Clear definition of the research objectives:** Establish precisely what is intended to be investigated with the questionnaire.
- **Precise Target Definition:** Properly identify and characterize potential respondents.
- **Adoption of appropriate sampling techniques:** Ensure that the sample of respondents is representative of the population studied.
- **Careful analysis of the data collected:** Use appropriate statistical methods for the interpretation of the data.

The construction of a pool of items, accompanied by rigorous selection and validation, is essential for the preparation of a quality questionnaire. Combined with other methodological strategies, this approach allows the collection of accurate and relevant data, essential for scientific research on the impact of strikes on teachers' lives.



Table 1 Strategies adopted for the construction of an item pool

Strategies adopted for building an item pool		Applied
Literature review	Definition of concepts	Ö
	Theoretical models	Ö
	Evaluation theories	
Instrument analysis	Strengths/Weaknesses	Ö
	Limitations	Ö
	Instruments worth adapting	
Interview	Individual	Ö
	In a group	Ö
	Specialists	Ö
	Target population	Ö

Source: The authors

CONSTRUCTION OF A POOL OF ITEMS TO ASSESS THE IMPACT OF STRIKES ON TEACHERS' LIVES

CHALLENGES IN LITERATURE REVIEW

In this research work, we faced difficulties in finding literature that provides information directly relevant to the construction of the questionnaire, specifically on the impact of strikes on the lives of teachers. Most previous studies address strikes from different perspectives, such as the teaching career, the academic performance of students and the disruptions in the functioning of families. However, the focus of our attention is the impact of the strikes on the personal and professional lives of the teachers themselves.

METHODOLOGICAL STRATEGIES

Keyword and Target Audience Selection

We chose to extract relevant keywords from the existing literature and define the target audience as the teaching class. We used group and individual interviews as a methodological strategy for collecting preliminary data.

Analysis of Existing Assessment Instruments

Our research indicated the absence of specific instruments to assess the impact of strikes on teachers. We identified, however, instruments that assess related constructs, such as crisis management, political and social activism, and physical and mental well-being. These instruments can contribute to the construction of our questionnaire.

QUANTITATIVE AND QUALITATIVE EVALUATION

Statistical Instruments

To quantitatively evaluate teachers' strikes, we can use:



1. **Descriptive Analysis:** Statistical summary techniques, such as mean, standard deviation, and percentiles, to synthesize data related to strikes.
2. **Hypothesis Testing:** To verify whether the differences between variables related to strikes are statistically significant.
3. **Linear Regression:** To analyze the relationship between variables and predict the number of strike days.
4. **Time Period Analysis:** To identify trends and patterns in the data over time.

POLITICAL, ECONOMIC AND SOCIAL CONTEXTS

It is essential to complement quantitative analysis with qualitative approaches for a comprehensive understanding of the contexts in which strikes occur.

WELL-BEING ASSESSMENT INSTRUMENTS

Stress, Anxiety and Depression Scales: EADS (Anxiety, Depression and Stress Scales) and HADS (Hospital Anxiety and Depression Scale) to assess the emotional impact of strikes.

1. **Burnout Scales:** Ryff Psychological Well-Being Scale, to measure psychological well-being and burnout.
2. **PANAS:** Positive and Negative Affect Scales, to measure aspects of life satisfaction.
3. **Flourishing Measures:** Assessment of subjective well-being, positive emotions, interpersonal relationships, self-esteem, self-determination, and sense of purpose in life.
4. **Interviews and Focus Groups:** To gain detailed information on teachers' psychological well-being.
5. **Health Records:** To assess the physical and mental impact.
6. **Financial Data:** To analyze the economic impact of strikes.

GROUP AND INDIVIDUAL INTERVIEWS

We conducted group interviews (focus groups) and individual interviews with teachers, following legal and ethical procedures. The process included:

- **Invitation and Participation:** Invitation via e-mail for the face-to-face presentation of the project, with the participation of 8 teachers.
- **Authorization and Recording:** Authorization to record the session, aiming at the exact transcription of the data.
- **Group Dynamics:** Introduction with icebreaker, presentation of the participants and formulation of questions in a colloquial and structured way.



- **Content Analysis:** Faithful transcription of answers, grouping of information, elimination of exceptions and inclusion in the item pool.

The construction of a pool of items, combined with rigorous selection and validation, is essential for the elaboration of a robust questionnaire. The combined approach of quantitative and qualitative methods allows for a thorough and accurate assessment of the impact of strikes on teachers' lives. This process ensures the relevance, clarity and objectivity of the items, contributing to a solid and informed scientific investigation.

Table 2 Records obtained – Participant 1

Participante 1 - Professora 1º Ciclo, 46 anos, 25 de exercício profissional:
- Sentimento de frustração pela incerteza do que está a acontecer;
- Em termos económicos os docentes estão a perder dinheiro ao fazerem greve
- Uma sensação de pessimismo, pois há o sentimento de que não haverá mudanças na educação
- Dúvidas acerca da legalidade da imposição de serviços mínimos, em consequência disto, surge um sentimento de revolta, pois os docentes só podem faltar com atestado médico
- Divisão dentro da própria família que seja constituída por docentes (cônjuges docentes) porque enquanto um deles vai para as manifestações ao fim de semana, fica sem estar com o filhos e o outro fica sobrecarregada com todas as tarefas familiares.
- Há muita rivalidade entre sindicatos
- Sentimento de injustiça perante a oposição dos serviços mínimos pois se houver algum imprevisto e o docente falta tem de meter baixa médica obrigatoriamente.
- Parece haver mais união entre professores

Source: The authors

Table 3: Records obtained – Participant 2

Participante 2 - Professor 3ª Ciclo e secundário, 49 anos, 30 anos de profissão
- Falta de perspetiva de futuro, de carreira, de valorização do trabalho, de qualidade de vida e de condições de trabalho. O mesmo que é essencial a qualquer outra atividade profissional
- Falta de valorização como pessoa e sentimento de insuficiência e até de culpa.
- Desacreditação nas instituições e no estado. Nada muda e ninguém quer saber nem da educação nem de quem educa.
- Esta greve faz-me sentir que estou num buraco e não sei se consigo sair dele. Já estou de atestado há dois meses e não está fácil. O meu corpo não aguentou mais.
- Muitos dos meus colegas abaixo dos 50 ponderam mudar de profissão, aplicando os conhecimentos a outras áreas (empresarial, marketing, programação, etc)
- Talvez invista em formação noutra área para estar preparado para o mundo de trabalho sem ser docência
- A minha companheira é mais nova do que eu 12 anos e está com a carreira feita. Devia ter seguido medicina.
- É muito mau quando olhamos para o lado e colegas que não fazem nada ganham mais 400.00€ que eu e depois, para a opinião publica, somos todos iguais.

Source: The authors

After a content analysis of all the contributions, the main areas were identified:



Table 4: Top Domains Found

Fonte de informação	Informação Recolhida
Revisão da literatura	Palavras-Chave: Greve dos Professores; Impacto das Greves; Relação Professor-Aluno; Ansiedade, Stress, Depressão
Análise de instrumentos existentes	Escalas de Stress; Escalas de Ansiedade e Depressão: Escalas de Bournout; Questionários de bem-estar;
Entrevistas	Frequência de participação em greves; Opinião sobre as greves; Perda financeira; Sobrecarga de trabalho; Saúde; Impacto na Qualidade do ensino; Relação com os alunos e colegas; Participação em atividades interdisciplinares; Impacto na carreira; Perspectivas para o futuro.

Source: The authors

RULES FOR THE DRAFTING OF ITEMS

According to Hill and Hill (1998), the rules that must be followed are: the use of a simple syntax, avoiding ambiguity, using short sentences, neutral items, avoiding persuasive information and avoiding the use of multiple items. So, the rules for the writing of items are essential to ensure the quality and effectiveness of the questionnaires and assessments. However, it is important to note that the rules are not universal and may vary depending on the type of assessment and the purpose of the questionnaire. Based on the author Silva (2021), she adds that, to this set of rules, it is important to use declarative or interrogative phrases, the 3 C's (clear, concise, concrete), and that allow an easy understanding of the items and not to use slang (Silva, 2021).

Moreira (2004) considers that the writing of items should follow some guidelines to ensure that the evaluations are fair, valid and reliable. The first guideline is the clarity and objectivity of the statement. The items must be written clearly and objectively, avoiding ambiguities or words that may generate doubts in the participants. The statement should be brief and concise, without unnecessary or confusing information. The second guideline is the relevance of the content. The items must be prepared based on the previously defined objectives. The items should address the contents that we intend to evaluate and that are relevant to the investigation. The third guideline is the diversity of items. The items must cover different levels. In addition, the items must be distributed in a balanced way among the different contents and objectives. The fourth guideline is the objectivity of the items. The items should be formulated in such a way that there are no ambiguities or subjectivities in the interpretation of the answers by the researchers. The answers must be clear and objective, allowing them to be easily identified as correct or incorrect, if applicable. Finally, the fifth guideline is the adequacy of the format of the items. Items can be presented in different formats, such as multiple-choice, true or false, essay questions, among others. The format must be chosen according to the objectives that you want to evaluate.



In this work, we tried to follow the above-mentioned guidelines so that the questions were clear and objective to avoid confusion and ambiguity. We avoid slang, slang and excessive technical language. The items were designed and written with a level of difficulty appropriate to the target audience and aligned with the previously defined objectives. In this way, we avoid irrelevant questions or questions that are out of focus of the content we intend to evaluate. At the risk of the questionnaire becoming too long, the items included a variety of possible question/answer types to measure different categories or points of interest, avoiding the inclusion of options that could be offensive or discriminatory. It was not easy, and it was necessary to make some adjustments when the cognitive analysis of the questionnaire, but we believe that we managed to ensure that all items were clear, precise and effective, free of interpretation, grammatical and spelling errors. In summary, the rules for the writing of items are important to ensure that the evaluations are fair, accurate and effective, but these rules must be adapted to meet the specific needs of the questionnaire and the target audience, in order to ensure the quality and effectiveness of the items and the questionnaire as a whole and we believe we have succeeded. It is important, however, to admit that it was very difficult, at first, not to bring our previous knowledge to the items and, repeatedly, it was necessary to reformulate to ensure the neutrality of the items. Also, at times, we made conscious choices to break rules and write items that were a little long, but that were necessary for a better understanding of them. A perfect writing of the items requires a lot of knowledge, training and practice and may even be impossible to achieve, but a good practice such as a careful analysis of the items through a pilot study (small-scale, with a small sample), we can evaluate how the participants react to the items and how they interpret them, thus avoiding misinterpretations. In this regard, we will return to considerations later on, in the chapter on the cognitive analysis of the questionnaire.

ANSWER OPTIONS

Moreira (2004) presents some answer options in questionnaires, namely: Likert scale: It is a scale that consists of a series of statements, in which the participant must indicate his degree of agreement or disagreement, using a numerical scale ranging from 1 to 5 (or 1 to 7). For example: "In general, I am satisfied with my work." Answer options: strongly disagree, partially disagree, neither agree nor disagree, partially agree, strongly agree. Category Scale: It is a scale that consists of a series of mutually exclusive categories, in which the participant must select the one that best applies to his or her situation. For example: "What is your marital status?" Answer options: single, married, divorced, widowed, other. Visual analogue scale: It is a scale that consists of a horizontal line of fixed length, in which the participant must indicate his answer through a marking. For example: "How do you rate the pain you are experiencing?" Answer options: the line goes from "no pain" to "the worst pain imaginable". Frequency scale: It is a scale that consists of a series of statements



about how often the participant performs a certain activity or experiences a certain feeling, in which the participant must select the option that best applies to their situation. For example: "How often do you feel distressed?" Answer options: never, rarely, sometimes, often, always. The choice of the most appropriate scale will depend on the objective of the study and the type of information you want to obtain.

The answer options of a questionnaire can be classified as open-ended answers, closed-ended answers, general or tailor's answers (Silva, 2021). Open-ended questions, which allow participants to answer freely, without predetermined answer options. This allows for a greater variety of responses and can generate valuable insights for the survey. However, open-ended questions can also present some challenges, such as the difficulty in analyzing and categorizing the answers and the possibility of obtaining vague or irrelevant answers. To minimize these problems, the authors recommend the use of clear and specific instructions to guide participants in the elaboration of the answers, as well as the use of content analysis techniques for the categorization and interpretation of the answers obtained. Closed-ended questions, on the other hand, refer to a type of question that offers participants a predetermined list of answer options to choose from. These options can include binary choices, such as "yes" or "no," or various options, such as "very satisfied," "satisfied," "neutral," "dissatisfied," and "very dissatisfied." Closed-response options can be useful in market research, as they allow researchers to easily quantify and analyze participants' responses. However, closed-response options also have some limitations. For example, they may not capture the full complexity of the attendee's experience, or they may not allow the attendee to provide a response that reflects their full opinion. In addition, closed-ended answer options may be affected by the wording of the question and the selection of available answer options. Closed-ended response options are a common data collection technique in market research, but they must be used carefully to ensure that questions are phrased correctly and that answer options are carefully selected to avoid bias or incomplete responses. The general answers can be used for each of the questions, in a set of questions, on any topic studied. On the other hand, tailor answers are constructed according to the question formulated and only apply to that specific question and the target population (Hill & Hill, 1998).

Based on the authors Hill and Hill (1998), scales can be nominal, ordinal, interval and ratio. Hill and Hill (1998) state that nominal scales are those that only allow the categorization of data into different groups or categories, without imposing any type of order or hierarchy among them. Respondents' responses are grouped into categories for analysis purposes. They are considered the lowest level of data measurement and do not allow for mathematical calculations such as means or standard deviations. Ordinal scales are those that allow you to classify objects or events in a logical or sequential order, but do not indicate the magnitude of the difference between the categories. That is, there is no information on the distance or the absolute difference between the categories. A



common example of an ordinal scale is the Likert scale, which is widely used in opinion and satisfaction surveys. On this scale, the answers are classified in a logical sequence of agreement or disagreement with statements, such as "strongly disagree", "partially disagree", "neutral", "partially agree" and "strongly agree". Although this scale allows you to classify the answers in a logical order, it does not inform the magnitude of the difference between each of the categories. They measure the intensity of the respondent's response and allow the researcher to compare the differences between the responses.

Interval scales are characterized by the equality of units of measurement, that is, the difference between two points on the scale is always the same. For example, on a rating scale of 1 to 10, the difference between 1 and 2 is the same as between 8 and 9. Interval scales are useful for measuring participants' attitudes, opinions, and perceptions towards a particular topic. They allow the investigator to perform more accurate statistical analyses and provide more robust quantitative data for the interpretation of the results.

Ratio scales are a type of measurement scale in which values are expressed in numerical and continuous terms, with an absolute zero point indicating the absence of the measured characteristic.

Table 5: Response Options

Tipos de respostas:	Exemplos
Fechadas	Participei de uma greve de professores nos últimos 12 meses: Sim Não
Abertas	Tenho alguma sugestão para melhorar a eficácia das greves de professores como forma de protesto
Respostas Mistas	Não
Gerais	Como acredito que as greves afetaram a minha relação com a escola ou instituição em que trabalho? Melhorou significativamente Melhorou um pouco Não afetou muito Piorou um pouco Piorou significativamente
Alfaiate	Como as greves de professores afetaram o meu trabalho? Tive de cancelar aulas Tive de trabalhar mais horas para compensar as aulas perdidas Tive de adaptar o meu plano de ensino Não afetou meu trabalho

Source: The authors

Table 6: Response scales

Estrutura da escala	Exemplos:
<i>O que não é hierarquizável (F-M) (Sim-Não)</i>	Participei de uma greve de professores nos últimos 12 meses: Sim Não
Hierarquizável, do menor para o maior, escalas tipo Likert são consideradas como um contínuo	Como acredito que as greves afetaram a minha relação com a escola ou instituição em que trabalho? Melhorou significativamente Melhorou um pouco Não afetou muito Piorou um pouco Piorou significativamente
Permitem um somatório	Acredito que as greves tiveram um impacto na educação dos alunos Impacto positivo Impacto negativo Não teve impacto significativo
Maior ou menos satisfação.	Acredito que as greves foram um meio eficaz de alcançar mudanças desejadas. Sim, foram muito eficazes Sim, foram um pouco eficazes Não foram muito eficazes Não foram eficazes de forma alguma

Source: The authors



In our work, as there is a need to address different domains of the Teacher's person and, necessarily, to include information from different perspectives in these domains, it was necessary to adapt our questionnaire to different types of responses. We have open answers, to enable the study of new answers, which bring relevant contributions, with the limitation that we cannot study many interviews in depth, nor generalize results. We have closed answers where we only find what we are looking for, since we already have some knowledge about the topic and allow an unlimited number of people we study. Some mixed responses as well, such as "Another reason, please specify." We also included general answers, which include satisfaction scales and tailor's answers, which as we have already mentioned, are answer options that can only be used for that item/question, knowing that they are more difficult to follow and that they give a long look to the questionnaire, but, after pondering, we understood that we really had to gain from this type of answers.

Regarding the scales used, the reasoning was the same: we used nominal scales, for categories that are not hierarchical; ordinal, for hierarchical categories, from more to less or from less to more, greater or less satisfaction; Scalars, false continuum, allow a sum in the subsequent treatment of statistical data in SPSS, in the example of satisfaction responses, which will be classified from 1 to 5, from lowest satisfaction to highest, using the Likert scale. We do not use percentage scales assigned by the participants, as the analysis would be very complex, since as people we are very differentiated, nor do we use forced choice scales, or analogue visual scales, for the same reasons.

INSTRUCTIONS

Hill & Hill (2022) argues that the questionnaire instructions should begin with an introduction with a cordial greeting and a thank you for participating in the study. Then briefly explain the purpose of the questionnaire, as it is important that participants know the reason and objectives of their participation and how their answers will be used. This is followed by providing clear and simple instructions for how participants should answer the quiz questions, including information on how to mark responses, how long it takes to complete the quiz, and whether there is a time limit to complete it. Then, ensure confidentiality and privacy by explaining to participants that their answers will be kept confidential and that they will not be shared with third parties, except in circumstances where required by law. We also inform participants about how their data will be stored and protected, that they have the right to withdraw from the study at any time without penalties or negative consequences. Provide contact information for the investigators in charge of the study, in case participants have any questions or concerns. Finally, conclude the instructions by thanking the participants again for their participation in the study and encouraging them to answer the questions truthfully and honestly.



Table 7: Instructions Construction Rules

Instruções	Sugestões
Objetivo do questionário	Este questionário tem por objetivo avaliar o impacto do movimento de greve na vida dos professores.
Apelo à sinceridade	Não se trata de um teste, pelo que não há repostas certas ou erradas. Queremos mesmo saber o que pensa
Sublinhar a importância de responder+ Enquadramento temporal/contextual	"A sua participação é muito importante para ajudar a compreender como as greves afetam os professores, individualmente e como um todo, e desenvolver soluções para melhorar a situação dos professores em momentos de greve"
Pedido para leitura atenta	"Por favor, faça uma leitura atenta das questões"
Como responder	"responda da forma que melhor reflita aquilo que pensa e sente" e não incluímos questões logisticas porque o nível de instrução dos participantes dispensa instruções gráficas
Como modificar/corrigir respostas	Considerando que o questionário é para professores, poderia ser mal interpretado incluir este ponto
Pedido para verificar se não ficaram perguntas por	Como pretendemos aplicar o instrumento de forma digital, as opções de resposta vão salvaguardar esta situação
Agradecimento	"Agradecemos desde já o tempo dedicado à participação nesta investigação."

Source: The authors

We have prepared our instructions, meeting these guidelines, with the main focus on appealing to participation in a persuasive way and at the same time demonstrating sensitivity and clarifying that this participation is fundamental so that we can develop a respectful and useful tool to evaluate something that no one is trying to talk about, which is the fact that teachers suffer, for valid reasons and for causes they believe in. More than having the instructions written correctly, we intend to be persuasive, respectful and that possible participants recognize sensitivity on our part, as researchers, showing that this study is really important for us so that we can bring a more holistic perspective of teachers to this topic.

GRAPHIC ORGANIZATION/LAYOUT

The graphic organization or layout of a questionnaire should be carefully planned and designed to make the participants' experience more enjoyable and efficient. Moreira (2004) recommends that a legible font of adequate size be used to ensure that the questions and answer options are clearly visible. We must organize the questionnaire in a logical way, starting with simpler questions and progressively addressing more complex questions. Use white space and adequate spacing between questions and answer choices to make the questionnaire more visually appealing. A consistent format for all questions also helps, such as always using the same order of response (for example, always starting with "significantly improved" and ending with "significantly worsened"). We should avoid using too many colors and images, which can distract participants and make it difficult to read the questionnaire.

According to Hill & Hill (2002), the graphic organization or layout of a questionnaire should allow the questionnaire to be easy to read and understand, without unnecessary graphic or visual elements that may distract or confuse the participants, using coherence and consistency from



beginning to end (color, type of font, arrangement of items, etc.), as well as having a clear and visible header, identifying the name of the study, the purpose of the questionnaire, and other relevant information. The questions should be formulated in a clear and direct way, avoiding words that may make it difficult to understand, and organized in a logical and coherent way, following a natural sequence of subjects and avoiding abrupt changes in theme. The questionnaire should also have enough space for answers, avoiding participants having to write in tight or small spaces.

Table 8: Graphic layout – Layout

Layout	Sim
Boa apresentação	√
Disposição lógica e coerente	√
Grelhas	√
Quadrados ou círculos para assinalar as respostas	√
Linhas ou retângulos a separar os itens	
Densidade de apresentação gráfica	√
Facilidade de preenchimento	√
Organização dos itens	√
Legibilidade do questionário: tipo e tamanho de letra	√
Legibilidade do questionário: tipos especiais	
Organização lógica do questionário	√
Esforço mental elevado	
Envolve conhecimentos que possam não dominar	
Refere-se a temas sensíveis	√
Grau de complexidade vai aumentando	

Source: The authors

From all this, we understand that the main idea we should take away is that a well-organized and visually appealing graphic organization/layout can increase the response rate and the quality of the data collected in any questionnaire. So, in our work in particular, and because we tried to address different dimensions of the theme of the study, there were all these concerns, but in particular, there was the need to organize the different dimensions by chapters and within these to number the questions, to give the illusion that the questionnaire is not that long and, also, to facilitate the answers to the participants by preventing them from forgetting to answer a question. For us as researchers, it also makes it easier to evaluate each questionnaire and process the data collected. Our graphic organization/layout was tested in the paper-pencil version and in the electronic version (using the Google forms program).

COGNITIVE ANALYSIS OF THE QUESTIONNAIRE

"In all types of questionnaire it is very useful to ask at least one person, and preferably two or three, to read it and give their opinion on the clarity and understanding of the questionnaire. (Hill & Hill, 2000, p. 166). These authors emphasize that cognitive analysis can help ensure that questions are clear, accurate, and relevant to all participants, resulting in more accurate and reliable answers. Cognitive analysis is a valuable tool in the evaluation of questionnaires, and "helps to eliminate unnecessary questions as well as to formulate more relevant questions (Hill & Hill, 2000, p. 76),



allowing researchers to better understand how participants interpret and respond to questions. According to Moreira (2003), cognitive analysis involves the application of qualitative techniques, such as cognitive interviews, to obtain information about what the participants think when they read the questions and how they interpret the items. Cognitive interviews are conducted with a small number of participants who are asked to "think out loud" as they answer the questionnaire. The results of the cognitive analysis are fundamental for the validity and reliability of the questionnaire.

We asked two people, specialists because teachers, to read the questionnaire so that we could check how they interpreted the questions, if there were sensitive issues and, in general, how they interpreted the questionnaire as a whole. The results of this cognitive analysis showed that, in general, the questions were well interpreted and that the length of the questionnaire was not a problem, since everyone thought it was important to address all aspects taken into account in it, and that this would not be possible as effectively with a smaller questionnaire. However, we felt the need to reformulate two questions, in two domains, as these are more sensitive aspects of the personal and professional lives of teachers and that generated less consensus. We had to consider whether to simply remove the questions or to reformulate them, based on the relevance of the information they could bring to the study. Because we consider these fundamental constructs for the interpretation of the emotional state of teachers, as well as if we want to repeat this questionnaire in the future, so that we can have terms of comparison about them because they are more subjective, we decided to reformulate:

PARTICIPATION IN EXTRACURRICULAR ACTIVITIES:

- 1- The strikes affected my working conditions
 - Significantly improved
 - It improved a little
 - It didn't affect much
 - It got a little worse
 - It has worsened significantly
- 2- The strikes affected my participation in interdisciplinary activities
 - Significantly improved
 - It improved a little
 - It didn't affect much
 - It got a little worse
 - It has worsened significantly
- 3- The strikes affected my participation in activities with students outside of school:
 - Significantly improved



- It improved a little
- It didn't affect much
- It got a little worse
- It has worsened significantly

We reformulate:

Extracurricular activities:

1- The strikes affected my working conditions

- Significantly improved
- It improved a little
- It didn't affect much
- It got a little worse
- It has worsened significantly
- Not applicable

2- The strikes affected my participation in interdisciplinary activities

- Significantly improved
- It improved a little
- It didn't affect much
- It got a little worse
- It has worsened significantly
- Not applicable

3- The strikes affected my participation in activities with students outside of school:

Significantly improved

- It improved a little
- It didn't affect much
- It got a little worse
- It has worsened significantly
- Not applicable

Prospects for the future:

Do I believe that participation in strikes had a positive or negative impact on my image as a teacher?

- Positive impact
- Negative impact
- Had no significant impact

We reformulate:



I believe that participation in strikes had an impact on my image as a teacher

- Positive impact
- Negative impact
- Had no significant impact
- I don't value this aspect

PSYCHOMETRIC AND CLINIMETRIC STUDY

PSYCHOMETRIC QUALITIES

Study of fidelity

An instrument's fidelity refers to its ability to produce consistent and reliable results over time and in different situations. This means that when a test is applied to the same person or group on different occasions, or when different evaluators evaluate the same person or group with the same instrument or with equivalent sets of items, the results obtained must be similar. This consistency is measured by means of a correlation coefficient. According to Ribeiro (2010), to assess the fidelity of a questionnaire, one of the options is to use the test-retest reliability coefficient. This coefficient is calculated from the administration of the same questionnaire twice, with a time interval between them, for a group of participants. Then, the correlation between the scores obtained in the two applications of the questionnaire is calculated. According to the author, "The reference value considered good is $r = 0.80$, although values as low as $r = 0.60$ can be accepted" (Ribeiro, 2010, p.100).

Thus, it is suggested that, ideally, to assess the fidelity of a questionnaire on the impact of strikes on the lives of teachers, participants representative of the population of interest should be selected, applying the questionnaire twice, with an appropriate time interval, and calculating the test-retest reliability coefficient. If the coefficient obtained is equal to or greater than 0.70, it can be considered that the questionnaire already has a good fidelity.

Fidelity evaluates the rigor of the measure, which means that it is in our interest to ensure that the instrument has temporal stability. If we evaluate the teachers today and in a week or two we evaluate them again, it is not expected that there will be very disparate results. We expect stable results, or, if not, our instrument is not very stable. So, with the test-retest we can check if our instrument has temporal stability, otherwise it means that it is mobile and has no rigor. If we have a very broad instrument, it means that it is not very strict in measure. If we apply the test today and people are very worn out and we apply the same at the end of the week and they are no longer there, it will be strange. Test-retest makes perfect sense to show that there is consistency in the answers, that people are not responding randomly, that it is rigorous, and on the other hand that it is stable in time, it is a measure of rigor.



Cronbach's alpha is a measure of internal consistency and theoretically it also shows us if we are evaluating rigorously, because if we are studying facets of a construct, they are supposed to be appropriate. It will appear as a measure of fidelity, of the measure's accuracy, as well as of validity, which verifies whether the measure rigorously evaluates what we intend to evaluate.

In our work, to assess fidelity, we opted for two measures: Cronbach's alpha, and this alpha can even be calculated for an instrument X and for our subscales to check if there is any item that refers to a subscale and does not belong exactly to that domain; Along with the test-retest measure, since there is not exactly the effect of learning, it means that participants will not look for right or wrong answers, on Google for example, and so we can test them in two moments. We then understand that the ideal would be to combine the two measurements, Cronbach's Alpha and the test-retest.

We discard other measures of fidelity evaluation, as we do not consider them valid or of added value to our work, namely:

Regulator fidelity: it didn't seem correct to us either, since this measure allows us to evaluate above all fidelity in the observation grids and there are no doubts here. If you have an evaluator and another checking results, for one and the other the procedure will be the same, for example if the cross is not in the right space, both will consider the answer null, there is no room for interpretation.

Alternative ways: we are not going to apply, since it takes so much work to create an instrument and use other instruments just to ensure that ours is stable in time, it makes no sense, even more so because there is no learning effect here, it is not an instrument of knowledge.

Split-half: it was only justified if our instrument was very large. What would be done would be to ask the computer to randomly separate the instrument into two large groups and calculate the alpha for each one. If there was a huge consistency, in doing this, the same would be demonstrated in these analyses. Being an instrument that is not very large, opting for the split-half can even weaken the instrument.

Study of validity

According to Ribeiro (2010), the study of the validity of a questionnaire can be done through different types of validity. In the case of the questionnaire on the impact of strikes on teachers' lives, it is suggested that studies be carried out on the validity of content, criteria and constructs. For content validity, it is necessary for specialists in the subject and in the area of psychological assessment to evaluate the questionnaire in relation to its adequacy in terms of content, clarity and objectivity of the questions, as well as its relevance to the topic under study. As content validity is basically a judgment and not an exercise in objectivity, one of the ways to identify the most appropriate judgment is through the analysis of several judges who are experts in the content of the



domain under evaluation (Ribeiro, 2010, p. 102). For the validity of the criterion, it is suggested that the questionnaire be applied together with other instruments that assess aspects related to teachers' strikes, such as, for example, working time, remuneration, professional performance, among others. Validity related to a criterion indicates the efficiency of a test in predicting the behavior of an individual in a given situation (Anastasi, 1990, Ribeiro, 2010, p.103). For construct validity, it is necessary to perform a factor analysis to verify the internal structure of the questionnaire and the relationship between the different dimensions evaluated. That is, compare these tests with others that evaluate the same theme. Convergent validity refers to the extent to which the correlation of the instrument with instruments that measure the same construct is greater than the correlation with those that measure different constructs. (Herdman, Fox-Rushby, & Badia, 1998). Divergent validity refers to the extent to which the correlation of the instrument with instruments that measure different constructs is lower than the correlation with those that measure the same construct. (Herdman, Fox-Rushby, & Badia, 1998). (Ribeiro, 2010, p. 103). Thus, the proposal for the study of the validity of the questionnaire on the impact of strikes on teachers' lives consists of conducting studies of content, criterion and construct validity, according to the suggestions of Ribeiro (2010).

In a simpler way, validity can be evaluated within two major types: internal validity, when we look only at the instrument, and external validity, when we relate it to other instruments. We can, in our instrument, evaluate together with other instruments (to assess anxiety, stress, etc.) and we are hoping that the more they rate the impact of the strike in these, the more they also count on the others. We will not be evaluating exactly the same construct, but we will be evaluating constructs that coincide and will vary in the same direction. But we could also do the opposite, that is, the greater the impact of the strike on anxiety and stress levels, for example, the less well-being, and then they would vary in reverse directions, that is, we would find a negative correlation with well-being and quality of life. When we look at external validity, if the correlation we find in this case with instruments that evaluate the construct in the same sense will be a convergent external validity. We are expecting them to be positively related to anxiety or depression. When constructs relate to instruments in a way that we expect to vary in reverse, well-being, quality of life, we will be assessing discriminant external validity. Then we can evaluate external validity in one sense or the other. We have many instruments in Portugal that assess either way, for example Subjective Well-being Scales, Psychological Well-Being Scales, EADS. What is important here, it seems to us, will be to administer all these instruments together, both for convergent validity and for discriminant validity.

In terms of internal validity, when we look only at our instrument, we have different ways of doing it. Our instrument is organized by sections, in large areas, we can analyze, for example, the factorial structure of the instrument. Do an exploratory factor analysis and see how these items are



organized, that is, if we say that those items belong to a subscale, they are effectively or are not associated with this subscale or another. We can also correlate item-total and item-scales, that is, we can relate each item with scale support and from the outset if it has scale support they will be positively related, and we can evaluate the convergent validity, the correlation of the item with the scale to which it belongs and discriminate the remaining items with the remaining subscales, an item that is from the first subscale should be less related to the second, third or fourth, than with that scale to which it belongs. In other words, internal validity makes sense of the item-total and item-subscale relationship. What is expected is that the items are all related to the total, because they are evaluating the same construct and that each item is more correlated with the scale to which it belongs than with the others. If it is related to the scale to which it belongs, we will have convergent internal validity, less with the others, discriminant internal validity, because I am evaluating one domain and not others. It may also make sense in principal components or exploratory factor analyses, that is, we organize everything into chapters, but are the factors we want to analyze in these chapters there? That is, whether the items created within a given category evaluate these factors. Basically, each subscale or each subcategory is a factor and we can ask the computer to evaluate whether they are present or not. We also have facial validity, it is a construct validity and is merely subjective, it has no statistics and in the end it is evaluated by giving the questionnaire to specialists, without the title, questioning them about what they think the questionnaire evaluates. If it fails there, it is worrying because it will be a sign that we are not at all evaluating what we want.

Study of sensitivity

According to Ribeiro (2010), the sensitivity of a questionnaire can be assessed through its discriminative power, that is, the ability to identify significant differences between groups that are expected to differ in relation to what is being assessed. To assess the sensitivity of the questionnaire on the impact of strikes on teachers' lives, we could conduct a study comparing the results of this questionnaire between two groups: a group of teachers who have been directly affected by recent strikes and another group of teachers who have not been affected by the same strikes. We could then verify whether the questionnaire is able to discriminate between these two groups, that is, whether it presents significant differences in the results obtained between them. In addition, to assess the sensitivity of a questionnaire, it is important to check if it is able to detect changes over time, that is, if it can measure the changes that occur in relation to what is being evaluated. In this case, we could apply the questionnaire twice, with a time interval between applications, to verify whether it is able to identify changes in the levels of impact of strikes on teachers' lives over time. Correlating this point with what we have learned in Experimental Psychology, we believe that the sensitivity of a questionnaire can be evaluated through statistical analyses, such as Student's t-tests and ANOVA,



which allow us to verify whether there are significant differences between the groups or between the results obtained at different times. These statistical analyses can be performed using specific statistical programs, such as SPSS.

However, sensitivity can be viewed in different ways. The first is whether this questionnaire allows testing different levels of the variable in the group being studied. We can see it, for example, with the answer options, for example the percentage of people who answered several options for each item, if they go from one extreme to the other. If we have all the answers represented, it probably means that the instrument is not very sensitive. This may be a first reading of sensitivity.

The second way is to test, depending on the variables, to see if we have a normal distribution. We are not expecting a normal distribution, as it is expected that most teachers will be coping relatively well with the strikes, although saturated, a smaller group with moderate impact and an even smaller group with extreme impact. So everything that is a measure that helps us prove a normal distribution will not be a good bet (means, medians, asymmetries, cuts) because we are not waiting for this normal distribution. But, alternatively, we could have people evaluated at first, make an intervention that would help people deal with this moment of greater stress and anxiety and evaluate people at a second time. If we have a sensitive instrument, it must be able to capture changes, even if subtle, that have been introduced by the intervention. The more the instrument is able to capture these changes, the more sensitive that instrument is.

The difficulty in defining which measures to use was related to the fact that we have no experience in either building instruments or administering them. And, not managing this one too, it is difficult, but as we learned, when we go to the field it is supposed that all this is thought out. We have to be very clear about how we are going to test fidelity, validity, sensitivity. So we will plan everything as if tomorrow we collected the data and then we would do the analyses we set out to do. For sensitivity, we only see the possibility of comparing before and after an intervention, because it is not expected to have a normal distribution, where greater or lesser physical and/or emotional wear and tear would be present here.

CLINIMETRIC QUALITIES

"Now, the essential thing for any measurement to be accurate is, first, that it measures what is intended to be measured and not another different or similar aspect (validity) and, second, that if the measurement is repeated, under the same conditions, with the same respondents, the result found is identical (within an acceptable error) (fidelity)" (Ribeiro, 2010. p.100).

Clinimetric qualities are subjective, taking into account the point of view of each participant that may be different, and are not directly related to the correct and incorrect, but to the perspective of the participants.



We have seen above in the psychometric qualities that in order to verify the validity of content, it is necessary to analyze whether the questions in the questionnaire are relevant to assess the impact of strikes on the lives of teachers. To assess construct validity, it is necessary to analyze the relationship between the questions in the questionnaire and the existing theories on the topic in question. Finally, to assess criterion validity, it is necessary to compare the results obtained in the questionnaire with the results obtained in other measures that assess the same construct. To check the reliability of the questionnaire, test-retest can be used to check the stability of the results over time. Internal consistency, measured using Cronbach's alpha coefficient, can be used to assess whether the questions in the questionnaire are measuring the same thing.

Clinimetric qualities are not statistically tested. They are the target of a subjective evaluation and we can only evaluate three in relation to our work, because most of the other qualities mentioned by the authors are dependent on the context of administration: if it is useful, it depends on the context, if it is practicable, it depends on the context, here what we can evaluate are three clinimetric qualities:

- Overload – we evaluate it starting with two major domains: the size of the questionnaire, the extension and the literature points to the 20 items as the ideal, even if applied to higher education students, and here to people with higher education, reaching 30 items does not seem to be an important question and they can answer relatively quickly. And the emotional load, that is, the questionnaire can be small, but it can be an emotional burden to answer (if it forces us to think hard before answering, for example if it is a questionnaire about euthanasia, it forces us to think about our beliefs and personal choices before answering). We have to check if we have such sensitive topics in the content of the item that they can make it difficult to answer, or not. So the overload evaluates the extent and the theme.

- Interpretability – this has nothing to do with the person's ability to read and interpret well, but rather with the ability of the evaluator to look at the scores and give them meaning. For example, most questionnaires end and have a sum, and then this value needs to be significant. We have to think about our instrument in order to increase Interpretability.

- Impact – it will probably work with quality of life or well-being. The easiest way is to turn the scores into a percentage. Zero is the minimum possible, one hundred is the maximum possible, what is the impact? If the score is at 70, for example, it has a high impact, if we are close to zero, it has a low impact.

We could still assess acceptability, but it seems right. Is the instrument well accepted by the target population? We can anticipate that it will be, after the cognitive analysis, reformulations were made so any sensitive issue was circumvented, there is no reason why they should not accept it.



FINAL REFLECTION

The process of building a psychological assessment questionnaire to assess the impact of strikes on teachers' lives involves several crucial steps.

Initially, it is essential to clearly define the purpose of the questionnaire. This involves identifying which aspects of teachers' lives will be assessed and how strikes can affect these aspects. This step lays the foundation for the development of the questionnaire, ensuring that all included items are relevant to the study.

After defining the objective, it is necessary to prepare a list of items that are pertinent and appropriate to the objective of the study. These items should cover all relevant dimensions of the impact of strikes, from emotional well-being to financial and professional consequences.

To ensure that the questionnaire is valid and reliable, it is essential to conduct validity and reliability studies.

Validity: Validity can be assessed through exploratory and confirmatory factor analyses, which examine the structure of the questionnaire and verify that it measures what it purports to measure. The validity of content, criterion and construct must be rigorously tested.

Reliability: Reliability can be verified by calculating Cronbach's alpha coefficient, which measures the internal consistency of the questionnaire items. A high Cronbach's alpha indicates that the questionnaire items are homogeneous and consistently measure the same construct.

In addition, it is crucial to test the sensitivity of the questionnaire in relation to changes in the variable of interest. This means checking whether the instrument is able to detect changes in the impact of strikes over time. A sensitive questionnaire should capture subtle variations in teachers' experience, reflecting changes in their emotional and professional conditions.

Finally, it is recommended to conduct criterion validity studies to verify the relationship of the questionnaire with other relevant measures. This may include comparing with other instruments that assess similar aspects, such as stress levels and well-being. Studies of clinical utility are equally important to assess the applicability of the questionnaire in clinical practice, ensuring that it is a useful and effective resource for mental health professionals.

The construction of a psychological assessment questionnaire on the impact of strikes on teachers' lives is a complex process that requires meticulous attention at each stage. From the definition of the objectives to the final validation, each phase is essential to ensure that the questionnaire is a valid, reliable and useful tool in clinical practice and scientific research.

CONCLUSION

The teachers' strike can have a significant impact on the lives of these professionals, functioning as a form of protest against the lack of recognition and appreciation of the teaching



profession, as well as for the improvement of working conditions and salaries. However, strikes can also generate negative side effects for teachers themselves.

One of the most immediate consequences is the loss of salary during the strike period, directly affecting the financial lives of teachers, especially those who depend exclusively on their salaries for their basic expenses. In addition, the strike can cause delays in the school calendar, harming the planning and schedule of both teachers and students.

Another relevant impact is the emotional and psychological exhaustion caused by tension and uncertainty about the results of the action. Teachers can face pressure and criticism from society, their students and families, generating stress and anxiety. Internal conflicts can also arise among teachers themselves, due to differing opinions on the necessity and effectiveness of the strike.

On the other hand, the teachers' strike can generate positive impacts, such as raising society's awareness of the importance of the profession and mobilizing for necessary changes in education. Additionally, the strike can strengthen unity and solidarity among teachers, creating a sense of community and collaboration.

The impact of the teachers' strike on the lives of these professionals depends on the specific context in which the action is carried out. It is crucial for teachers to carefully weigh the pros and cons before deciding to strike, considering not only their own needs and desires, but also the interests of students and society as a whole.

Reflecting on the impact of strikes on teachers' lives can be a personal and meaningful experience. This reflection can help to better understand the concerns and needs of educators during these periods of protest and how they affect their routine, emotional and financial well-being.

We intend to use this study as a tool to reflect with teachers on the impact of strikes on their lives. Teachers may be directly affected by strikes occurring in their educational institutions or in the educational sector as a whole. While strikes have an important and legitimate purpose, it is critical for professionals to understand how they can affect their personal and professional lives. Thus, we can create conditions to reduce the negative impacts during strike periods and highlight the need for physical and psychological support in more extreme situations.



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Impacto das greves na vida dos professores

Este questionário tem por objetivo avaliar o impacto do movimento de greve na vida dos professores. A sua participação é muito importante para ajudar a compreender como as greves afetam os professores, individualmente e como um todo, e desenvolver soluções para melhorar a situação dos professores em momentos de greve. Não se trata de um teste, pelo que não há repostas certas ou erradas. Queremos mesmo saber o que pensa. Por favor, faça uma leitura atenta das questões e responda da forma que melhor reflita aquilo que pensa e sente. Agradecemos desde já o tempo dedicado à participação nesta investigação.

Frequência de participação em greves:

- 1- Participei de uma greve de professores nos últimos 12 meses
 - Sim
 - Não

- 2- Quantas greves de professores participei nos últimos 12 meses?
 - Uma
 - Duas
 - Três ou mais

- 3- Qual foi a duração média das greves de professores em que participei nos últimos 12 meses?
 - Menos de uma semana
 - Uma a duas semanas
 - Duas a três semanas
 - Três semanas ou mais

- 4- Com que frequência participei de greves durante a minha carreira como professor?
 - Nunca participei de greves
 - Participei de uma ou duas greves
 - Participei de três a cinco greves
 - Participei de mais de cinco greves

Opinião sobre greves:

- 1- Qual foi o motivo principal para participar das greves?
 - Salários
 - Condições de trabalho
 - Benefícios
 - Outro motivo (por favor, especifique) _____

- 2- Acredito que as greves são eficazes na luta pelos direitos dos professores.
 - Sim
 - Não
 - Não tenho certeza