

Teacher Burnout in Upper Secondary Education: Occupational and Psychosocial Variables. A Case Study in Mexico.

Burnout docente no Ensino Médio: variáveis laborais e psicossociais. Estudo de caso no México.

Burnout docente en Preparatoria: variables laborales y psicossociales. Estudio de caso, México.

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ABSTRACT

This study analyzes the relationship between teacher burnout syndrome and various sociodemographic and occupational variables at the upper secondary education level in Zacatecas, Mexico. A non-experimental, cross-sectional, and descriptive-correlational design with a quantitative approach was adopted. The sample consisted of 111 teachers from the CECYTEZ and EMSaD subsystems, selected through non-probabilistic convenience sampling, according to inclusion criteria (active teachers with at least one year of experience and signed informed consent) and exclusion criteria (administrative or managerial personnel). This sampling choice responded to institutional accessibility and population availability, allowing the identification of consistent patterns despite limitations for generalization. The Pearson's Chi-square test was applied to examine associations between burnout dimensions and the variables gender, academic degree, employment type, seniority, and academic program, incorporating 95% confidence intervals and effect sizes (Cramer's V). After the Bonferroni correction (adjusted $\alpha = .01$), a significant association between gender and burnout was found ($\chi^2(1, N = 111) = 7.508, p = .006; V = 0.26, 95\% \text{ CI } [0.08, 0.43]$), indicating higher emotional exhaustion among women and greater depersonalization among men. Other variables were not statistically significant but showed moderate practical effects. Findings reveal a structural, multicausal pattern linking personal and occupational factors, suggesting that teacher burnout arises from the interplay of institutional conditions, job stability, and gender. This

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study provides empirical evidence to support policies promoting teacher well-being and emotional literacy, in alignment with the humanistic framework of the New Mexican School.

Keywords: Burnout Syndrome; Economic and Social Development; Teachers' Employment Conditions; Education; Educational Systems and Levels.

RESUMEN

El estudio analiza la relación entre el síndrome de burnout docente y diversas variables laborales y sociodemográficas en el nivel de Educación Media Superior en Zacatecas, México. Se utilizó un diseño no experimental, transversal y descriptivo-correlacional, con enfoque cuantitativo. Participaron 111 docentes de los subsistemas CECYTEZ y EMSaD, seleccionados mediante muestreo no probabilístico por conveniencia, bajo criterios de inclusión (docentes en activo con al menos un año de experiencia y consentimiento informado firmado) y exclusión (personal administrativo o con funciones directivas). Esta elección respondió a la accesibilidad institucional y disponibilidad real de la población, permitiendo identificar patrones consistentes, aunque con limitaciones para la generalización. Se aplicó la prueba de Chi-cuadrado de Pearson para analizar la asociación entre las dimensiones del burnout y las variables género, grado académico, tipo de contratación, antigüedad y programa académico, incorporando intervalos de confianza al 95% y el tamaño del efecto (Cramer's V). Tras la corrección Bonferroni (α ajustada = .01), se observó una asociación significativa entre género y burnout ($\chi^2(1, N = 111) = 7.508, p = .006; V = 0.26, IC95\% [0.08, 0.43]$), con mayor agotamiento emocional en mujeres y despersonalización en hombres. Las demás variables no fueron estadísticamente significativas, aunque mostraron efectos moderados con relevancia práctica. Los resultados evidencian un patrón estructural multicausal entre factores personales y laborales, indicando que el burnout docente surge de la interacción entre condiciones institucionales, estabilidad ocupacional y género, aportando evidencia para fortalecer políticas de bienestar y alfabetización emocional desde la Nueva Escuela Mexicana.

Palabras clave: Síndrome de Burnout; Desarrollo económico y social; Condiciones de empleo del docente; Educación; Sistemas y niveles de enseñanza

RESUMO

Este estudo analisa a relação entre o síndrome de burnout docente e diversas variáveis sociodemográficas e laborais no nível de Educação Média Superior em Zacatecas, México. Adotou-se um delineamento não experimental, transversal e descritivo-correlacional, com abordagem quantitativa. A amostra foi composta por 111 docentes dos subsistemas CECYTEZ e EMSaD, selecionados por amostragem não probabilística por conveniência, segundo critérios de inclusão (docentes em exercício com pelo menos um ano de experiência e consentimento informado assinado) e exclusão (pessoal administrativo ou com funções de gestão). Essa escolha baseou-se na acessibilidade institucional e na disponibilidade da população, permitindo identificar padrões consistentes, ainda que com limitações de generalização. Aplicou-se o teste do qui-quadrado de Pearson para examinar as associações entre as dimensões do burnout e as variáveis gênero, grau acadêmico, tipo de contratação, antiguidade e programa acadêmico, incorporando intervalos de confiança de 95% e o tamanho do efeito (Cramer's V). Após a correção de Bonferroni (α ajustado = .01), observou-se uma associação significativa entre gênero e burnout ($\chi^2(1, N = 111) = 7.508, p = .006; V = 0.26, IC95\% [0.08, 0.43]$), com maior exaustão emocional entre mulheres e despersonalização entre homens. As demais variáveis não apresentaram significância estatística, mas revelaram efeitos práticos moderados. Os resultados evidenciam um padrão estrutural multicausal entre fatores pessoais e laborais, sugerindo que o burnout docente decorre da interação entre condições institucionais, estabilidade ocupacional e gênero. O estudo oferece evidências empíricas para fortalecer políticas de bem-estar e alfabetização emocional, em consonância com os princípios humanistas da Nova Escola Mexicana.

Palavras-chave: Síndrome de Burnout; Desenvolvimento econômico e social; Condições de trabalho do docente; Educação; Sistemas e níveis de ensino.

INTRODUCTION

Burnout Syndrome (BS), also known as Occupational Burnout Syndrome, is a condition arising from the interaction between the individual and adverse psychosocial factors within the organisational environment. This disorder manifests when psychosocial risks are neither adequately identified nor managed, particularly affecting service-oriented sectors such as education (Villagrán & Jasso, 2024). Its development intensifies in the absence of protective measures for workers or when the work environment fails to adapt to individual needs. Teaching carries a higher probability of generating stress-related conditions compared with other occupations. Alterations provoked by stress in teaching practice may persist over time and evolve into Burnout Syndrome or occupational exhaustion (El Sahili, 2010).

This syndrome results from exposure to harmful organisational conditions, negatively impacting the work atmosphere. Recognising its origin is therefore fundamental to understanding the significance of psychosocial risks associated with occupational activity (Villagrán, 2022). In this context, the term “occupational burnout syndrome” refers specifically to situations within the work environment, excluding experiences from other spheres of life, in accordance with the World Health Organization’s 2019 definition as cited in Villagrán and Jasso (2024). Consequently, Burnout Syndrome represents an occupational health problem with serious consequences for teachers’ performance and wellbeing, constituting a critical phenomenon within the educational sphere.

In this regard, it is necessary to explain the structure of the National Education System in Mexico, which is divided into three levels: Basic, Upper Secondary, and Higher Education (Secretaría de Educación Pública [SEP] 2019). The educational level of interest for the present research is Upper Secondary Education, also known as Preparatoria or bachillerato, overseen and regulated by the Undersecretariat of Upper Secondary Education, which forms part of the Ministry of Public Education (SEP). Moreover, in 1976, the Undersecretariat for Technological Education and Research was established under the same SEP, with the aim of monitoring the operation and development of existing federal institutions, as well as creating new educational systems to meet the social, technical, and productive needs of the country.

Thus emerged the institutions under study: first, Colegio de Estudios Científicos y Tecnológicos del Estado de Zacatecas (CECyTEZ), whose purpose is to deliver and promote technological upper secondary education whilst contributing to scientific and technological research in the region, thereby influencing quality and alignment with regional and national development needs. Secondly, the Upper Secondary Distance Education subsystem (EMSaD) was established as an initiative to extend coverage to remote localities, offering a general sixth-form curriculum to equip students with essential competencies demanded by the labour market and/or professional spheres.

Integral to both institutions is the teaching figure as a fundamental pillar, whether on permanent or fixed-term contracts, who must deliver classroom instruction, fulfil curriculum requirements comprehensively, submit assessment records punctually, maintain educational indicators and official documentation as requested, actively participate in local, state, and national academic meetings, collaborate in processes contributing to educational service improvement, and undertake any additional responsibilities inherent to the teaching profession (Colegio de Estudios Científicos y Tecnológicos de Zacatecas [CECyTEZ],

2021–2023). To this demanding scenario is added daily interaction with students, parents, colleagues, administrative staff, supervisors, and management. This multiplicity of tasks exposes teachers to diverse stressors which, depending on coping strategies employed, may lead to two types of academic response: a positive one centred on teaching and professional satisfaction, or a negative one resulting in fatigue and job dissatisfaction, potentially culminating in Burnout Syndrome (Cárdenas et al., 2014).

What, then, constitutes Burnout Syndrome? First introduced by Freudenberger (1974) and subsequently developed by Maslach and Jackson (1981), it comprises three dimensions: emotional exhaustion, depersonalisation, and reduced personal accomplishment. According to the International Classification of Diseases (ICD-11) as cited in Villagrán and Jasso (2024), Burnout Syndrome or occupational exhaustion syndrome is defined as the result of prolonged stress in the work environment that has not been successfully managed. It is characterised by three dimensions: 1) feelings of energy depletion or exhaustion; 2) increased mental distance from one's job, or feelings of negativism or cynicism related to one's work; and 3) reduced professional efficacy (ICD-11).

Burnout syndrome emerges as a pathology resulting from the interaction between the individual and adverse psychosocial conditions in the workplace. Also termed "Occupational Burnout Syndrome," this phenomenon manifests when psychosocial risks are not adequately assessed or prevented, particularly in service-provision environments such as education. The onset of this syndrome intensifies when workers are not afforded adequate protection against these harmful conditions or when work fails to adapt to individual needs (Villagrán & Jasso, 2024, p. 230).

Previous research has demonstrated that burnout exerts negative effects on educational quality and teachers' mental health (Schaufeli & Bakker, 2004), highlighting that occupations requiring continuous interpersonal interaction, such as teaching, may constitute a risk factor for the development of both physical and psychological exhaustion (González, 2015).

It is therefore important to analyse existing contributions on this topic. Gallardo et al. (2019) examined burnout incidence among teachers in preschool, primary, and secondary education in Seville (Spain), proposing preventive and treatment-oriented actions. Their work offers robust evidence regarding prevalence and associated factors within compulsory education, yet remains outside the Latin American context and lacks specific focus on upper secondary education. Castilla-Gutiérrez et al. (2021) conducted a bibliographic review on workload and quality of life among university and upper secondary teachers, emphasising that stress and excessive workload deteriorate quality of life and correlate with heightened burnout risk. Relevant to occupational variables with emphasis on Chile and the Andean region, their study does not delve into specific contractual configurations within Mexico.

Baldeón et al. (2023), in their systematic review across Hispanic America (2017–2022) encompassing 23 articles, confirmed high burnout prevalence across educational levels whilst underscoring physical and psychological consequences. They evidenced methodological heterogeneity (small samples, diverse instruments) and a scarcity of nuanced analyses regarding country-specific occupational variables. Romero et al. (2023), studying 111 teachers from primary to upper secondary levels, demonstrated that psychological capital and job satisfaction predict lower burnout levels, whilst burnout itself reduces self-efficacy and affects instructional approaches (instructional impact). Their work provides a useful explanatory model for conceptualising mediating resources, yet does not

address the specificity of occupational conditions within Mexico's Upper Secondary Education system.

From these four studies emerge convergences reinforcing the relevance of the present research: burnout is prevalent and exerts instructional effects. All four works concur on the magnitude of the phenomenon and its impact on teaching practice (self-efficacy, pedagogical approaches, health, and quality of life), justifying the urgency of researching it within the Upper Secondary or Preparatoria level, where academic and administrative workloads are substantial. Castilla et al. (2021) emphasise that workload matters, extended working hours and overload constitute critical factors. The present study therefore incorporates specific occupational variables (e.g., contract type, seniority, number of teaching groups/hours) and grounds these findings within the reality of Upper Secondary Education in Mexico.

Gallardo et al. (2019) highlight the necessity of prevention and resources by proposing preventive pathways; Romero et al. (2023) identify such resources as psychological capital and job satisfaction for mitigating the syndrome. These pathways may be operationalised in the present study through organisational and contractual lenses within Upper Secondary Education. Finally, the Hispanic American review confirms the phenomenon's prevalence whilst also revealing granularity gaps (by country, educational level, and concrete occupational conditions). Therefore, the present research, *Teacher Burnout in Upper Secondary Education and Occupational Variables: A Case Study in Mexico*, fills this gap specifically for the Upper Secondary Level within CECyTEZ and EMSaD, adopting a case study approach with emphasis on occupational variables. This constitutes the literature-identified gap and methodological approach of the present research.

Finally, regarding teacher burnout, both prevention and treatment are fundamental areas where the contributions of Fuertes et al. (2016), Fidalgo (2005), Mameli and Molinari (2017), and Langher et al. (2017) are particularly noteworthy. Analysis of the current state of knowledge reveals few studies correlating sociodemographic data with burnout syndrome, underscoring the persistent need for research in Zacatecas specifically focused on the Upper Secondary Level whilst analysing the impact of contract type (temporary vs. Permanent), a variable not yet explored in this context.

This study therefore seeks to reveal significant associations between the three fundamental burnout dimensions, emotional exhaustion, depersonalisation, and reduced personal accomplishment (Maslach et al., 1996; Schaufeli & Bakker, 2004), and sociodemographic variables (gender, academic degree) alongside occupational variables (contract type, seniority, academic programme affiliation). Data were gathered from a non-probability convenience sample of 111 teachers from public upper secondary institutions in Zacatecas State, CECyTEZ and EMSaD, Mexico, using a quantitative, descriptive-correlational, cross-sectional non-experimental design with the Maslach Burnout Inventory (MBI) and a sociodemographic questionnaire.

The study aims to demonstrate statistically significant associations between burnout dimensions and sociodemographic and occupational variables, thereby evidencing the need for institutional strategies to mitigate this problem. The research question is: What is the relationship between emotional exhaustion, depersonalisation, and reduced personal accomplishment with gender, academic degree, contract type, seniority, and academic programme affiliation among the teaching staff of Upper Secondary Education within CECyTEZ and EMSaD? The research hypothesis posits: A statistically significant association exists between Burnout Syndrome and sociodemographic variables (gender, academic degree) as well as occupational variables (contract type, academic programme

affiliation, and occupational seniority) among teaching staff within the Upper Secondary Institutions, Colegio de Estudios Científicos y Tecnológicos del Estado de Zacatecas (CECyTEZ) and Upper Secondary Distance Education (EMSaD).

METHODOLOGY / MATERIALS AND METHODS

A non-experimental, cross-sectional, descriptive-correlational design with a quantitative approach was adopted. This approach proved appropriate for analysing relationships between sociodemographic variables (gender, academic degree, contract type, seniority, and programme affiliation) and the three burnout syndrome dimensions: emotional exhaustion, depersonalisation, and reduced personal accomplishment, without manipulating variables, thereby allowing the description of patterns and the establishment of correlations at a single point in time (Ato et al., 2013; Hernández & Mendoza, 2018). The cross-sectional approach ensured simultaneous, pertinent data collection to capture the current state of this issue within Upper Secondary Education level.

Participants

The sample comprised 111 teaching staff affiliated with two public Upper Secondary Education institutions in the State of Zacatecas: Colegio de Estudios Científicos y Tecnológicos del Estado de Zacatecas (CECYTEZ) and the Educación Media Superior a Distancia (EMSaD) subsystem. Participant selection followed a non-probability convenience sampling approach. This methodological decision was based on the accessibility of the teaching cohort and the logistical constraints of the study, given the absence of an exhaustive sampling frame that would allow for probability-based procedures (Otzen & Manterola, 2017).

Although convenience sampling presents limitations in terms of statistical representativeness, its use in exploratory and descriptive-correlational studies has been shown to be appropriate when inclusion criteria are clearly defined and sufficient coverage of cases is ensured (Etikan et al., 2016). In this regard, the following inclusion criteria were established: (a) teaching at the upper secondary level in either of the aforementioned subsystems, and (b) signing an informed consent form, thereby ensuring voluntary and ethical participation.

The resulting sample is representative with respect to the findings obtained, as it reflects the sociodemographic and occupational characteristics typical of the state educational context. This contextual representativeness allows for the transferability of results to other Upper Secondary Education settings in Mexico with similar characteristics (Lincoln & Guba, 1985). Concerning bias control and study validity, various methodological measures were adopted to strengthen internal and external validity.

The first of these was control of selection bias, achieved by including teaching staff from both subsystems regardless of length of service, gender, or type of contract, thereby promoting sample heterogeneity and reducing bias arising from self-selection.

The second measure addressed information bias: the questionnaire was administered anonymously and in a self-reported format, with standardised instructions to ensure uniformity in data collection and reduce social desirability effects. Regarding instrument validity and reliability, the Maslach Burnout Inventory (MBI) was employed, which is widely validated in teaching populations and has established internal consistency indices reported in the literature ($\alpha > 0.80$; Maslach & Jackson, 1981; Gil-Monte, 2005). Additional internal

consistency analyses were performed using Cronbach's alpha for the local sample, reinforcing the reliability of the applied scales. Likewise, correlation tests and bivariate comparisons were conducted to strengthen the validity of the findings.

The combination of these procedures adds scientific rigour to the proposed design, lending confidence to the robustness of the results and their relevance for understanding the relationship between occupational variables and teacher burnout at the upper secondary level in Mexico.

Instruments

The Maslach Burnout Inventory (MBI) (Maslach et al., 1996) was administered. This instrument consists of 22 items on a 0–6 Likert scale and measures three dimensions: Emotional Exhaustion ($\alpha = 0.89$), Depersonalisation ($\alpha = 0.74$), and Personal Accomplishment ($\alpha = 0.82$). An adaptation validated for Spanish-speaking educational contexts was used. Additionally, a sociodemographic questionnaire was applied to capture the variables gender, academic degree, type of contract, length of service, and assigned programme. Filter questions were included to ensure representativeness.

Procedure

Data were collected via Google Forms over a three-week period in May 2024. Informed consent was obtained, and participant anonymity was guaranteed throughout. To control for bias, a pilot test was conducted with 15 teaching staff to refine item clarity ($\alpha > 0.80$ for all dimensions). The procedure adhered at all times to the ethical standards for research stipulated in the Psychologist's Code of Ethics.

RESULTS AND DISCUSSION

This section presents the main findings of the case study on teacher burnout at the upper secondary level in CECyTEZ and EMSaD, considering both the sociodemographic characteristics of the group and the occupational and psychosocial variables analysed. First, the general sample data are described to contextualise the profile of the participants according to gender, academic degree, type of contract, length of service and institution. Subsequently, the inferential analysis performed using Pearson's Chi-square test is presented, a statistical technique suitable for determining the existence of significant associations between the dimensions of burnout syndrome (emotional exhaustion, depersonalisation and reduced personal accomplishment) and the sociodemographic and occupational variables considered. The results are complemented by the calculation of effect size (Cramer's V) and its 95 % confidence interval, in order to assess practical relevance beyond statistical significance. Finally, a Bonferroni correction is included to control the type I error arising from multiple comparisons.

The analysis begins with the gender distribution of the teaching staff surveyed, which consists of 111 professionals affiliated with the two public Upper Secondary Education institutions in the state of Zacatecas, Mexico, under study. Of the total, 58.6 % are male and 41.4 % female. Although this figure may appear purely descriptive, it offers a first insight into the human capital structure of CECyTEZ and EMSaD, which is particularly relevant when analysing the incidence of Burnout Syndrome from a gender perspective.

With regard to type of contract, the data reveal a heterogeneous picture in terms of the contractual stability of teaching staff in the two participating institutions. 66.7 % of the total surveyed group hold a permanent contract, which corresponds to a tenured post that, in principle, guarantees job stability and certain acquired rights. Meanwhile, 18.9 % hold positions of trust, generally corresponding to authority figures such as managers or

academic coordinators, and 10.8 % are employed on temporary contracts, with the consequent uncertainty regarding renewal of their employment. A further 1.8 % are engaged under more precarious arrangements such as fee-based or substitute contracts, without full legal guarantees or employment rights.

Regarding academic degree, it is observed that 48.6 % hold a bachelor's degree as their highest qualification, followed by 40.5 % who hold a master's degree. 9.0 % have completed a specialist qualification, while only 1.8 % have reached doctoral level. This training profile reveals a teaching workforce predominantly qualified to bachelor's level, though with a significant proportion of professionals holding postgraduate qualifications.

In terms of institutional affiliation, of the 111 respondents, 73.87 % are affiliated with CECyTEZ, while 26.13 % belong to EMSaD. Of these, 80.2 % of the group perform strictly teaching duties; that is, they are directly involved in classroom teaching. 15.3 % hold managerial positions in the institutions, while 4.5 % perform coordination duties, whether academic or administrative. This distribution shows that, although the vast majority of staff are dedicated to teaching, a significant percentage combine pedagogical functions with institutional management responsibilities.

Regarding length of service, only 1.8 %, equivalent to two teachers, have 25 years of service, while those with the least service are six teachers with one year or less in the institution. An average of 11.7 %, representing 13 teachers, have 19 years of service, indicating that these are relatively young educational institutions. With respect to age, the mean (\bar{x}) is 44 years, with a standard deviation (σ) of 8.19 above and below the sample mean. The youngest teacher is 24 years old, while the oldest is 65.

Another important factor to consider is the academic area or department to which teachers are assigned. The highest percentage, 39.6 %, have their teaching load in the general upper secondary area, followed by 21.6 % who are not assigned to a specific area or department. Next, 7.2 % teach in the Physics-Mathematics department, 6.3 % in Work-Related Training, followed by 5.4 % in the Historical-Social area, 4.5 % in Experimental Sciences, 2.7 % in Language and Communication, and between 1.8 % and 0.9 % for the remaining nine departments.

Having contextualised the relevant sociodemographic data, the descriptive statistics regarding the presence of Burnout Syndrome are presented in Table 1, followed by each of its dimensions, indicating whether they are at a high, medium or low level.

Table 1.

Presence of Burnout Syndrome among Teaching Staff

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	73	65.8	65.8	65.8
No	38	34.2	34.2	100.0
Total	111	100.0	100.0	

Note: Based on the Maslach Burnout Inventory (MBI, 1981).

Table 1 provides an overview of the prevalence of Burnout Syndrome among the teaching staff of the participating Upper Secondary Education institutions. It reveals that, of the total 111 teachers, 73 individuals (65.8 %) exhibited scores consistent with the presence of the syndrome, as measured by the validated Maslach Burnout Inventory (MBI) instrument (Maslach & Jackson, 1981; Gil-Monte, 2012).

This percentage exceeding half of all participants, constitutes a critical alert for educational systems, particularly when analysed from an organisational psychology perspective. In professional practice, support has been provided to teachers who outwardly appeared professionally stable, yet had developed a profound sense of exhaustion, depersonalisation, and loss of meaning in their educational work. This experience is often rendered invisible by institutional culture, where psychosocial distress tends to be misinterpreted as a “lack of vocation” rather than a structural symptom of the work environment.

What this table reveals—beyond the quantitative data—is a shared experience of attrition affecting the teaching corps, one that can undermine not only their mental health but also their professional performance and institutional commitment (Bakker et al., 2004). It is therefore urgent that Upper Secondary Education institutions not only acknowledge this reality, but also implement primary prevention policies, emotional support programmes, and organisational redesigns that place teacher wellbeing at the heart of educational quality. This finding also justifies the need to deepen the analysis through the subsequent tables, which will explore the specific dimensions of the syndrome—emotional exhaustion, depersonalisation and reduced personal accomplishment—and their relationship with sociodemographic and occupational variables, thereby enabling the identification of differentiated risk profiles for targeted interventions.

Table 2.
Level of Emotional Exhaustion

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low (0-16)	58	52.3	52.3	52.3
Moderate (17-26)	36	32.4	32.4	84.7
High (+27)	17	15.3	15.3	100.0
Total	111	100.0	100.0	

Note: Based on the Maslach Burnout Inventory (MBI, 1981)

The first dimension of Burnout Syndrome, identified by Maslach and Jackson (1981), is emotional exhaustion, which constitutes the experiential core of chronic occupational attrition. The data obtained show that 32.4 % of teaching staff are at a medium level, while 15.3 % are at a high level. Combined, these percentages reveal that 47.7 % of all teachers exhibit clear signs of emotional exhaustion, an alarming finding from an occupational wellbeing perspective. This dimension refers to the persistent feeling of affective and physical fatigue generated by prolonged interaction with emotionally demanding work environments (Schaufeli & Greenglass, 2001). In the case of teaching in Upper Secondary Education, emotional exhaustion is often intensified by factors such as administrative overload, interaction with students in vulnerable contexts, a lack of emotional support structures, and insufficient institutional recognition (Gil-Monte, 2012).

It can be argued that exhaustion does not emerge abruptly, but accumulates silently. This “affective emptying” is one of the most representative symptoms of emotional exhaustion, and translates into a progressive loss of the capacity to respond with enthusiasm, empathy, or creativity.

Table 3.
Level of Depersonalisation

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low (0-8)	82	73.9	73.9	73.9
Moderate (9-13)	21	18.9	18.9	92.8
High (+14)	8	7.2	7.2	100.0
Total	111	100.0	100.0	

Note: Based on the Maslach Burnout Inventory (MBI, 1981)

Depersonalisation, as the second dimension of Burnout Syndrome, refers to an attitude of emotional distancing, affective coldness, or cynicism towards the individuals one interacts with professionally, in this case, students, colleagues, or management (Maslach & Jackson, 1981). According to the data obtained, 73.9 % of the teaching staff assessed exhibit low levels of depersonalisation, while 18.9 % are at a medium level and 7.2 % at a high level. Overall, 26.1 % show signs of moderate or severe depersonalisation, as shown in Table 3.

From an organisational perspective, these findings suggest that, while the majority of teaching staff maintain a healthy emotional connection to their work, a relevant group of professionals is beginning to adopt defensive mechanisms in response to emotional overexposure. Within an institutional context, this may manifest through subtle phrases such as, “I just deliver my lessons; I don’t get involved beyond that,” or, “I don’t let myself get drawn into the students’ problems anymore.” Such expressions do not necessarily indicate indifference, but rather a subjective need to protect oneself from prolonged attrition.

Table 4.
Levels of Reduced Personal Accomplishment at Work

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low (37-48)	65	58.6	58.6	58.6
Moderate (31-36)	19	17.1	17.1	75.7
High (-30)	27	24.3	24.3	100.0
Total	111	100.0	100.0	

Note: Based on the Maslach Burnout Inventory (MBI, 1981)

The third dimension, presented in Table 4, is known as reduced personal accomplishment in work. This component refers to the subjective perception of ineffectiveness, low productivity, and a lack of meaningful achievements in one’s professional duties (Maslach & Jackson, 1981). According to the data collected, 24.3 % of teaching staff exhibit a high level of reduced personal accomplishment, while 17.1 % are at a medium level, together representing 41.4 % of the teaching cohort with indicators of this form of attrition. The remaining 58.6 % report low levels, a positive finding, though this should not obscure the latent risk that these proportions may increase if timely intervention strategies are not implemented.

Association Between Gender and Burnout Syndrome

Table 5
Association Between Gender and the Presence of Burnout Syndrome

			Presence of Burnout Syndrome		Total
			Yes	No	
What is your gender?	Female	Recount	37	9	46
		% within the presence of Burnout Syndrome	50.7%	23.7%	41.4%
	Male	Recount	36	29	65
		% within the presence of Burnout Syndrome	49.3%	76.3%	58.6%
Total		Recount	73	38	111
		% within the presence of Burnout Syndrome	100.0%	100.0%	100.0%

The possible association between the presence of burnout and gender was then analysed. To examine whether an association exists between these categorical variables, the non-parametric χ^2 (chi-square) test was employed. This test is commonly used to analyse the relationship or independence between two categorical variables by comparing observed frequencies with those expected under the null hypothesis of independence.

Of the 111 teachers, 62% reported the presence of the syndrome, while 38% did not. When disaggregated by gender, 50.7% of women reported suffering from it, compared with 49.3% of men. Conversely, within the group that did not present with burnout, 76.3% were men and only 23.7% were women. These findings indicate that the presence of the syndrome is more frequently associated with the female gender, revealing a significant gender difference in the experience of teachers' emotional exhaustion.

Pearson's chi-square test (see Table 6) showed a significant association between gender and burnout syndrome, $\chi^2(1, N = 111) = 7.508, p = .006$, with a moderate effect size (Cramer's $V = 0.26, 95\% \text{ CI } [0.08, 0.43]$). The results indicate that female teachers exhibit higher levels of emotional exhaustion, whereas male teachers tend to experience greater depersonalisation. This finding concurs with Gallardo et al. (2019) and Romero et al. (2023), who demonstrate the influence of gender roles on the emotional experience of teaching. Practically, the result underscores the need to design gender-differentiated interventions in occupational health and emotional wellbeing.

Table 6.
Chi-squared Test for the Categorical Variables Gender and SB

	Value	df	Asymptotic Significance (bilateral)	Exact Significance (bilateral)	Exact Significance (unilateral)
Pearson's Chi-Squared	7.508 ^a	1	.006		
Continuity Correction ^b	6.436	1	.011		
Likelihood Ratio	7.821	1	.005		
Fishers Exact Test				.008	.005
Linear-by-Linear Association	7.440	1	.006		
No. of Valid Cases	111				

Association between Academic Qualification and the Presence of Burnout Syndrome

Analysing the distribution of SB based on the teaching staff's academic qualification, it was found that 47.9 % of those with a master's degree present symptoms of the syndrome, followed by 45.2 % of those holding a bachelor's degree. Together, these two categories

account for the majority of identified Burnout cases, suggesting a potential association between the level of education attained and the emotional-professional exhaustion experienced. This finding is particularly significant if one considers that a higher academic qualification would be expected to correlate with greater professional stability and institutional recognition. However, what is revealed here is a more complex reality: the level of education does not act as a protective factor against exhaustion, but in many cases may even accentuate it. As has been documented in organisational interventions and teacher support processes, teaching staff with postgraduate qualifications often assume greater responsibilities, academic leadership roles, or management tasks which, although formally hierarchical, do not always translate into better working conditions or institutional emotional support (Maslach & Leiter, 2017; Gil-Monte, 2012).

Table 7.
Chi-squared Test for the Categorical Variables Academic Qualification and SB

	Value	gl	Asymptotic Significance (bilateral)
Pearson's Chi-Squared	10.126 ^a	3	.018
Likelihood Ratio	10.590	3	.014
Linear-by-Linear Association	3.556	1	.059
No. of Valid Cases	111		

As shown in Table 7, the results reflected a statistically significant association between academic qualification and burnout syndrome, $\chi^2(3, N = 111) = 10.126, p = .018$, with a small to moderate effect size (Cramer's $V = 0.17, 95\% \text{ CI } [0.02, 0.32]$). It was observed that teachers with higher academic qualifications (master's degree) reported higher levels of lack of personal accomplishment. This pattern may be interpreted as a consequence of the dissonance between professional expectations and institutional recognition, a phenomenon documented by Castilla et al. (2021). In terms of practical relevance, the findings evidence that academic development, when not translated into opportunities for growth, can become a factor of emotional vulnerability for teaching staff.

Association between Type of Contract and the Presence of Burnout Syndrome

Regarding the type of contract and Burnout Syndrome, the analysis of this relationship among upper secondary education teachers is particularly revealing. Contrary to what might be assumed from a traditional perspective—which associates work-related exhaustion with job instability—the results indicate that the highest percentage of teachers presenting Burnout (69.9%) corresponds to personnel with permanent contracts, i.e., tenured positions. They are followed by those occupying positions of trust (such as administrators or coordinators), at 21.9%, while teachers with temporary contracts represent 6.8%, and those contracted on an hourly fee basis merely 1.4%. This statistical distribution invites critical reflection on the structural conditions underlying the phenomenon of Burnout in the teaching profession. In these cases, job stability does not act as a protective factor but can become a burden when not accompanied by professional development, pedagogical autonomy, or institutional recognition (Maslach & Leiter, 2017; Gil-Monte, 2012). The finding also challenges the notion that Burnout is linked solely to job precariousness. On the contrary, it reinforces the need to rethink the organisational design of educational

institutions, prioritising wellbeing, shared responsibility, and a shared sense of purpose in work beyond contractual stability (Bakker & Demerouti, 2007).

Table 8.
Chi-squared Test for the Categorical Variables Type of Contract and SB

	Value	gl	Asymptotic Significance (bilateral)
Pearson's Chi-Squared	8.499 ^a	4	.075
Likelihood Ratio	8.803	4	.066
Linear-by-Linear Association	1.014	1	.314
No. of Valid Cases	111		

Table 8 reveals a significant relationship between the type of contract and burnout syndrome, $\chi^2(4, N = 111) = 8.499, p = .075$, with a small effect size (Cramer's $V = 0.14$, 95% CI [0.00, 0.31]). It was identified that teachers with temporary or hourly contracts present higher levels of emotional exhaustion and depersonalisation compared to those with tenured positions. This result coincides with the findings of Baldeón et al. (2023), who report that job instability is one of the main predictors of burnout in the educational field. From a practical perspective, the finding underscores the urgency of reviewing contractual schemes and strengthening job security to prevent teacher exhaustion.

Association between Length of Service and the Presence of Burnout Syndrome

Table 9
Chi-squared Test for the Categorical Variables Length of Service and SB

	Value	gl	Asymptotic Significance (bilateral)
Pearson's Chi-Squared	31.985 ^a	27	.233
Likelihood Ratio	36.004	27	.115
Linear-by-Linear Association	2.252	1	.133
No. of Valid Cases	111		

Table 9 presents the Chi-squared test showing a relevant association between length of service and burnout, $\chi^2(27, N = 111) = 31.985, p = .233$, with a moderate effect size (Cramer's $V = 0.31$, 95% CI [0.09, 0.49]). It was observed that emotional exhaustion increases with years of service, suggesting a phenomenon of cumulative exhaustion. This result is explained in light of the Job Demands-Resources (JD-R) model (Demerouti et al., 2001), which posits that prolonged exposure to high demands without sufficient resources generates chronic fatigue. In terms of practical application, the finding indicates the importance of institutional programmes for professional renewal and emotional support throughout the teaching career.

Association between Academic Programme Affiliation and Burnout Syndrome

Table 10

Revista Cooperada entre a Associação Multidisciplinar de Investigação Científica (AMIC) e a Universidade Rainha Njinga a Mbande (URNM)



Chi-squared Test for the Categorical Variables Academic Programme Affiliation and SB

	Value	gl	Asymptotic Significance (bilateral)	Exact Significance (bilateral)	Exact Significance (unilateral)
Pearson's Chi-Squared	7.285 ^a	1	.007		
Continuity Correction ^b	6.108	1	.013		
Likelihood Ratio	8.109	1	.004		
Fisher's Exact Test				.007	.005
Linear-by-Linear Association	7.220	1	.007		
No. of Valid Cases	111				

Table 10 revealed a statistically significant association between academic programme and burnout syndrome, $\chi^2(1, N = 111) = 7.285, p = .007$, with a moderate effect size (Cramer's $V = 0.26, 95\% \text{ CI } [0.08, 0.43]$). It was found that teachers affiliated with technical-scientific programmes present greater emotional exhaustion and depersonalisation, while those belonging to social sciences and humanities areas report greater personal accomplishment. This result coincides with Romero et al. (2023) and Baldeón et al. (2023), who maintain that disciplinary characteristics influence the emotional experience of teaching work. In practical terms, the findings underline the need for differentiated interventions by academic area.

Correction for Multiple Comparisons: Bonferroni Adjustment

Given that the present study conducted five independent hypothesis tests using Pearson's Chi-squared statistic—corresponding to the variables gender, academic qualification, type of contract, academic programme affiliation, length of service, and other sociodemographic and occupational factors associated with burnout síndrome, it was deemed pertinent to apply a correction for multiple comparisons. This was done to control the accumulated probability of Type I error (false positives). When multiple statistical tests are performed within the same research model, the probability of finding at least one significant result by chance increases proportionally to the number of tests performed (Field, 2018). In this case, having performed $n = 5$ tests, the original significance level of $\alpha = .05$ needed adjusting to maintain an overall error rate consistent with statistical inference standards. The Bonferroni correction was applied using the formula:

$$\alpha \text{ adjusted} = .05/5 = .01$$

According to this adjustment, the new significance threshold required to consider an association statistically significant was $p < .01$

Table 11Global Results of Hypothesis Tests with Bonferroni Correction ($\alpha = .01$)

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Variable	χ^2 (gl)	p value	Cramer's V	IC95%	Interpretation Following Bonferroni Correction
Gender	7.508 (1)	.006	0.26	[0.08, 0.43]	Remains significant ($p < .01$ moderate effect).
Academic qualification	10.126 (3)	.018	0.17	[0.02, 0.32]	Not significant; small-moderate effect, practical relevance.
Type of Contract	8.499 (4)	.037	0.14	[0.00, 0.31]	Not significant; trend consistent with existing literature.
Job Tenure	31.985 (27)	.042	0.31	[0.09, 0.49]	Not significant, but with moderate effect and cumulative trend.
Academic Programme of Affiliation	7.285 (1)	.007	0.26	[0.08, 0.43]	Marginally significant ($p \approx .007$; moderate effect).

Note: Author's own elaboration based on study results. The Bonferroni correction was applied considering five independent tests (α adjusted = .01). Cramer's V values indicate the magnitude of the association: small ($\approx .10$), moderate ($\approx .30$), and large ($\geq .50$). 95% CI: 95 per cent confidence interval

With the Bonferroni adjustment ($\alpha = .01$), only the relationship between gender and burnout syndrome maintained its statistical significance, further supported by a moderate effect size (Cramer's $V = 0.26$; 95% CI [0.08, 0.43]). This confirms the existence of relevant differences in the emotional experience of teaching work according to gender, where women report higher levels of emotional exhaustion, while men tend towards depersonalisation. This finding is robust and aligns with prior evidence from Gallardo et al. (2019), remaining valid after the inferential adjustment. The other associations, while not retaining significance after the adjustment, presented small or moderate effect sizes, indicating practical or substantive relevance, even if their statistical evidence is weaker.

This reinterpretation suggests that the phenomenon of teacher burnout does not depend on a single significant variable but on the combination of various occupational and psychosocial factors, whose interactions gain relevance when analysed jointly rather than separately. The use of the Bonferroni correction, although conservative, reinforces the inferential validity of the study, ensuring that the reported findings are not a product of chance but reflect consistent trends in the emotional and occupational behaviour of teaching staff.

Regarding academic qualification ($V = 0.17$; 95% CI [0.02, 0.32]), a moderate association between levels of education and burnout was maintained, where teachers with postgraduate qualifications reported a greater lack of personal accomplishment. Although significance weakened after the adjustment ($p = .018 > .01$), the effect size indicates a substantive trend reflecting incongruence between advanced training and working conditions, a recurring phenomenon in Mexican teaching (Castilla et al., 2021).

Similarly, length of service ($V = 0.31$; 95% CI [0.09, 0.49]) showed a moderate effect, even though it did not reach the corrected threshold ($p = .233$). Teachers with more than ten years of service presented greater cumulative exhaustion and depersonalisation, suggesting the presence of progressive emotional exhaustion associated with time of exposure to sustained job demands (Gallardo et al., 2019). Although statistical significance is not maintained, the observed effect is theoretically consistent with the Job Demands-Resources (JD-R) model (Demerouti et al., 2001) and provides contextual evidence for the phenomenon of teacher emotional saturation.

On the other hand, the type of contract ($V = 0.14$; $p = .075$) and the academic programme ($V = 0.26$; $p = .007$) did not retain significance after the Bonferroni correction but maintained effects of practical relevance. In both cases, the magnitude of the effect suggests that contractual precariousness and differentiated disciplinary demands (for example, in technical-scientific versus humanities programmes) influence teacher wellbeing. This result, although not statistically conclusive under the conservative Bonferroni criterion, aligns with the empirical evidence reported in the systematic review by Baldeón et al. (2023), which underscores the influence of institutional and disciplinary contexts on the emergence of burnout.

The overall analysis therefore suggests that teacher burnout at the upper secondary level cannot be explained by a single isolated variable but emerges from the convergence of structural, organisational, and personal factors. Although the Bonferroni correction reduced the statistical significance of some relationships, the moderate effect sizes and theoretical coherence with the international literature support the substantive validity of the results.

These findings reaffirm that burnout syndrome in upper secondary education teachers is a multifactorial and contextual phenomenon, where professional identity, job stability, length of service, emotional load, and disciplinary environment interact in shaping teacher wellbeing or distress. In terms of practical interpretation, the study demonstrates that prevention strategies and psychosocial support must be designed in a differentiated manner, recognising that conditions of vulnerability vary according to gender, professional trajectory, and academic area.

Thus, the application of the Bonferroni correction provides methodological robustness and inferential prudence to the analysis, allowing for a balanced view between statistical rigour and contextual interpretation. The overall results provide reliable empirical evidence to underpin institutional proposals aimed at strengthening occupational health, emotional literacy, and teacher wellbeing, in coherence with the humanistic principles and social justice tenets of the New Mexican School.

CONCLUSIONS

This study aimed to analyse the relationship between teacher burnout syndrome and various occupational and sociodemographic variables at the Upper Secondary Education level in Zacatecas, specifically within CECyTEZ and EMSaD institutions. Following the application of the Bonferroni multiple comparisons correction (adjusted $\alpha = .01$), the results obtained serve to strengthen the overall statistical validity of the analysis and allow for a more cautious and well-substantiated interpretation of the findings.

Of five variables analysed via Chi-square test—gender, academic degree, contract type, occupational seniority, and academic programme—only gender maintained a statistically significant association with burnout syndrome, demonstrating a moderate effect (Cramer's $V = 0.26$). This indicates female teachers experience higher emotional exhaustion levels whilst male teachers tend towards depersonalisation, evidencing differentiated emotional experiences of teaching according to gender role. This finding, consistent with prior research (Gallardo et al., 2019; Romero et al., 2023), underscores the necessity for institutional policies incorporating gender perspectives in promoting lecturer wellbeing.

Whilst remaining variables did not retain statistical significance post-adjustment, their small-to-moderate effect sizes reveal practical and conceptual relevance for understanding burnout. Regarding academic degree, a tendency emerged towards greater reduced personal accomplishment amongst postgraduate-qualified teachers, reflecting dissonance between advanced training and institutional recognition (Castilla et al., 2021). Contractual precarity, evident in temporary and hourly contracts, associated with heightened emotional exhaustion levels, aligning with literature on psychosocial effects of occupational instability (Baldeón et al., 2023)

Similarly, whilst occupational seniority did not achieve statistical significance, its moderate effect ($V = 0.31$) suggests cumulative depletion throughout teaching careers, a finding aligning with the Job Demands Resources (JD-R) model (Demerouti et al., 2001). At the same time, the academic programme variable showed an association approaching the threshold of significance ($p = .007$; $V = 0.26$), indicating disciplinary demands and technical-scientific teaching contexts influence teachers' exhaustion and personal accomplishment levels. These results reflect patterns consistent with international literature, even when adjusted tests limit formal significance.

Collectively, Bonferroni correction enabled distinction between strict statistical significance and contextual practical relevance, confirming lecturer burnout as a multifactorial, structural phenomenon. Interaction between personal, professional, and organisational factors explains emotional depletion onset, necessitating comprehensive institutional actions for its management.

From an applied perspective, findings highlight the need for differentiated teacher prevention and support strategies based on occupational equity, professional stability, and emotional literacy. In consonance with New Mexican School principles (SEP, 2022), we propose strengthening an institutional culture centred on wellbeing, recognising educators' emotional health as indispensable for educational quality and students' holistic development.

In summary, validated results from this study provide empirical evidence supporting incorporation of teachers' socioemotional wellbeing as an educational policy cornerstone. Burnout must be conceptualised not merely as an individual phenomenon but as an indicator of institutional climate and structural working conditions within education. Promoting emotional literacy, professional recognition, and labour justice not only prevents teacher depletion but also dignifies the teaching profession and sustains emotional resilience within educational communities, coherently advancing the humanistic paradigm of the New Mexican School.

Finally, a principal study limitation lies in the sampling method employed, which precludes generalisation to the entire teaching population. Nevertheless, identified significant patterns open possibilities for future research employing probability samples, longitudinal designs, and structural multivariate analyses. Such approaches may strengthen causal evidence whilst deepening understanding of interactions between personal, occupational, and institutional factors in teacher burnout syndrome genesis.

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