ISSN online 1688-4221

Ciencias Psicológicas July-December 2024; 18(2), e-3727
DOI: 10.22235/cp.v18i2.3727

Burnout syndrome and its relationships with social skills, coping, and socio-occupational variables in elementary school teachers

Síndrome de *burnout* e relações com habilidades sociais, coping e variáveis sócio-ocupacionais em professores do ensino fundamental

Agotamiento emocional y relaciones con habilidades sociales, afrontamiento y variables sociolaborales en docentes de educación primaria

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Received: 10/28/2023
Accepted: 06/24/2024

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How to cite:
Biavati Guimarães, A. M., Freitas, L. C., & De Oliveira, D. C. R. (2024). Burnout syndrome and its relationships with social skills, coping, and socio-occupational variables in elementary school teachers. *Ciencias Psicológicas*, *18*(2), e-3727. https://doi.org/10.22235/cp.v18i2.3727

Data availability:
The dataset supporting the results of this study is not available.

Funding: This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior –Brasil (CAPES)– Finance Code 001.

Abstract: This study had the general objective of verifying the relationship between burnout syndrome, social skills, coping strategies, and socio-occupational variables in a sample of 166 elementary school teachers from 13 public schools of Minas Gerais, Brazil, aged between 23 and 65 years, 73 % of whom were female. The Burnout Syndrome Inventory (ISB), the Social Skills Inventory 2 (IHS-2), the Coping Strategies Inventory (IEC), and a socio-occupational questionnaire developed especially for this research were used. A negative correlation was obtained between burnout and repertoire of social skills (r = -.273 and p < .001). The coping strategies that positively correlated with social skills were seeking social support, problem solving, and positive reappraisal. Furthermore, there was a positive correlation between coping and professional fulfillment, indicating that teachers who adopted coping strategies were more likely to feel professionally satisfied. The burnout predictor variables were age, marital status, family provision, number of children, length of service, ongoing health care and social resourcefulness. The implications of these results were discussed concerning protective actions for the mental health of teachers and the importance of socio-emotional development in schools.
Keywords: burnout; social skills; coping; teachers

Resumo: Este estudo teve como objetivo geral verificar a relação entre síndrome de *burnout*, habilidades sociais, *coping* e variáveis sócio-ocupacionais em uma amostra de 166 professores do ensino fundamental de 13 escolas públicas do interior de Minas Gerais, Brasil, com idades entre 23 e 65 anos, sendo 73 % do sexo feminino. Foram utilizados o Inventário da Síndrome de Burnout (ISB), o Inventário de Habilidades Sociais 2 (IHS-2), o Inventário de Estratégias de Coping (IEC) e um questionário sócio-ocupacional desenvolvido especialmente para esta pesquisa. Obteve-se correlação negativa entre o *burnout* e o repertório de habilidades sociais (r = -0,273 e p < 0,01). As estratégias de *coping* que se correlacionaram positivamente com as habilidades sociais foram: busca de suporte social, resolução de problemas e reavaliação positiva. Ademais, houve correlação positiva entre *coping* e realização profissional, indicando que professores que adotaram estratégias de enfrentamento apresentaram maior tendência a sentirem-se realizados profissionalmente. As variáveis preditoras do *burnout* foram idade, estado civil, provimento familiar, número de filhos, tempo de serviço, tratamento contínuo de saúde e desenvoltura social. Discutiu-se a implicação desses resultados no tocante às ações protetivas de saúde mental docente e quanto à relevância do desenvolvimento socioemocional nas escolas.
Palavras-chave: *burnout*; habilidades sociais; estratégias de enfrentamento; professores

Resumen: Este estudio tuvo como objetivo general verificar la relación entre el síndrome de *burnout*, las habilidades sociales, el afrontamiento y las variables sociolaborales en una muestra de 166 profesores de educación básica de 13 escuelas públicas del interior de Minas Gerais, Brasil, con edades entre 23 y 65 años, el 73 % de los cuales son mujeres. Se utilizó el Inventario de Síndrome de Burnout (ISB), el Inventario de Habilidades Sociales 2 (IHS-2), el Inventario de Estrategias de Afrontamiento (IEC) y un cuestionario sociolaboral desarrollado especialmente para esta investigación. Se obtuvo una correlación negativa entre el *burnout* y el repertorio de habilidades sociales (r = -.273 y p = .001). Las estrategias de afrontamiento que se correlacionaron positivamente con las habilidades sociales fueron: búsqueda de apoyo social, resolución de problemas y reevaluación positiva. Además, hubo una correlación positiva entre el afrontamiento y la realización profesional, lo que indica que los profesores que adoptaron estrategias de afrontamiento tenían más probabilidades de sentirse realizados profesionalmente. Las variables predictoras del agotamiento fueron la edad, el estado civil, la provisión familiar, el número de hijos, el tiempo de servicio, la atención médica continua y la desenvoltura social. Se discuten las implicaciones de estos resultados respecto de las acciones protectoras para la salud mental de los docentes y la relevancia del desarrollo socioemocional en las escuelas.
Palabras clave: *burnout*; habilidades sociales; estrategias de afrontamiento; docentes

In recent years, there has been a significant increase in mental disorders among workers (Almada, 2019; Bolsoni-Silva et al., 2018). Contributing factors include workload, work pace, the increase of tasks for the same occupation, technological demands, and the growing need for quick results, whether in the public or private sector (Diehl & Carlotto, 2014; Gil-Monte et al., 2011). Burnout syndrome is a psychological disorder that affects a significant number of workers globally (Bakker & Costa, 2014). It generally affects caregivers, i.e., professionals who are directly, constantly, and emotionally involved with users, whether they are students, patients, or clients (Leiter & Maslach, 2014; Martínez et al., 2020). Teaching, which the focus of this article, is characterized as a caregiving profession (Silva et al., 2015), and one of the most frequent syndromes among teachers is burnout (Hasan & Bao, 2020; Jesus-Pereira et al., 2020).

In response to this reality, the World Health Organization included burnout in the International Classification of Diseases in January 2022, due to the high prevalence and incidence rates of the syndrome globally (Almeida, 2020). The International Stress Management Association (ISMA) estimated that in 2019, 32 % of professionals worldwide experienced burnout. In Brazil specifically, Filippi and Bonfim (2020) published a study indicating that 72 % of workers had a considerable level of stress associated with their profession, and of these, 30 % were likely to have burnout.

Regarding diagnosis, Brazil's Ministry of Health does not require compulsory notification, making it difficult to measure the syndrome's prevalence (Carlotto & Câmara, 2018). Nonetheless, the Ministry of Social Security published a report indicating that between 2017 and 2018, there was a 114.8 % increase in the granting of sick leave benefits for work-related complaints (Carlotto & Câmara, 2018). Another relevant data point from the Instituto de Psicologia e Controle de Stress (IPCS, Institute of Psychology and Stress Control) indicated that in 2019, one in three Brazilians suffered from work-related exhaustion (IPCS, 2019). This data was confirmed by a study by Amaral (2018), which found that 34.3 % of Brazilian workers are affected by burnout at some point. Thus, this syndrome requires immediate evaluation and intervention as it has significant negative consequences for the worker's overall health (Moreta-Herrera et al., 2022).

Burnout was identified in the 1970s in the United States, and studies quickly expanded to other countries (Maslach & Jackson, 1981). In Brazil, research on this topic began in the 1990s (Benevides-Pereira, 2015). Burnout is a reaction to chronic occupational stress (Dalcin & Carlotto, 2018; Gil-Monte et al., 2011; Leiter & Maslach, 2014) manifested through fatigue, headaches, emotional exhaustion, concentration problems, physical discomfort, negative feelings related to work, and reduced professional efficacy (World Health Organization, 2019).

According to Benevides-Pereira (2015), the term burnout began to be used in psychology to explain the absence of energy and discouragement towards work, especially among health and education professionals. Her studies identify three dimensions of the syndrome: emotional exhaustion, depersonalization, and low professional accomplishment. Emotional exhaustion reflects a lack of physical and mental readiness for work. Depersonalization relates to the worker's resistance towards users, characterized by impatience, cynicism, irony, and emotional detachment. The third dimension, low professional accomplishment, indicates a decline in professional performance (Benevides-Pereira, 2015), which is attributed to a feeling of inefficacy (Jarruche & Mucci, 2021).

Burnout leads to various adverse outcomes, including cognitive dysfunctions, difficulties in interpersonal relationships, sleep disturbances, mood and eating disorders, absenteeism, resignations, and the development of morbidities such as depressive disorders (Almeida et al., 2020; Buscatto, 2018). Additionally, the syndrome often results in social isolation, which impairs conflict resolution and the performance of work activities (Lucca, 2021). Organizational factors that contribute to burnout include long working hours, poor ergonomics, autocratic leadership, and intense competition (Pizano et al., 2022).

The International Labor Organization (ILO) reported that teachers, along with health professionals, are among the most affected by burnout (Carlotto & Câmara, 2018; Pfeffer, 2019). Studies by Gil-Monte et al. (2011) and Borges and Lauxen (2016) indicate that this syndrome affects teachers worldwide and exhibits an epidemic nature globally. A systematic review found that Brazilian teachers, particularly those in elementary and high schools, are at high risk for developing the syndrome (Diehl & Marin, 2016). Over time, the teaching profession has deteriorated due to a lack of recognition, demotivation, stressful interpersonal relationships, school violence, numerous responsibilities involving children and adolescents, low wages, and other factors (Diehl & Marin, 2016).

Further, on the school context, another literature review found high rates of professional burnout among teachers in various countries, including Brazil, with up to 64 % of teachers affected by the syndrome (Guimarães & Freitas, 2022). This is concerning as the classroom is not only a space for the transmission of knowledge but also a place that can facilitate the development of interpersonal relationships under the teacher's leadership (Carlotto et al., 2015; Del Prette & Del Prette, 2022).

Therefore, teaching needs to be creative and motivating (Achkar, 2013; Fajardo, 2015). Some research indicates that teachers' behavior towards their students can either promote or hinder the development of social skills (Bolsoni-Silva et al., 2015; Del Prette & Del Prette, 2017; 2022; Fonseca, 2012). Burnout syndrome is an obstacle to teaching and, consequently, to the development of social skills in both teachers and students (Bolsoni-Silva et al., 2015; Del Prette & Del Prette, 2022).

Given that teachers are key agents responsible for socio-emotional development in schools (Del Prette & Del Prette, 2022), social skills are central to their work. These skills refer to socially valued attitudes in a given context, presenting a high probability of positive results for the individual and their group (Del Prette & Del Prette, 2021).

According to Del Prette and Del Prette (2021), social skills encompass communication, civility, making and maintaining friendships, empathy, assertiveness, expressing solidarity, managing conflicts and solving interpersonal problems, expressing affection and intimacy, coordinating groups, and public speaking. Promoting these skills extends beyond technical knowledge, requiring the personal and social competencies of the teachers themselves (Carneiro et al., 2020).

Conversely, dysfunctional behaviors such as cynicism and non-assertive communication, which are common in burnout, hinder effective social interactions when associated with syndromes and disorders (Del Prette & Del Prette, 2022). In this context, a study involving medical residents found a correlation between the presence of social skills and the absence of burnout; participants without the syndrome demonstrated a robust repertoire of these skills (Pletti, 2021). Another empirical study found that the presence of burnout was associated with a deficiency in social skills (Schoeps et al., 2019).

Social skills, in turn, have been identified as a protective factor against the development of burnout (Mérida-López & Extremera, 2017). Similarly, a study by Achkar et al. (2016) found that a good repertoire of social skills was negatively associated with the onset of burnout, acting as a preventive factor for mental health.

Another way to prevent burnout syndrome is the adoption of stress management strategies called coping (Soares et al., 2019), as evidenced by empirical research, particularly among health and education professionals (Perniciotti et al., 2020). Therefore, coping can be defined as a set of emotional, cognitive, and behavioral efforts used when socio-environmental demands and requirements are greater than personal resources to deal with them (Gil-Monte et al., 2011; Lazarus & Folkman, 1984; Martínez et al., 2020). Coping is self-regulatory and capable of reducing negative feelings resulting from stress (Soares et al., 2019). According to Sandín and Chorot (2003), an individual can use various strategies to manage stress and, according to Luca et al. (2020), they can be adopted throughout life depending on individual needs.

There are two classes of coping. The first is problem-focused (stressor-centered), whose subclasses are confrontation, distancing, escape-avoidance, and problem-solving. The second is emotion-focused (emotional regulation), divided into self-control, social support, acceptance of responsibility, and positive reappraisal (Lazarus & Folkman, 1984). A study by Cabellos et al. (2020) indicated that university professors mainly adopt positive reappraisal and social support strategies.

Such coping resources are preventive against burnout (Dalcin & Carlotto, 2018; Martínez et al., 2020; Yin et al., 2018). A study by Ramón (2015) concluded that strategies focused on problem-solving and positive reappraisal are related to greater professional accomplishment. Additionally, Soares et al. (2019) identified that a broad repertoire of social skills can increase success in coping with stressful contexts. This association between coping and social skills was also investigated by Bezerra et al. (2022), whose study indicated that problem-solving strategies expand with the development of social skills. Furthermore, Santos and Soares (2020) researched this same variable association among academics and concluded that there is a positive correlation.

Based on the above, despite studies linking burnout syndrome, social skills, and coping, no research has been found in Brazil or elsewhere that concurrently assesses these variables among elementary school teachers, who face precarious working conditions (Guimarães & Freitas, 2022). Therefore, this investigation aims to address the following questions: What is the relationship between burnout syndrome and the repertoire of social skills? What coping strategies do teachers adopt in response to professional exhaustion? How are social skills associated with coping? And how do socio-occupational variables among teachers relate to the syndrome? Thus, this study presents an opportunity to fill a gap in research, and to address these questions, the objectives outlined below have been formulated.

The general objective of this study was to investigate the relationships between socio-occupational variables, burnout, social skills, and coping among elementary school teachers. The specific objectives included characterizing the social skills repertoire of the study participants, examining the relationship between burnout syndrome and social skills, investigating the association between burnout syndrome and coping strategies, exploring the correlation between social skills and coping, identifying the coping strategies employed by teachers, analyzing the socio-occupational characteristics of the participants, and linking burnout syndrome with socio-occupational variables such as age, marital status, years of teaching experience, number of classes and schools, weekly workload, and health conditions.

Materials and method

Participants

The study involved 166 teachers from 13 public schools within a regional educational superintendent area in the state of Minas Gerais, Brazil. Regarding personal data, the results showed that the majority of the sample were female (72.9 %), while the minority were male (27.1 %). The average age of the participants was 41 years, with a standard deviation of 10.67 years. Regarding marital status, most of them were married (49.4 %), followed by single individuals (31.9 %). The number of children varied, with the majority having between 1 and 2 children (47 %). Half of the participants identified themselves as the family breadwinner (50 %).

In terms of occupational data, most participants worked in only one school (55.4 %), predominantly in public schools (89.8 %). The average weekly workload was 35 hours. The participants taught various grades in elementary school, with the largest proportion teaching 6th, 7th, and 8th grades (51.2 % each), followed by 9th grade (45.8 %). The average duration of employment as a teacher was 14.22 years. Most participants had a degree in Human Sciences (62.7 %), followed by Biological Sciences (18.1 %) and Exact Sciences (16.3 %). Postgraduate education was common among the sample, with 78.9 % of participants having completed postgraduate studies.

Regarding health-related information, most participants (80.8 %) had seen a doctor within the past year. Approximately one-fifth of the participants (20.5 %) required sick leave in the first semester of 2023, while the majority (78.9 %) did not. Most participants (57.2 %) were not undergoing continuous health treatment. Around 44 % of participants reported some form of health complaint at the time of data collection, with 44 % of these complaints related to work as teachers. Finally, most participants (77.1 %) expressed a desire to receive training in social skills and/or materials on socio-emotional development. Complete sample data are detailed in Table 1.

Table 1
Sociodemographic and occupational characterization: personal, occupational, and health-related data

Variables	Total sample (*n* = 166)	
	N	**%**
Gender		
Female	121	72.9
Male	45	27.1
Age (years)		
Mean ± standard deviation (range)	41.85 ± 10.67 (23 – 65)	
Median (1st quartile - 3rd quartile)	40.5 (34 – 48)	
Marital status		
Married	82	49.4
Single	53	31.9
Other	31	18.6
Number of children		
None	68	41.0
Between 1 and 2	78	47.0
Between 3 and 4	20	12.0
Family breadwinner		
Yes	83	50.0
No	83	50.0
Has another job besides teaching		
Yes	38	22.9
No	126	75.9
Did not answer	2	1.2
Household Income (minimum wages)		
Between 1 and 3	39	23.5
Between 3 and 5	89	53.6
More than 5	35	21.1
Did not answer	3	1.8
Number of schools where you work		
Only 1	92	55.4
Between 2 and 3	70	42.2
More than 3	2	1.2
Did not answer	2	1.2
Type of school		
Public	149	89.8
Public and private	14	8.4
Did not answer	3	1.8
Weekly workload (hours)		
Mean ± standard deviation (range)	35.67 ± 13.26 (3 – 64)	
Median (1st quartile - 3rd quartile)	40 (24 – 48)	
Grades you teach (Elementary School)		
4th grade	8	4.8
5th grade	17	10.2
6th grade	85	51.2
7th grade	85	51.2
8th grade	88	53.0
9th grade	76	45.8
Did not answer	31	18.7
Years of teaching experience		
Mean ± standard deviation (range)	14.22 ± 9.22 (1 – 38)	
Median (1st quartile - 3rd quartile)	12 (8 – 21)	

Variables	Total sample (*n* = 166)	
	N	%
Area(s) of Education (undergraduate)		
Human Sciences	104	62.7
Biological Sciences	30	18.1
Exact Sciences	27	16.3
Biological and Exact Sciences	2	1.2
Human and Exact Sciences	1	0.6
Did not answer	2	1.2
Postgraduate Studies		
Yes	131	78.9
No	26	15.7
Did not answer	9	5.4
Students with special needs		
Yes	140	84.3
No	25	15.1
Did not answer	1	0.6
The school offers continuous training		
Yes	93	56.0
No	66	39.8
Did not answer	7	4.2
Last visit to the doctor (year)		
Less than 1 year ago	134	80.7
More than 1 year ago	26	15.7
Did not answer	6	3.6
Needed health leave in 2023		
Yes	34	20.5
No	131	78.9
Did not answer	1	0.6
Undergoing continuous health treatment		
Yes	71	42.8
No	95	57.2
Currently has any health complaints		
Yes	73	44.0
No	93	56.0
Health complaint related to teaching		
Yes	73	44.0
No	55	33.1
Did not answer	38	22.9
Health plan		
Yes	143	86.1
No	23	13.9
Would like to receive social skills training and/or material on socioemotional development	128	77.1
Yes	35	21.1
No	3	1.8
Did not answer		

Instruments

Sociodemographic and Occupational Questionnaire: Developed by the authors of this study, it consisted of questions about personal, occupational, and health-related data. It aimed to characterize the sample regarding gender, age, marital status, family composition, income and monthly expenses, number of schools and classes taught, working hours, area of education, subjects offered, students with special needs, continuous education, medical consultations, sought specialties, complaints, medication use, sick leave, treatments, and personal care.

Inventário de Habilidades Sociais 2 (IHS2-Del-Prette, Social Skills Inventory 2) (Del Prette & Del Prette, 2018): A self-report instrument that characterizes an individual's social performance in work, school, family, and relationship situations. It uses a five-point Likert scale, which expresses levels of

agreement or disagreement with a given statement, making it suitable for measuring a person's reactions, attitudes, and behaviors (Feijó et al., 2020). The options in this inventory are *never or rarely*, *rarely*, *sometimes*, *often*, and *always or almost always*. This instrument consists of 38 items distributed across five factors: assertive conversation, affective-sexual approach, expression of positive feelings, self-control/coping, and social skills. It provides total and factor scores converted into percentiles ranging from 1 to 100, with scores from 1 to 25 indicating a "lower repertoire of social skills" and scores from 75 to 100 indicating a "highly developed repertoire". Psychometric data indicate excellent internal consistency (Cronbach's alpha: 0.944). Test-retest temporal stability showed r = .90 and p < .001. Convergent validity used the Rathus inventory (r = .79 and p < .01). Inter-factor correlation results were r = .743 and p < .001.

Inventário da Síndrome de Burnout (ISB, Burnout Syndrome Inventory) (Benevides-Pereira, 2015): A self-report instrument designed to estimate burnout syndrome and understand the organizational, personal, and relational factors that trigger it, using a five-point Likert scale. This scale provides levels of agreement or disagreement with a given statement, suitable for measuring a person's reactions, attitudes, and behaviors (Feijó et al., 2020). In this instrument, the Likert options are *never*, *rarely*, *sometimes*, *often*, and *very often*. Validated in Brazil through exploratory factor analysis, the ISB consists of 35 items divided into four factors: organizational conditions (1), emotional exhaustion (2), depersonalization (3), and professional achievement (4). These factors are divided as follows: part I (factor 1) with a reliability index of Cronbach's alpha = 0.842; part II (factors 2, 3, and 4) with reliability indexes of Cronbach's alpha = F2: 0.86, F3 = 0.90, and F4 = 0.80.

Inventário de Estratégias de Coping (IEC, Coping Strategies Inventory) (Savóia et al., 1996): Developed by Folkman and Lazarus (1985) and validated in Brazil (Savóia et al., 1996), its goal is to identify actions and thoughts used by individuals to deal with stressors. It uses a Likert scale providing the following levels of response frequency to a given statement (Feijó et al., 2020): *did not use this strategy*, *used it a little*, *used it a lot*, and *used it frequently*. The instrument consists of 66 items divided into eight factors: confrontation, distancing, self-control, social support, acceptance of responsibility, escape-avoidance, problem-solving, and positive reappraisal. The overall score ranged from 0.424 to 0.688 in the test-retest, and there was a correlation of .704 in the split-half method (Spearman and Brown), with p < .001, indicating excellent internal consistency.

Data collection and ethical procedure

This article is derived from a broader research project, approved by the Ethics Committee of a federal university in the state of Minas Gerais, Brazil (CAAE: 64068322.1.0000.5151). Data were collected between February and July 2023. The 13 schools were selected based on convenience, and all elementary school teachers were invited, observing the inclusion and exclusion criteria. After receiving clarifications, the Informed Consent Form was obtained from each participant. Data collection surveys were administered collectively. Thirty-one school visits were conducted, with at least two visits per school, to introduce the project to the administration and then gather teachers for data collection. The average duration of data collection sessions was 2 hours and 35 minutes. The regional educational superintendent's office, overseeing the schools, distributed a memorandum to inform them about the study. This was preceded by a thorough review by the Minas Gerais State Department of Education, which granted official authorization. All instruments were self-administered and included detailed completion instructions. Additionally, researchers attended faculty meetings to address queries, distribute and collect questionnaires, and gather consent forms.

Data analysis

For data treatment and analysis, the Statistical Package for Social Sciences (SPSS), version 20.0 for Windows, was used (Field, 2021). Statistical treatments were conducted considering a significance level of p < .05, and descriptive analyses were performed with calculations of means, standard deviations, minimums, maximums, and percentages to describe the sample. To identify the variables used in the multiple regression analysis, Pearson's correlation test, Student's t-test for independent samples, and analysis of variance (ANOVA) were used to compare the means of three or more groups. Multiple regression analysis was conducted (Draper & Smith, 1998) to identify predictor factors for the dependent variable (burnout). In this case, the independent variables that remained in the model were those identified as significant (p-value < .05) and those with a p-value < .25, according to Hosmer and

Lemeshow's recommendations (2018). Additionally, significant independent variables with many missing data (more than five people did not respond) were excluded. The stepwise method was also used for selecting the independent variables in the multiple regression model, with an entry probability of 0.10 and an exit probability of 0.15. Finally, after adjusting the multiple regression model, measures of fit quality were obtained.

Results

Table 2 presents the Pearson correlation coefficients describing the relationships between burnout (ISB), social skills (IHS-2), coping (IEC), and socio-occupational variables. The ISB-global negatively correlated with the global IHS-2 (r = -.273, p < .01), indicating a weak negative correlation between burnout syndrome and the general social skills of teachers. Similarly, negative correlations were observed between ISB-global and IHS in each factor: factor 1 – assertive conversation (r = -.270, p < .01), factor 3 – expression of positive feelings (r = -.239, p < .01), and factor 5 – social skills (r = -.397, p < .01), meaning that the lower the assertive conversation, expression of positive feelings, and social skills, the higher the burnout score. Regarding coping (IEC), global IEC had a non-significant positive correlation with ISB-global (r = .079, p = .32), suggesting no correlation. Among the coping factors, only IEC factor 2 – distancing (r = .190, p = .02) and factor 6 – escape-avoidance (r = .389, p < .01) showed significant positive correlations with ISB-global, indicating that higher distancing and escape-avoidance correlate with higher ISB scores. Coping factors: factor 7 – problem-solving (r = -.215, p < .01) and factor 8 – positive reappraisal (r = -.158, p < .01) showed significant negative correlations with ISB-global, suggesting that lower use of problem-solving and positive reappraisal strategies correlates with higher ISB scores. For socio-occupational variables, teachers' age negatively correlated with ISB-global (r = -.241, p < .01), indicating that younger teachers are more likely to experience higher levels of burnout syndrome. The duration of teaching also showed a significant negative correlation with ISB-global (r = -.192, p < .01), indicating that teachers with less experience had higher burnout scores.

Table 2
Pearson Correlation Coefficient between burnout syndrome (ISB), social skills (IHS), coping (IEC), and some sociodemographic and occupational variables of teachers

Variables	ISB - Global	
	r	***p***
IHS - Global	-.273	<.01*
IHS - Factor 1	-.270	<.01*
IHS - Factor 2	.034	.66
IHS - Factor 3	-.239	<.01*
IHS - Factor 4	-.136	.08*
IHS - Factor 5	-.397	<.01*
IHS - NF	-.139	.08*
IEC - Global	.079	.32
IEC - Factor 1	.019	.81
IEC - Factor 2	.190	.02*
IEC - Factor 3	.151	.06*
IEC - Factor 4	-.041	.60
IEC - Factor 5	.093	.24*
IEC - Factor 6	.389	<.01*
IEC - Factor 7	-.215	<.01*
IEC - Factor 8	-.158	.05*
Age (years)	-.241	<.01*
Number of children	-.134	.09*
Number of schools where you work	.035	.65
Weekly workload (hours)	.079	.32
Years of teaching experience	-.192	.01*

Notes. *r*: Pearson Correlation Coefficient. Classification: very weak .00 to .19; weak correlation .20 to .39; moderate correlation .40 to .69; strong correlation .70 to .89; very strong correlation .90 to 1.0. *p < .25

Table 3 presents the sample sizes, means, standard deviations, test statistics, p-values, post-hoc comparisons, and effect sizes related to the ISB-global score and selected socio-occupational variables. Medium effects ($d \geq 0.5$) were observed between the ISB-global score and marital status, family provider role, taking health-related leave in the first semester of 2023, continuous health treatment, and health complaints related to work. Specifically, teachers who were single, family breadwinners, took health leave in the first semester of 2023, reported health complaints related to their teaching work, or were undergoing continuous medical treatment tended to have higher overall burnout scores (ISB).

Table 3
Sample sizes, means, standard deviations, test statistics, p-value, post-hoc, and effect size (classification) between ISB-Global and some socio-occupational variables

Variables	Categories	*N*	*M*	*SD*	Test Statistic *t*(*df*) and $F(gl_E ; gl_D)$	Sig.	Groups with Difference in Post-hoc ($p < 0.05$)	Effect Size
Sex	Female	121	1.51	0.60	t(164) = -0.184	.86		0.01 (P)
	Male	45	1.49	0.68				
Marital status	Married	82	1.39	0.69	F(2 ; 163) = 3.240	.04*	Married < Single	0.16 (M)
	Single	53	1.66	0.44				
	Other	31	1.55	0.67				
Family breadwinner	Yes	83	1.62	0.64	t(164) = -2.460	.02*		0.19 (M)
	No	83	1.39	0.58				
Type of School	Public	149	1.50	0.63	t(161) = -0.376	.71		0.03 (P)
	Public and private	14	1.56	0.57				
Last Visit to the Doctor (year)	Less than 1 year ago	134	1.52	0.60	t(158) = 0.322	.75		0.03 (P)
	Greater than or equal to 1 year ago	26	1.56	0.72				
Needed health leave in 2023	Yes	34	1.68	0.59	t(163) = -1.784	.08*		0.14 (M)
	No	131	1.46	0.63				
Undergoing continuous health treatment	Yes	71	1.66	0.66	t(164) = -2.856	.01*		0.22 (M)
	No	95	1.39	0.57				
Currently experiencing health complaints	Yes	73	1.75	0.58	t(164) = -4.700	<.01*		0.34 (M)
	No	93	1.31	0.59				
Health complaint related to teaching	Yes	73	1.79	0.54	t(126) = -4.782	<.01*		0.39 (M)
	No	55	1.29	0.62				
Health Plan	Yes	143	1.52	0.62	t(164) = -0.684	.50		0.05 (P)
	No	23	1.42	0.65				
Would like to receive social skills training and/or material on socio-emotional development	Yes	128	1.50	0.61	t(161) = 0.312	.76		0.02 (P)
	No	35	1,54	0,71				

Notes: *n*: sample size; *M*: mean; *SD:* Standard Deviation; *df*: degrees of freedom, *t*(*df*): value of the t-test statistic for independent samples; *df*_between: degrees of freedom between groups; *df*_within: degrees of freedom within groups, F(*df*_between ; *df*_within): value of the ANOVA statistic; Sig.: *p*-value; SSE: Sum of squares between groups; SST: Total sum of squares; MSD: mean squares within groups; *r:* effect size for the t-test for independent samples = $sqrt(t^2/(t^2+df))$ (Field, 2021); ω: effect size for ANOVA = sqrt((SSE – df_between*MSD)/(SST + MSD)) (Field, 2021); effect size classifications: [0;0.10] = Small (S), (0.10;0.50) = Medium (M), [0.50;1] = Large (L) (Field, 2021).
* For Sig. < .25

Given the lack of studies allowing for theoretical consolidation, multiple linear regression was performed using the stepwise selection method to define significant predictors of teacher burnout (ISB-global). The variables presented in Table 1 were selected based on the significance of the t-test for independent samples, ANOVA, correlation tests (Table 2), and avoiding the multicollinearity effect. Tables 2 and 3 showed that variables with $p < .25$ related to burnout syndrome (ISB-global) were: age, marital status, number of children, family breadwinner, teaching experience, need for sick leave in the first semester of 2023, continuous health treatment, current health complaints, whether the complaint is related to teaching, and social skills (IHS factor 5). The multiple linear regression results are presented in Table 4. The assumptions for linear regression analyses were analyzed and confirmed, i.e., K-S = 0.513 ($p = .95$), ensuring residual normality, and the Durbin-Watson statistic was 2.276, ensuring residual independence.

Table 4 presents the multiple linear regression results explaining teacher burnout. This analysis aimed to identify which studied variables most contributed to predicting the syndrome. The results indicated that social skills (HIS factor 5) were the most significant predictor (highest standardized beta value in absolute terms) compared to other variables. Second was health complaints related to work; then, teaching experience; next, being the family breadwinner; and finally, continuous health treatment. The regression model (R = 0.60, F (5, 122) = 13.779, $p < .001$) was given by: ISB-global = 2.034 + 0.209 x family breadwinner -0.015 x teaching experience + 0.195 x continuous health treatment + 0.395 x work-related health complaint - 0.281 x social skills. These results indicate that higher average scores on the ISB-global are associated with lower social skills, less teaching experience, ongoing health treatment, current work-related health complaints, and being the primary family breadwinner among teachers.

Table 4
Multiple linear regression analysis to explain teachers' burnout syndrome

Predictor Variables	B	Standard Error	β	t	*p*	
Constant	2.034	0.180		11.310	.000	R = 0.60
Family breadwinner	0.209	0.092	0.169	2.288	.024	$R^2_{adjusted}$ = 0.335
Years of Teaching Experience	-0.015	0.005	-0.216	-2.821	.006	F (5.122) = 13.779 ($p < 0.001$)
Undergoing Continuous Health Treatment	0.195	0.097	0.157	2.008	.047	DW = 2.276 K-S = 0.513 (p = 0.95)
Current Health Complaint Related to Teaching	0.395	0.095	0.315	4.161	.000	
Social Skills (IHS Factor 5)	-0.281	0.062	0.333	-4.530		

Notes. B: unstandardized regression coefficient; β: standardized regression coefficient; t: t-statistic; *p*: *p*-value; DW: Durbin-Watson; K-S: Kolmogorov-Smirnov.

Discussion

This study found a negative correlation between burnout and social skills, partially aligning with the studies by Almeida et al. (2020) and Buscatto et al., (2018), which reported significant difficulties in interpersonal relationships in the presence of the syndrome. Another investigation indicated that individuals with burnout tended to social isolation and reported difficulties in socialization (Lucca, 2021). Furthermore, research by Bolsoni-Silva et al. (2015) and Del Prette and Del Prette (2017; 2022) pointed out that burnout hinders the development of social skills.

Regarding the association between burnout and social skills, a study targeting medical residents found the same result as the present study, identifying a negative correlation between the variables (Pletti, 2021). Similarly, a study by Achkar et al. (2016) showed that a varied repertoire of social skills was negatively associated with burnout. In this direction, research by Schoeps et al. (2019), with 340 Spanish teachers, found that the development of social skills reduced the occurrence of the syndrome.

Among the correlated social skills, social poise (Factor 5) suggested the strongest association in this study group.

As for the relationship between burnout and coping, no significant correlation was found in this research. Nonetheless, the study by David and Quintão (2012) compared coping between primary and higher education teachers, noting that university professors employed a variety of coping strategies and had lower burnout rates compared to primary education teachers. This helps understand the insignificance found in this study, as the target group was composed of elementary school teachers, who also did not show a significant relationship between burnout and coping. Similarly, studies by Ullrich et al. (2012), with 469 teachers from German schools, highlighted the importance of coping in addressing work-related exhaustion. Additionally, Hallum et al. (2013) showed that emotion-focused strategies protect against burnout. Given these different findings, future research that includes teachers from various educational segments will be crucial to broaden the discussion.

The coping strategies most adopted by teachers in this study were withdrawal and escape-avoidance, which differed from the results of Cabellos (2020), whose coping primarily involved positive reappraisal and social support. Fiorilli et al. (2016) also found, in a study with 149 Italian teachers, that the lack of social support was directly associated with burnout complications. These differences in results may be due to cultural issues, curriculum structure, and school infrastructure, which can either aid or hinder teacher performance (Ullrich et al., 2012). Lastly, a study by Ramón (2015) concluded that problem-focused and positive reappraisal strategies were associated with greater professional satisfaction.

Regarding the relationship between social skills and coping, this investigation did not identify a significant association. However, there was a positive correlation between the repertoire of social skills and the strategies of social support, problem-solving, and positive reappraisal. This means that the more extensive the repertoire of social skills, the more teachers used these resources. Partially, Fiorilli et al.'s (2016) study corroborated these findings, as social support was the strategy that most helped prevent burnout in the Italian educational context. Thus, Jeter's (2013) studies with American teachers considered socioemotional development relevant for reducing work-related exhaustion and for the correct adoption of coping.

Another empirical study relating the repertoire of social skills and coping was by Bezerra et al. (2022), whose results indicated that the acquisition of social skills enhanced the adoption of coping strategies. The research by Soares et al. (2019) described that interpersonal skills aided in problem-solving, suggesting a relationship between these skills and coping strategies.

As for the results related to socio-occupational variables, it was found that the average burnout score increased when the teacher was the primary family breadwinner, had more children, was younger, had less teaching experience, was single, reported health complaints, and was undergoing continuous medical treatment related to work. Finally, it was identified that the lower the teacher's social poise, the higher the burnout index. These variables, therefore, were predictors of teacher professional exhaustion in this study, highlighting the social poise deficit, but further investigations are suggested.

Regarding being the family breadwinner, the teacher showed concern about family support, and in trying to reconcile it with professional demands, psychological wear increased, as reported in a study with 310 teachers (Goebel & Carlotto, 2019). Also, concerning the family context, the number of children was a complicating factor, possibly because parental responsibilities intensified as the number of children increased, explaining the fatigue resulting from multiple roles (Goebel & Carlotto, 2019).

With respect to the shorter duration of teaching being an indicator of burnout, it was assumed that classroom experience contributed to developing skills to manage stress (Pereira-Neto et al., 2019). Additionally, studies by Koga et al. (2015) emphasized that teachers with less experience showed more insecurity despite their enthusiasm for teaching. Similarly, Santos et al. (2023) reported that the more experienced the teacher, the lower the risk of work-related exhaustion.

In relation to age, Koga et al. (2015) found that younger teachers had more difficulties dealing with the challenges of student relationships. Complementing this assertion, Santos et al. (2023) found that older teachers felt more secure and fulfilled, as their unrealistic expectations about the profession were lower. The findings of this investigation align with the results of these two studies. However, a study by Baptista et al. (2019) indicated that older professionals get sick more often, as prolonged

exposure to work stressors culminates in burnout. Studies are recommended to address the contradictions of these results.

Among the participants, single teachers had higher burnout scores compared to their married counterparts, contrasting with the findings of Palage et al. (2020), who emphasized marriage as a potential source of emotional support during challenging periods. Another investigation considered married individuals more vulnerable to burnout due to the added responsibilities and concerns unique to the family context (Abacar et al., 2020). Similarly, married individuals showed a greater propensity for professional exhaustion compared to singles, due to marital demands (Pimenta et al., 2021). In contrast, a study by Abacar (2021) found no statistically significant relationship between marital status and burnout. Again, studies are recommended to address these contradictory results.

Teachers who reported health complaints and were undergoing continuous medical treatment at the time of data collection associated these issues with their teaching responsibilities, thereby displaying higher indicators of burnout. This finding may be attributed to the symptoms of the syndrome itself necessitating treatment (Lima & Dolabela, 2021). Furthermore, psychological disorders resulting from professional exhaustion, such as depression, also require intervention. Bolsoni-Silva et al. (2018) supported this assertion, reporting a 23 % prevalence of depression among elementary school teachers and identifying significant positive correlations between depression and burnout.

Regarding the social poise deficit as the most significant predictor of burnout, scholars have pointed out that developing social skills is a protective resource against work-related illness (Mérida-Lopéz & Extremera, 2017; Schoeps et al., 2019). Social poise includes behaviors such as feeling comfortable in a group of unfamiliar people, approaching or disagreeing with authorities, asking when an explanation is not understood, and greeting strangers. It is assumed that these behaviors are challenging because interaction in familiar environments, such as school, facilitates communication (Achkar et al., 2016). However, not everyone speaks up during meetings, as apathy is one of the symptoms of burnout.

Conclusion

While this study yielded significant and consistent results aligning with existing literature, it is important to exercise caution when generalizing the findings. The teachers involved were exclusively from a single geographic region, and data collection was limited to the public education system. Furthermore, the study's reliance solely on self-report instruments presents another limitation; involving additional informants such as school administrators and students could have provided valuable insights.

Moreover, as a cross-sectional study, this research did not establish causal relationships between variables. Future experimental studies incorporating interventions are recommended to explore causality and examine specific categories of social skills deficits that contribute to the development of burnout. Replicating this study across different teacher populations is also advised to enhance comprehension and discourse on the subject matter.

The results of this study indicated that the deficit in social skills, especially the lack of social poise, could be a significant predictor of burnout in teachers. Therefore, social skills training could be considered, as 77.1% of the teachers in this study were willing to receive it. Another relevant consideration is that, in the face of burnout, teachers who used coping strategies showed less emotional exhaustion. It was also found that teachers who are family breadwinners, single, and have many children tend to experience work-related exhaustion. This conclusion can help support teaching by giving more consideration to the family context.

Another important finding from this study is that leave requests, reports of diminished well-being, and ongoing health treatments are prominent indicators of burnout. This underscores a potential gap in teacher healthcare support within schools, with 80.7 % of respondents seeking medical consultations in the current or previous month, and 44 % attributing these visits to work-related reasons.

Conversely, a noteworthy finding related to the age and length of service of the respondents challenges prevailing literature: younger teachers with less teaching experience displayed higher scores on the burnout inventory. This highlights the potential benefits of integrating new teachers into the school environment and bolstering support networks to alleviate these challenges.

Finally, to reduce the incidence of burnout among teachers, it is important to consider offering socioemotional skills training in schools and foster the adoption of coping strategies among elementary school teachers, as professionals equipped with strategies for dealing with stressful situations will be better prepared for interactions within the school community. For instance, developing an educational booklet that incorporates practical and supportive strategies for teachers' mental well-being, informed by findings from this study and insights from social skills literature, could serve as a valuable initiative.

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Authors' contribution (CRediT Taxonomy): 1. Conceptualization; 2. Data curation; 3. Formal Analysis; 4. Funding acquisition; 5. Investigation; 6. Methodology; 7. Project administration; 8. Resources; 9. Software; 10. Supervision; 11. Validation; 12. Visualization; 13. Writing: original draft; 14. Writing: review & editing.
A. M. B. G. has contributed in 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14; L. C. F. in 1, 6, 7, 8, 9, 14; D. C. R. O. in 3, 6, 8, 14.

Scientific editor in charge: Dra. Cecilia Cracco.