



Burnout syndrome in teachers during the COVID-19 pandemic

Síndrome de Burnout em professores durante a pandemia de COVID-19

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ABSTRACT

Evaluate the involvement of Burnout Syndrome and coping strategies related to the work of teachers in times of COVID-19. This is a cross-sectional study, carried out with 114 teachers of all levels of education, living in the capital Teresina, Piauí. The collection was carried out using a form with sociodemographic and professional information, in the period from May to July 2022, using the survey technique. Data were processed using IBM® SPSS® software, version 26.0. The inferential analysis was performed using the Pearson Correlation Test, the comparison of means was performed using the ANOVA One-Way Test, with Tukey's post-test when significant. A statistically significant association was verified between the teachers' gender and the control-type coping strategy ($p=0.001$), so that male teachers used the control strategy to cope with stressors.

Keywords: COVID-19. Professional burnout. Teachers and professors. Mental health.

RESUMO

Avaliar o acometimento da síndrome de Burnout e estratégias de *coping* relacionadas ao trabalho de professores em tempos de Covid-19. Trata-se de um estudo transversal, realizado com 114 professores de todos os níveis de ensino, residentes na capital Teresina, Piauí. A coleta foi realizada por meio de um formulário com informações sociodemográficas e profissionais, no período que compreendeu os meses de maio a julho de 2022, por meio da técnica *survey*. Os dados foram processados no *software* IBM® SPSS®, versão 26.0. A análise inferencial foi realizada por meio do teste de correlação de Pearson; a comparação das médias foi realizada por meio do teste ANOVA One-Way, com pós-teste de Tukey quando significativa. Foi verificada uma associação estatisticamente significativa entre o sexo dos professores e a estratégia de enfrentamento do tipo controle ($p=0,001$), de modo que professores do sexo masculino utilizaram a estratégia controle para enfrentamento dos estressores.

Palavras-chave: COVID-19. Esgotamento profissional. Docentes. Saúde mental.

INTRODUCTION

The situation caused by the Covid-19 pandemic led to the adoption and modification of economic, social, and health measures in all areas, intending to maintain social distancing, reduce the spread of the virus, and prevent the collapse of the Health system. Faced with the fear of contagion among teachers, professors, students, and employees, educational institutions in Brazil and around the world decided to suspend face-to-face classes and adopt virtual teaching and learning strategies focused on minimizing dropout rates, and continuing their academic activities, as well as their academic calendar¹.

However, with the adoption of distance education (EaD) to meet chaotic demands in the context of the pandemic, this has become another major challenge for teachers and professors. Given the adversity of a completely atypical environment, marked by fears, uncertainties, doubts, and expectations, teachers and professors had a real and clear need: to reinvent and innovate teaching strategies while maintaining quality¹.

In this sense, educators face different situations and pressures from institutions, predisposing them to diseases that may be mainly related to mental health, such as Burnout syndrome. This syndrome is characterized by the condition of emotional tension and stress caused by demanding work environments².

Burnout syndrome or professional burnout syndrome is a psychic disorder first described in 1974 by Freudenberger, an American physician. The disorder is registered in group 24 of the ICD-11 (International Statistical Classification of Diseases and Related Health Problems) as one of the factors that influence health in the work environment³.

Burnout can be measured by three dimensions: Emotional Exhaustion (EE), Cynicism (CY), and Efficiency at Work (EW). The EE dimension is characterized by the lack or decrease of energy, enthusiasm, and the feeling of depletion of resources. The individual who scores in this dimension believes that he/she is no longer able to expend energy to carry out his/her work activities. CY is caused by emotional distancing from co-workers and institutions, leading to certain depersonalization. The tendency for the worker to perform a negative self-assessment characterizes EW. In this dimension, the individual feels unhappy with him/herself and is dissatisfied with his/her professional development⁴.

The sudden shift from face-to-face to remote teaching has created a set of challenges for teachers and professors. The teaching category was exposed to different situations and pressures to deal with technology to seek pedagogical innovations that could guarantee student engagement and learning; this pressure had a direct impact on mental health and may, consequently, have a direct impact on the post-pandemic period⁵.

One of the most effective individual ways of coping with stress is the coping strategy, that is, from a behavioral point of view, coping is defined as a set of intentional, cognitive, and behavioral responses, which are used by the subject to deal with emerging specific needs.

In the work environment, the cognitive assessment of a stressful situation includes threat recognition, coping strategies, and self-perception as an individual capable of dealing with stressors. Those who are more confident in their abilities to carry out activities can more effectively use strategies to deal with stressors⁶.

Latack (1986) verified coping with stress in the work environment by considering three variations of strategies. The author defined the actions and cognitive reassessments relevant to coping as control strategies, while the actions and cognitive reassessments of content escape from problems were called avoidance strategies. On the other hand, symptom management strategies are characterized by popularly accepted attempts to deal with stress symptoms, such as relaxation practices and physical exercises⁷.

A problem-focused response is the subject's effort to act in a stressful situation and try to change it. The effect of this strategy is to change the tension between people and their environment. These efforts aim to prevent or mitigate threats, damages, losses, or associated suffering⁸. Coping strategies can be adaptive or not, and may interfere with well-being and generate more strain.

In view of the above, the objective of this study was to evaluate Burnout syndrome in teachers and professors and coping strategies related to their work in times of Covid-19.

METHODS

This was an analytical cross-sectional study, in which data were collected using the web-based survey technique. The study was carried out in Teresina, the capital of the state of Piauí (PI), from May to July 2022. The study population comprised teachers and professors of all levels of education working in Teresina. The sample size was calculated using the G*Power® software, version 3.1.9.7, with a priori analysis of the sample required for analysis in contingency tables⁹.

Convenience sampling (non-probability) was adopted, in which teachers and professors who met the eligibility criteria for the study were included in the sample. In the end, the sample consisted of 114 participants.

A form for data collection was used, containing sociodemographic (age, gender, education, marital status) and professionals (time in teaching, level at which he/she teaches, workload) variables applied virtually through Google Forms. To check for the occurrence of Burnout, the Maslach Burnout Inventory - General Survey was applied, which evaluates the Burnout syndrome in workers, based on the feelings and attitudes of professionals about their work. The scale was developed by Maslach and Jackson in 1981, adapted, and validated for Portuguese¹⁰.

The instrument contains 16 items, divided into three dimensions: EE (6 items), CY (4

items), and EW (6 items). Each item is measured using an ordinal scale ranging from 0 (never) to 6 (every day). The score for each dimension is obtained through the arithmetic mean of the respective items, ranging from 0 to 6 points for EE, 0 to 4 points for CY, and 0 to 6 points for EW.

Participants can be classified by mean into high (≥ 3.20 in EE; ≥ 2.20 in CY, and ≥ 5.0 in EW), moderate (2.10-3.19 in EE; 1.01-2.19 in CY and 4.01-4.99 in EW) or low (≤ 2.0 in EE; ≤ 1.0 in CY and ≤ 4.0 in EW) in each dimension. In the end, the score for the Burnout syndrome is obtained through the arithmetic mean of the 16 items and the participants can also be classified as high (> 2.43), moderate (1.33-2.43), or low (< 1.33)⁴.

The measurement of cognitive actions and reassessments towards stressors was carried out using the Occupational Coping Scale (OCO), which measures cognitive actions and reassessments (coping or avoidance) carried out by the individual in the face of stressors. This is a self-completion instrument created by Latack in 1986, translated, adapted, and validated in Brazil¹¹.

The instrument consists of 29 items, subdivided into three independent factors: control (11 items; $\alpha=0.788$), referring to proactive cognitive actions and reassessments; avoidance (9 items; $\alpha=0.774$), related to actions and reassessments that suggest escape; and symptom management (9 items; $\alpha=0.813$), which refers to the strategies used by individuals to manage stressful situations, including relaxation or physical activity. Each item is measured using a Likert scale, whose levels range from (1) "I never do that" to (5) "I always do that". The final score for each factor is obtained through the arithmetic mean of the respective items. The higher the individual's score on a given ECO factor, the greater the frequency with which he/she uses this strategy to cope with occupational stressors¹¹.

In evaluating the relationships between Burnout and the characteristics of teachers and professors, the final classification of the Burnout syndrome was adopted (high versus moderate versus low). For quantitative independent variables, data normality was tested by the Kolmogorov-Smirnov test, and means were compared by One-Way ANOVA, with Tukey's post-test when significant. For qualitative independent variables, the Linear-by-Linear Association test was used (for ordinal variables).

Finally, to relate the coping strategies with the sociodemographic and professional characteristics of the participants, the average levels of each strategy (control, avoidance, and symptom management) were used.

The present study was sent to the Research Ethics Committee, Federal University of Piauí (UFPI), and its approval opinion is number 5.706.070. The participants were invited to electronically sign the Informed Consent (IC), following the guidelines of resolution 466/12 of the National Health Council¹².

RESULTS

As for the sociodemographic profile of the participants, there was a predominance of teachers and professors with a mean age of 44.1 years, (68.4%) female, (60.5%) brown, (97.4%) living in the urban area of the capital, (37.7%) with family income above ten minimum wages, (71.9%) married/stable union, (39.5%) with two or more children, (33.3%) specialization as education level.

With regard to the professional profile, there was a higher percentage of participants working in undergraduate education (54.4%), (71.1%) public education sector, 65.8% with more than ten years of teaching experience, 72.8% with a workload of more than 30 h/week, and 95.6% work in the urban area. Of the participating teachers, there was a higher percentage among those who reported difficulties regarding the use of technologies in remote teaching (47.4%), and 72.8% declared they had institutional support to face the difficulties, the majority (57.9%) were confident with the return to face-to-face classes.

The highest percentages of Burnout were found in younger teachers and professors, male, brown, living in rural areas, with lower family income compared to those with moderate and low levels of Burnout, married/in a stable union, with at least one child, with undergraduate studies, who teach in elementary school (initial years), and in the private sector.

Higher percentages of Burnout, at high levels, were evidenced in participants who had difficulties in using technologies in remote teaching. An interesting fact was observed among teachers and professors who reported having received institutional support to face these difficulties, as most of them scored high on Burnout. In addition, teachers and professors who did not feel confident about returning to face-to-face classes had higher percentages of high burnout, as listed in Table 1.

Table 1. Relationship between burnout and sociodemographic and professional characteristics of teachers and professors (n=114). Teresina, state of Piauí, Brazil, 2023

Characteristic	Burnout			p
	High	Moderate	Low	
Age*	43.1 ± 9.8	46.3 ± 9.4	54.5 ± 19.1	0.102 ^a
Sex				0.408 ^l
Woman	54 (69.2%)	22 (28.2%)	2 (2.6%)	
Man	27 (75.0%)	9 (25.0%)	0 (0.0%)	
Color/race				0.109 ^l
Brown	52 (75.4%)	17 (24.6%)	0 (0.0%)	
White/black/yellow	29 (64.4%)	14 (31.1%)	2 (4.4%)	
Place of residence				0.281 ^l
Urban	78 (70.3%)	31 (27.9%)	2 (1.8%)	
Rural	3 (100.0%)	0 (0.0%)	0 (0.0%)	
Family income*	13,305.62 ± 13,027.56	16,166.13 ± 14,456.61	26,500 ± 17,677.67	0.267 ^a
Marital status				0.365 ^l
Married/stable union	60 (73.2%)	21 (25.6%)	1 (1.2%)	
No partner	21 (65.6%)	10 (31.3%)	1 (3.1%)	
Number of children*	1.2 ± 1.3	1.1 ± 1.1	2.0 ± 2.8	0.627 ^a
Education level				0.233 ^l
Undergraduate studies/specialization	35 (76.1%)	11 (23.9%)	0 (0%)	
Master's/Doctorate/Post-Doctorate	46 (67.6%)	20 (29.4%)	2 (2.9%)	
Level of education in which you work**				
Child education	5 (71.4%)	2 (28.6%)	0 (0.0%)	0.907 ^l
Elementary	14 (73.7%)	5 (26.3%)	0 (0.0%)	0.675 ^l
Higher education	44 (71.0%)	16 (25.8%)	2 (3.2%)	0.717 ^l
Specialization/residency	16 (57.1%)	11 (39.3%)	1 (3.6%)	0.055 ^l
Master's degree	10 (62.5%)	5 (31.3%)	1 (6.3%)	0.260 ^l
Doctoral degree	7 (63.6%)	4 (36.4%)	0 (0.0%)	0.693 ^l
Education sector				0.815 ^l
Public	57 (70.4%)	22 (27.2%)	2 (2.5%)	
Private	19 (82.6%)	4 (17.4%)	0 (0.0%)	
Both	5 (50.0%)	5 (50.0%)	0 (0.0%)	
Time of teaching experience	14.9 ± 8.7	16.4 ± 9.2	20.5 ± 0.7	0.514 ^a
Weekly workload	35.5 ± 12.3	35.7 ± 13.0	40.0 ± 0.0	0.881 ^a
Area where you teach				0.671 ^l
Urban	78 (71.6%)	29 (26.6%)	2 (1.8%)	
Rural/both	3 (60.0%)	2 (40.0%)	0 (0.0%)	
Difficulty with the use of technologies in remote teaching				0.364 ^l
Yes	36 (66.7%)	17 (31.5%)	1 (1.9%)	
No	45 (75%)	14 (23.3%)	1 (1.7%)	
Institutional support for coping with difficulties				0.533 ^l
Yes	61 (73.5%)	20 (24.1%)	2 (2.4%)	
No	20 (64.5%)	11 (35.5%)	0 (0.0%)	
Self-perception of confidence regarding the return to face-to-face classes				
Yes	45 (68.2%)	19 (28.8%)	2 (3.0%)	0.299 ^l
No	36 (75.0%)	12 (25.0%)	0 (0.0%)	

*: mean ± standard deviation; p: test significance; l: Linear-by-Linear Association; a: One-Way ANOVA
Source: Prepared by the authors (2023).

Regarding the dimensions of the Maslach Burnout Inventory- General Survey (MBI-GS), in relation to the EE, higher percentages were found in the emotional exhaustion component in the high and low levels of Burnout; as to the cynicism component, higher percentages were scored in the moderate and low levels of Burnout. As for the efficiency at work component, they were scored mostly in the high and low levels of Burnout, according to Table 2.

Table 2. Frequency of Burnout levels among teachers and professors (n=114). Teresina, state of Piauí, Brazil, 2023

Component	High	Moderate	Low
Emotional exhaustion	37 (32.5%)	31 (27.2%)	46 (40.4%)
Cynicism	26 (22.8%)	32 (28.1%)	56 (49.1%)
Efficiency at work	55 (48.2%)	16 (14.0%)	43 (37.7%)
Burnout	81 (71.1%)	31 (27.2%)	2 (1.8%)

Source: Prepared by the authors (2023).

Table 3 lists the values related to the coping strategies adopted by teachers and professors in coping with Burnout, given the actions employed by them to minimize occupational stress. The Control strategy was the most used, with a higher average at the midpoint of the scale, followed by the Symptom Management strategy, as shown in Table 3.

Table 3. Coping strategies used by teachers and professors to cope with occupational stressors (n=114). Teresina, state of Piauí, Brazil, 2023

Coping strategy	M ± SD
Control	3.6 ± 0.8
Avoidance	2.5 ± 0.9
Symptom management	2.9 ± 0.9

M ± SD: mean ± standard deviation.

Source: Prepared by the authors (2023).

Correlations were detected between control, avoidance, and burnout coping strategies. With a positive association between the cynicism component and the Avoidance strategy. The lower the level of Cynicism, the more the control was used with a weak correlation. Higher levels of the Control strategy were correlated with higher levels of efficiency at work ($p < 0.001$), with moderate correlation. The overall Burnout score showed a direct and weak correlation ($p = 0.007$). There was a correlation between the Avoidance strategy and the Emotional Exhaustion component ($p < 0.001$), and Burnout ($p < 0.001$). The Symptom Management strategy did not correlate with any of the Burnout components, as shown in Table 4.

Table 4. Correlation between Burnout levels and coping strategies of teachers and professors (n=114). Teresina, state of Piauí, Brazil, 2023

	Coping strategies		
	Control	Avoidance	Symptom management
Burnout component			
Emotional exhaustion	0.052	0.344**	0.008
Cynicism	-0.222*	0.373**	0.073
Efficiency at work	0.547**	0.010	0.164
Burnout (final)	0.253**	0.342**	0.116

*: $p < 0.05$; **: $p < 0.001$

Source: Prepared by the authors (2023).

A statistically significant association was found between the participant's gender and the control strategy ($p=0.001$), in which male teachers and professors used the control strategy to cope with stressors. There was a significant association between self-perception of confidence regarding returning to face-to-face classes and the avoidance strategy ($p=0.028$).

DISCUSSION

The percentage of teachers and professors with a high level of Burnout Syndrome (BS) was high. Data showed that elementary school teachers and professors were the most affected among those who had BS in the school environment. Similar information was reported in a study carried out in Nigeria to investigate Burnout among elementary school teachers in the early years, which showed that the prevalence of Burnout was 36.0%, 15.8% for EE, 26.1% for CY, and 84.6% for EW¹³.

The information obtained indicates that elementary school teachers are overloaded when it comes to learning, social needs, and, in some cases, special health needs. In addition, the perception of a lack of control or uncertainty about students' dysfunctional behaviors can cause depressive and anxiety symptoms in teachers of this level of education. The unavailability of resources or limited resources besides the lack of administrative and parental support, were significant sources of distress in primary school teachers¹³. A study carried out in Minas Gerais showed a higher average of BS among younger full teachers and professors, with at least one child, and who reported the lack of support from the school in facing difficulties in the use of technologies, data that corroborate with the present research¹⁴.

Similar data were observed in studies carried out in Brazil and abroad, where the prevalence of BS among public school teachers in Montes Claros (MG)¹⁴ was lower than those

found in studies carried out in Chile (58%)¹⁵ and in Rio Grande do Sul (41.5%)¹⁶. In another study conducted in Porto Alegre with public school teachers and professors, there was a general prevalence of 25.8% of BS¹⁶. A study carried out with teachers and professors from public and private institutions in the metropolitan region of São Paulo pointed out that 52% participants had an intermediate level of Burnout¹⁷.

Another cross-sectional study carried out with 200 elementary and high school teachers in a municipality in the state of Pará showed that 57.5% had high emotional exhaustion, 49% had high depersonalization and 36% had low professional achievement, and 21% had signs of Burnout syndrome¹⁸.

The results of this study indicated that with increasing levels of Burnout, the use of control and avoidance strategies also increases. Regarding coping strategies, the process can encompass both effectively positive responses to the stressor and negative responses to professional health. Importantly, a coping strategy cannot be intrinsically considered adaptive or maladaptive, and the nature of the stressor, the availability of coping resources, and the outcome of the effort have to be taken into account. Choosing the control strategy represents a positive action against the stressor, that is, an attempt to actively resolve problems related to the work environment in times of Covid-19.

In an international survey conducted with teachers in Germany, the majority of the sample (76.7%) adopted coping strategies. In addition, 42.3% used strategies centered on emotions and coping styles focused on problems¹⁹. The avoidance strategy, related to actions and reassessments that indicate escape or avoidance, was also associated with Burnout syndrome. Because it is focused on emotion, the teacher uses avoidance to change their understanding of the stressful situation and reduce or avoid the discomfort caused. The systematic and exclusive use of this strategy can distance teachers from the reality they have to face in their daily lives, in addition to preventing more active forms of resolution¹⁹.

The Symptom Management strategy was the only one that did not correlate with any Burnout component. The lack of choice for the Symptom Management strategy had a negative impact on occupational stress. Although poor-resolving, due to the emotional content, the adoption of this strategy would represent benefits for coping with occupational stress in this context since it refers to actions usually reported as strategies used by individuals to manage stressful situations, including relaxation or physical activity, which could represent a certain maturity of the individual.

Precarious teaching, limited learning resources, lack of training with the use of technologies, excessive workload due to remote work, exposure to adverse events, and poor remuneration of teachers and professors are inferred to be the reasons to explain why teachers and professors potentially experienced burnout. Only with the improvement of working conditions in schools can there be a significant decrease in psychological suffering as well as a reduction in the risk of burnout for teachers.

The association of Burnout syndrome with teaching work was already proven before the pandemic, due to several factors such as lack of recognition, overwork, relationships with others, excessive bureaucracy, workload, large classes, student learning, and confinement, among others. Thus, the need to create an intervention project through strategic management mechanisms is evident, to prevent and promote the mental health and well-being of teachers and professors to reduce their emotional exhaustion²⁶.

Promoting teachers' mental health is essential to reduce the risk of developing Burnout syndrome and ensure their well-being and professional effectiveness. The Covid-19 pandemic has further highlighted the fragility and high risk of developing Burnout syndrome among teachers and professors. The high prevalence of emotional exhaustion, depersonalization, and low professional achievement indicates the presence of characteristic symptoms of the syndrome, especially during remote teaching. These factors are correlated with all dimensions of the Burnout syndrome²⁷.

There was no statistically significant difference between public and private school teachers and professors, for most of the variables surveyed, however, private school teachers and professors had a higher frequency of high burnout. As for the salary, lower pecuniary earnings were observed as predictive factors for psychological illness. These results are in line with research carried out in which a relationship was found between income and quality of life²⁰. Teachers and professors who have lower salaries become socially and mentally more vulnerable in situations that affect the economy, as in the case of the pandemic²¹.

In the context of the Covid-19 pandemic, remote activities became the strategy used so that the teaching-learning process was not impaired, with teachers changing their work circumstances to the home scenario. This was associated with higher stress among these professionals, mainly due to the accumulation of domestic and work activities, as well as social distancing²². A study carried out in Belgium showed an increase in smoking and alcohol use during the pandemic, both associated with stressful events²³.

The difficulty with the use of technologies did not present statistically related data. The strategies for coping with stress at work most used by elementary school teachers ranged from social support, consumption of alcoholic beverages, leisure activities such as listening to music, having fun, reading newspapers, magazines, the Bible, and resting, all classified in the category of control strategies or focused on emotion²⁴.

A study carried out with teachers in Mozambique pointed out strategies used by teachers to minimize the perceived stress: talking to friends, conforming to the situation that caused the stress, listening to music, drinking beer, and reading books, which fits into the control factor and is in agreement with the data found in the present study²⁵.

Our findings show high levels of Burnout in a significant contingent of teachers and professors and low efficiency in the use of coping strategies. Symptoms of EE, reduced EW, and CY, characteristics of Burnout syndrome, arise and intensify when teachers and professors are unable to apply effective ways to combat stress factors in the work environment, which seems to be happening in the sample.

Concerning society, the results highlight the need for attention and support for teachers and professors, especially in the context of remote teaching and the return to face-to-face classes. These professionals face significant challenges in terms of mental health and well-being, and measures have to be implemented to promote a healthy and safe work environment. It is recommended the creation of listening spaces, such as the availability of psychology professionals to offer emotional support, and the promotion of activities that encourage the exchange of experiences and the development of effective coping strategies.

For the scientific community, this study contributes to knowledge about the relationship between the use of technologies in remote teaching, coping strategies, and the occurrence of Burnout in teachers and professors. Highlighting the importance of investigating these aspects in specific contexts, such as the Covid-19 pandemic and the need to develop interventions and policies aimed at teachers' and professors' mental health. These results may stimulate further research and interdisciplinary collaborations to address this issue and identify effective solutions.

As a limitation of this study, the small number of teachers and professors who were part of the sample stands out, which may have influenced the variability of the data and, therefore, the result of the correlations. Still, the limited number of studies involving the design and instruments used for the constructs analyzed here and the results with other national and international research.

FINAL CONSIDERATIONS

The results achieved in this study are worrisome since a significant number of teachers and professors signaled the presence of BS. Because it is a problem in development, it can lead to the weakening of the professional's physical and mental health and compromise pedagogical practices and professional effectiveness. The frequency of BS was evaluated using the reference points procedure of the response frequency scale.

As for the coping strategies, correlations were detected with the control, avoidance, and burnout types, which may be anchored in the experience acquired in the embracement and the use of empathic skills in the face of stress. In this way, with the imminent end of the Covid-19 pandemic and with the virus already under control, measures must be taken to promote a safer working environment and, in what concerns it, to favor the physical and mental health of teachers and professors, for example, the creation of a listening space with professional psychologists, conversation circles among teachers and professors to discuss stress factors and how to minimize them, as well as the creation of a policy aimed at teachers and professors with an emphasis on mental health in teaching activities.

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