Check for updates

DOI: https://doi.org/10.34069/AI/2024.84.12.4

How to Cite:
Navarrete Naevaez, J.C., Jiménez Jarquin, V.I., Martínez Cruz, M.A., Patiño Ortiz, J., & Trejo Martínez, A. (2024). Study of factors of prevalence of burnout syndrome among higher education faculty in Latin America. *Amazonia Investiga*, *13*(84), 61-76. https://doi.org/10.34069/AI/2024.84.12.4

Study of factors of prevalence of burnout syndrome among higher education faculty in Latin America

Estudio de factores de prevalencia del síndrome de Burnout en Docentes de educación Superior en Latinoamérica

Received: October 25, 2024 Accepted: December 21, 2024

Written by:
Juan Carlos Navarrete Naevaez[1]
https://orcid.org/0000-0001-8575-1265
Valentín Inocente Jiménez Jarquin[2]
https://orcid.org/0000-0003-1859-8031
Miguel Ángel Martínez Cruz[3]
https://orcid.org/0000-0002-4431-9262
Julián Patiño Ortiz[4]
https://orcid.org/0000-0001-8106-9293
Alfredo Trejo Martínez[5]
https://orcid.org/0000-0001-6555-2285

Abstract

This study examines the prevalence of burnout syndrome subscales—emotional exhaustion, depersonalization, and personal accomplishment—among university educators in six Latin American countries, conducted during the first semester of 2024. A three-factor ANOVA test with interaction was conducted to analyze significant differences in the level of burnout across the three representation scales, six countries, male and female sexes, and the interactions among the three factors. A diverse sample of 240 university professors, aged between 24 and 57 years, was collected. A significant difference in the level of burnout by country was found. Mexico $\bar{x}$_M=46.92 and Colombia $\bar{x}$_C=45.25 exhibit burnout levels that exceed the general average $\bar{x}$_G=46.92, while Ecuador $\bar{x}$_E=38.75 and Peru $\bar{x}$_P=40.83 manifest averages

Resumen

Este estudio analiza la prevalencia de las tres escalas representativas del síndrome de burnout; agotamiento emocional, despersonalización y realización personal en Docentes universitarios en 6 países latinoamericanos, realizado el primer semestre del año 2024. Se realizó una prueba ANOVA de tres factores con interacción, analizando diferencias significativas en el nivel de Burnout entre las tres escalas de representación, los seis países, géneros masculino y femenino, y la interacción de los tres factores. Se obtuvo una muestra heterogénea de 240 Docentes Universitarios. Se encontró una diferencia significativa en el nivel de burnout entre los diferentes países. México $\bar{x}$_M=46.92 y Colombia $\bar{x}$_C=45.25 presentan un nivel de burnout superior al promedio general $\bar{x}$_G=46.92, mientras que Ecuador $\bar{x}$_E=38.75 y Perú $\bar{x}$_P=40.83 presentan un promedio

[1] Ph.D. Instituto Politécnico Nacional, Escuela Superior de Ingeniería Mecánica y Eléctrica. Tecnológico Nacional de México, Tecnológico de Estudios Superiores del Oriente del Estado de México, Mexico. WoS Researcher ID: LTC-5713-2024 Email: psicologo.navarrete@gmail.com
[2] Ph.D. Tecnológico Nacional de México, Tecnológico de Estudios Superiores del Oriente del Estado de México, Mexico. WoS Researcher ID: ABP-2698-2022 - Email: valentinjimenezjarquin@hotmail.com
[3] Ph.D. Instituto Politécnico Nacional, Escuela Superior de Ingeniería Mecánica y Eléctrica, Mexico. WoS Researcher ID: ADX-7792-2022 - Email: mamartinezc@hotmail.com
[4] Ph.D. Instituto Politécnico Nacional, Escuela Superior de Ingeniería Mecánica y Eléctrica. Tecnológico Nacional de México, Mexico. WoS Researcher ID: HMV-3376-2023 - Email: jpatinoo@ipn.mx
[5] Ph.D. Instituto Politécnico Nacional, Escuela Superior de Ingeniería Mecánica y Eléctrica. Tecnológico Nacional de México, Tecnológico de Estudios Superiores del Oriente del Estado de México, Mexico. WoS Researcher ID: E-5531-2012 Email: aalfredot@yahoo.com.mx

that fall below $\bar{x}$_G. Educators in Ecuador display a markedly lower level of burnout on the emotional exhaustion scale $\bar{x}$_EE=33.25 and a higher level on the personal accomplishment scale $\bar{x}$_EA=45.5. In Chile and Colombia, lower levels are noted on the personal accomplishment scale $\bar{x}$_HA=33.75 and $\bar{x}$_CA=40, respectively. It is concluded that while the work context of teachers in Latin America may appear uniform, a notable disparity exists in the prevalence of Burnout syndrome, this variation may indicate differing working conditions or coping mechanisms employed by teachers in each nation. The study is limited on examining the interaction of burnout subscales across six countries and gender, not all Latin American countries along with some important demographic and contextual variables are considered for the complete analysis of the prevalence of Burnout Syndrome. Investigating the impact of burnout on university educators in Latin America is important, as this region faces educational challenges and demands physically and mentally resilient teachers. These educators play a crucial role in shaping the future generations of professionals who will enter the workforce and contribute to the region's development.

Keywords: Burnout syndrome, occupational fatigue, stress, educators, higher education.

menor que $\bar{x}$_G. En Ecuador se observa un nivel inferior de burnout en la escala de agotamiento emocional $\bar{x}$_EE=33.25 y un nivel superior en la escala de realización personal $\bar{x}$_EA=45.5. En Chile y Colombia, se calcularon promedios inferiores en la escala de realización personal $\bar{x}$_HA=33.75 y $\bar{x}$_CA=40, respectivamente. Se concluye que, no obstante, el contexto laboral de los docentes en Latinoamérica podría parecer similar, se encuentra una diferencia significativa en la prevalencia del síndrome de Burnout, lo cual podría revelar que existen condiciones diferentes de trabajo o afrontamiento de las mismas para los docentes en cada país. El estudio se limita a analizar la interacción de las subescalas de burnout en seis países de Latinoamérica y el sexo; y no se incluyen todos los países latinoamericanos ni algunas variables demográficas y contextuales importantes para un análisis exhaustivo de la prevalencia del síndrome de burnout. Analizar el impacto del Burnout en Docentes Universitarios latinoamericanos es relevante pues, al ser una región rezagada educativamente, requiere de Maestros aptos física y mentalmente dado su labor de formadores de las futuras generaciones de profesionistas que estarán en el mercado laboral y guiarán el desarrollo de la zona.

Palabras clave: Síndrome de burnout, agotamiento laboral, estrés, docentes, educación universitaria.

Introduction

Background

Feeling fatigued from work has been identified as a syndrome comprising physical symptoms, emotions, and behaviors that arise in response to the circumstances, conditions, environments, and characteristics associated with professions involving personal interaction or service, commonly referred to as Burnout Syndrome. (Olivares, 2016), (Gil-Monte, 2003; Marsollier, 2013; Salanova & Futuros, 2008; Manassero et al., 2005).

Justification

At present, higher education professionals in Latin America operate within an environment characterized by significant work demands, which adversely impacts their performance. This situation manifests in various intrapersonal, physical, psychological, emotional, and behavioral effects, while also directly influencing interpersonal dynamics, particularly within the teaching-learning process. Consequently, it undermines the quality of education in interactions with students and other members of the educational community.

Methods

This study seeks to identify the most prevalent factors contributing to Burnout Syndrome among higher education instructors in six Latin American countries, specific objectives encompass to identify the predominant factors of Burnout Syndrome (Emotional Exhaustion, Depersonalization, or Personal Accomplishment) among higher education instructors in each country examined, to understand the similarities and differences concerning which factors predominate in the analyzed countries, to ascertain whether there is a higher prevalence of any factor overall in Latin America, and to ascertain the correlation between the prevalence of Burnout syndrome and factors such as country or sex.

Structure

Initially, the concepts and background of previous research on Burnout syndrome are outlined, followed by a detailed description of the study design. This includes the sampling method employed for data collection and the analytical approach utilized to assess significant differences in the level of Burnout among the studied population, specifically a three-factor ANOVA test with interaction, applied to a sample of Latin American university educators. Subsequently, the results are presented and interpreted, leading to the conclusions and discussion of the study. Notably, the findings indicate significant differences in the prevalence of Burnout syndrome among the individuals examined.

Theoretical Framework

Although the term "Burnout" was first introduced by Freudenberger in 1974 to describe the "physical and emotional fatigue experienced by volunteers at a detoxification clinic" (Freudenberger, 1975) (Olaya Arevalo, 2015), it was later defined in 1981 by Maslach and Jackson as a consequence of work-related stress, primarily observed in individuals engaged in service-oriented professions who operate in high-demand social environments; such as teachers, doctors, nurses, and volunteers (Olaya Arevalo, 2015).

As a result of research on stress conducted in the 1970s, the term "Burnout" emerged in the initial studies of Freudenberger in 1974 and Maslach in 1976, framed within a social psychological perspective. It is conceptualized as a syndrome characterized by emotional exhaustion and cynicism, which frequently affects individuals engaged in work involving interpersonal interactions. Consequently, during this period, studies on burnout proliferated, leading to references focused on various helping professions, particularly highlighting research related to educational professionals (Marques Pinto et al., 2005). However, it was not until the 1980s that a significant increase in research on Burnout Syndrome (BS) became evident.

The conceptualization of the term "stress" remains one of the most contentious issues in psychology, both in terms of its definition and theoretical interpretation (Cazalla-Luna & Molero, 2015) In contrast, the concept of Burnout Syndrome has been defined and accepted almost unanimously by experts in the field, based on Maslach's formulation, which characterizes burnout as a chronic stress response comprising three essential components: emotional exhaustion, depersonalization, and diminished personal accomplishment. (Enache & Călin, 2014).

One of the critical factors to be examined in Burnout Syndrome is the heightened sense of emotional exhaustion (Maslach, 2023). Currently, exhaustion is recognized as a sustained reaction to chronic stressors and interpersonal dynamics within the workplace (Squillaci, 2021).

Burnout Syndrome is defined as a condition characterized by emotional and physical exhaustion resulting from prolonged exposure to emotionally taxing situations.(Wefald et al., 2012). Conversely, SB is regarded as a combination of emotional and physical fatigue triggered by diverse work demands, highlighting organizational factors that require continuous emotional, cognitive, and physical exertion from the employee. (Torkelson & Muhonen, 2008) (McClenahan et al., 2007).

Burnout syndrome is directly linked to occupational stressors, defined as circumstances related to job performance that generate tensions stemming from the disparity between job demands and workers' perceptions of their capacity to effectively manage those demands (Bakker & Demerouti, 2013).

In the 1980s, Maslach and Jackson introduced a tool for assessing burnout: the Maslach Burnout Inventory (Leka et al., 2005). This instrument has become the most widely utilized tool for evaluating burnout syndrome (BS). They subsequently developed the MBI-Educators Survey (MBI-ES), a version of the original MBI tailored for educators, encompassing teachers, administrators, other staff members, and volunteers in various educational environments (Faraci, 2018).

Burnout among university educators has been studied since the 1990s, focusing on its impact on working conditions (Faraci, 2018) (Ms. Rashmi Ram Hunnur, 2013) and the repercussions of burnout on health, as well as its influence on the effectiveness and efficiency of teachers' work performance and student outcomes (González-Romá et al., 2006).

Research on predictors of burnout among university professors has identified specific stressors that can lead to emotional exhaustion and diminished job satisfaction, including low salaries, high work pressure, insufficient social recognition, contentious relationships with students' parents, conflicts within the workplace, teaching multiple subjects with demanding schedules, and issues related to learning difficulties and aggressive behavior in students (Skaalvik & Skaalvik, 2015) (Zhylin et al., 2023)

University educators are obligated to engage in a range of activities focused on research, teaching, and scientific production projects, while also fulfilling administrative responsibilities such as planning academic, cultural, and scientific initiatives, managing courses, and organizing scientific dissemination and outreach activities for their aca-demic community (Fiorilli et al., 2017).

In this context, there exists a correlation between the deteriorating working conditions in higher education institutions across Latin America and the demands placed on university professors, leading to emotional, behavioral, and physical exhaustion among educators (Sestili et al., 2018).

Since the 2000s, there has been a notable increase in interest regarding research on burnout among university educators (Sestili et al., 2018). Specific negative determinants that disrupt the work-life balance of university faculty have been identified, including prolonged working hours and heightened work intensity (Collado et al., 2016), alongside elevated stress levels stemming from time constraints, inadequate compensation, excessive workloads, job insecurity, and diminished clarity regarding role expectations (Walsh et al., 2020). These findings corroborate studies that link work-related stress to burnout syndrome among academic personnel (Poalses & Bezuidenhout, 2018) (Salazar Manosalvas et al., 2022).

Research on Burnout Syndrome have primarily concentrated on determining the presence of the syndrome or its various dimensions within specific professions. Notable studies include those conducted by Guevara, Henao, and Herrera in 2002 in Colombia, as well as the research by Tisiotti and Parquet in 2007 and Zaldúa, Bottinelli, Pawlowcz, and Nabergoi in 2007 in Argentina, along with Briones' work in 2007 in Chile. Additionally, Aldrete and Preciado's studies in 2008 not only assess burnout levels but also aim to establish correlations with sociodemographic variables such as gender, age, and marital status, among others. (Díaz Bambula & Gómez, 2016).

Currently, research on burnout has become increasingly significant in Latin America, acknowledged as a health issue associated with psychosocial risks in the workplace (Gil-Monte, 2003). It is understood that the study of burnout has progressed, being recognized as a health concern prevalent in various work environments, rather than being confined solely to the caregiving professions, which have received the most scrutiny. It is acknowledged that the responsibility does not rest solely with the individual; rather, it is a phenomenon that emerges from the interaction between the worker and their work environment within the relational context.

It is crucial to expand the understanding of the syndrome by considering the specific social and economic context, with the objective of examining both the interplay between work and health and the broader societal implications. Achieving this, requires the engagement of various disciplines, enabling a paradigmatic shift that facilitates a more comprehensive analysis of issues related to occupational mental health, thereby enhancing its understanding. (Díaz Bambula & Gómez, 2016) (Caldichoury-Obando et al., 2024).

In Latin American countries, contextualized conceptual models of burnout have yet to be developed. This gap is evident in the reliance on theories and measurement methods established in industrialized nations, neglecting the unique characteristics of work and health dynamics in this region. While Latin American societies operate within a capitalist framework, their economic and labor processes adhere to a distinct rhythm shaped by multiple factors. (Mohammed et al., 2020).

It is essential to examine the social and professional landscape of Latin American university educators, considering the specific parameters of the studied group in this instance, Latin America, while acknowledging the hybridization of Western and non-Western cultures. Although technology and globalization have fostered cultural exchange and diverse influences, rendering this phenomenon increasingly apparent, it is imperative to exercise caution and refrain from treating different contexts as homogeneous. (Caldichoury-Obando et al., 2024).

It is important to note that there are ongoing conceptual debates surrounding the Syndrome, as the notion of burnout is practically synonymous with the Maslach Burnout Inventory (MBI), and vice versa. (González-Romá et al., 2006) and (Olivares, 2016) emphasize that the MBI's strengths include its broad international acceptance, empirical support for its factorial structure, and evidence of concurrent and divergent validity. Nonetheless, they also identify several weaknesses of the questionnaire, including issues related to its conceptual scope, challenges in operationalizing the concept, ambiguity in symptom definitions, unclear wording in certain translations, limited public awareness of the instrument due to its commercial application, problems with the conceptual scope of emotional exhaustion, lack of discriminant validity, and difficulties associated with diagnostic standards. (Benkova et al., 2022).

Methodology

Research Design

A factorial study employing a three-factor design with interaction was conducted to examine the prevalence of predominant factors associated with Burnout Syndrome among higher education faculty in six Latin American countries during the first half of 2024. The research aimed to identify the primary subscales of Burnout Syndrome (emotional exhaustion, depersonalization, or personal accomplishment) in each country analyzed, while also distinguishing the similarities and differences in the prevalence of each factor across the countries. Furthermore, the study investigated the predominant prevalence of any specific factor in a generalized or recurrent manner throughout Latin America, as well as sought to determine whether a correlation exists between the prevalence of Burnout Syndrome and the variables of country and sex.

The study was conducted using a cross-sectional observational design and a hybrid sampling method, calculating the F statistic to estimate the significance level of the factors contributing to Burnout syndrome.

Based on the implementation of a three-factor design with interaction, the study examined the presence of significant differences in Burnout levels across the three representation scales, the six countries, and between male and female sexes. Consequently, the following sets of hypotheses were proposed:

For the Burnout representation subscales, Factor A:

$$H_0 = There\ is\ no\ difference\ in\ the\ means\ of\ burnout\ of\ the\ three\ subscales$$
$$H_1 = There\ is\ a\ significant\ difference\ in\ the\ mean\ of\ at\ least\ one\ subscale$$

For nationalities, factor B:

$$H_0 = There\ is\ no\ difference\ in\ the\ means\ of\ burnout\ of\ the\ six\ nationalities$$
$$H_1 = There\ is\ a\ significant\ difference\ in\ the\ mean\ of\ at\ least\ one\ nationality$$

For sex, factor C:

$$H_0 = There\ is\ no\ difference\ in\ the\ means\ of\ burnout\ between\ men\ and\ female$$
$$H_1 = There\ is\ a\ significant\ difference\ in\ the\ means\ of\ men\ and\ female$$

For the Subscale - Nationality interaction, A - B:

$$H_0 = There\ is\ no\ significant\ interaction\ between\ subscales\ and\ nationalities$$
$$H_1 = There\ is\ a\ significant\ interaction\ between\ subscales\ and\ nationalities$$

For the Subscale - Sex interaction, A - C:

$$H_0 = There\ is\ no\ significant\ interaction\ between\ subscales\ and\ sexes$$
$$H_1 = There\ is\ a\ significant\ interaction\ between\ subscales\ and\ sexes$$

For the Country - Sex interaction, B - C:

$$H_0 = There\ is\ no\ significant\ interaction\ between\ nationalities\ and\ sexes$$
$$H_1 = There\ is\ a\ significant\ interaction\ between\ nationalities\ and\ sexes$$

For the interaction scale - country - sex, A - B - C:

$$H_0 = There\ is\ no\ significant\ interaction\ between\ the\ three\ factors$$
$$H_1 = There\ is\ a\ significant\ interaction\ between\ the\ three\ factors$$

Data collection

Data collection was based on a hybrid sampling method, resulting in a heterogeneous sample. Professors from six public universities across six Latin American countries: Mexico, Colombia, Brazil, Peru, Ecuador, and Chile were invited to participate via email. A total of 520 emails were dispatched, with 415 individuals responding to the questionnaire (response rate = 79.8%). Among these, 286 reported experiencing symptoms of Burnout Syndrome (adherence rate = 68.9%). Ultimately, 240 teachers were randomly selected who consented to participate voluntarily in the study, aligning the number with the experimental design employed. The final sample comprised 240 university educators aged between 24 and 67 years, with a mean age of 42 years.

The sample comprised 50.0% women and 50.0% men, with 20 women and 20 men from each country. All participants possessed higher education; 53.3% held a bachelor's degree, totaling 128 individuals, 21.7% had a master's degree, amounting to 52 individuals, and 25.0% held a doctorate, comprising 60 individuals. The inclusion criteria stipulated that all survey participants had a minimum of two years of continuous teaching experience at the time of the study.

The methodological study employed a cross-sectional observational design which was conducted between January 1 and June 30, 2024. The sample inclusion-exclusion criteria were as follows: The total sample consisted of Participants who possessed a minimum of two years of uninterrupted teaching experience at the time of the study and were previously diagnosed with Burnout Syndrome, as determined by the Maslach Burnout Inventory, specifically the MBI-Educators Survey (MBI-ES): (Olivares, 2016), (Faraci, 2018).

This version of the original MBI is tailored for educators, encompassing teachers, administrators, other staff members, and volunteers within any educational setting. It evaluates three scales: 1- Emotional exhaustion, which assesses feelings of being emotionally overwhelmed and fatigued by work; 2- Depersonalization, which gauges an insensitive and imper-sonal attitude towards students; and 3- Personal accomplishment, which measures feelings of competence and successful achievement in the workplace. The exclusion criteria included having less than two years of continuous teaching experience and not exhibiting symptoms of Burnout Syndrome.

To create the sample, a demographic questionnaire was employed, gathering in-formation regarding the workers' sex, age, job position, years of service, and weekly working hours.

The Maslach Burnout Inventory (MBI) questionnaire consists of 22 items presented as statements regarding professionals' feelings and attitudes toward their work and students, it is used to evaluate professional burnout. Respondents provide answers to the 22 self-report questions using a 7-point Likert scale that reflects the frequency with which they identify with each statement. This assessment aims to gauge both the frequency and intensity of experienced burnout. It evaluates the three dimensions of burnout syndrome:

1. Emotional exhaustion subscale evaluates the experience of being emotionally drained by work-related demands. It comprises 9 questions (1, 2, 3, 6, 8, 13, 14, 16, 20). The maximum score is 54.
2. Depersonalization subscale. This subscale evaluates the extent to which individuals perceive cold and distant attitudes, as well as measures an insensitive and im-personal response towards students. It consists of 5 items (5, 10, 11, 15, 22). The maximum score is 30.
3. Personal accomplishment subscale. This subscale evaluates perceptions of self-efficacy and personal achievement in the workplace. It comprises 8 items (4, 7, 9, 12, 17, 18, 19, 21). The maximum score is 48.

Ethical principles

This research received approval from the Thesis Committee of the Doctoral Program in Systems Engineering at Instituto Politécnico Nacional, Zacatenco Node, Mexico. All procedures were conducted in accordance with applicable ethical standards and regulations. Informed consent was secured from all

participants, and their anonymity was preserved. The data collection method was selected to ensure that the workplaces of the participants could not be identified.

Data Analysis

The assessment of this inventory is conducted through the analysis of three numerical variables, defined by the following thresholds: low Emotional Exhaustion, ≤ 18; medium Emotional Exhaustion, 19-26; and high Emotional Exhaustion, ≥ 27; low Depersonalization, ≤ 5; medium Depersonalization, 6-9; and high Depersonalization, ≥ 10; as well as low Personal Accomplishment, ≤ 33; medium Personal Accomplishment, 34-39; and high Personal Accomplishment, ≥ 40.

The Emotional Exhaustion and Depersonalization subscales reflect a greater level of burnout associated with higher scores. Conversely, the Personal Accomplishment subscale should be interpreted in the opposite manner, indicating a greater level of burnout with lower scores. Collectively, these three subscales characterize the syndrome of physical and mental exhaustion as a continuous variable that can manifest at varying degrees and intensities. It is important to note that, clinically, there are no definitive cut-off scores to determine the presence of Burnout; however, a combination of elevated scores in Emotional Exhaustion and Depersonalization, alongside lower scores in Personal Accomplishment, delineates Burnout Syndrome. The syndrome is deemed prevalent if at least one of the subscales exhibits high levels in its score. (Faraci, 2018) (Olivares- Faúndez et al., 2014).

To calculate the Burnout score, the values obtained in each item presented in table 1, are added:

Table 1.
Items associated with each subscale

Subscale	Items	Burnout indicator
Emotional exhaustion	1−2−3−6−8−13−14−16−20	26 or more
Depersonalization	5−10−11−15−22	9 or more
Personal accomplishment	4−7−9−12−17−18−19−21	Fewer than 34

Source: Compiled by the authors based on Maslach (2023)

High scores on the initial two subscale and low scores on the third subscale char-acterize Burnout Syndrome. A thorough analysis of the various aspects is essential to ascertain the Degree of Burnout Syndrome, which may vary in severity based on the manifestation of signs across one, two, or three scales, as well as the reference values indicative of the syndrome, which are described in table 2. This examination of aspects and items can offer insights into the strengths and weaknesses of individuals in their teaching roles.

Table 2.
Burnout reference values

Subscale	Low	Moderate	High
Emotional exhaustion	0 – 18	19 – 26	27 – 54
Depersonalization	0 – 5	6 – 9	10 – 30
Personal accomplishment	40 – 56	34 – 39	0 – 33

Source: Compiled by the authors based on (Maslach, 2023)

To facilitate a valid comparison of the burnout levels derived from each scale, the results were converted proportionally. For emotional exhaustion and depersonalization subscale, conversion was performed directly; conversely, for the personal accomplishment scale, conversion was conducted inversely, as a low score on this scale indicates a high level of burnout, in contrast to the other two scales. The variables that were analyzed, which are included in the MBI, were: sex, age, place of residence, professional seniority, teaching experience, and type of work activity.

Statistical Analysis

A three-factor ANOVA test with interaction was conducted, by the calculation of the F test statistic, which compares the variance derived from each factor (burnout subscales, sex and nationality) and their

interactions against Error variance MSE. If the variance associated with a specific factor is significantly greater than the error variance, it is concluded that there exists a significant difference in the levels of burnout observed at each level of that factor. Similarly, if the variance resulting from the interaction of two or more factors is significantly greater than the error variance, it is inferred that a significant interaction exists among those factors, indicating that the combination of two or more specific factors may yield higher or lower levels of burnout as a result of that combination. Table 3 presents the model.

Table 3.
Three-Way Factorial Design with Interaction.

Source of variation	Sum of squares	Degree of freedom	Variance	F value
Burnout subscales Factor A	SSA	$a-1$	$MSA=\frac{SSA}{a-1}$	$F_A=\frac{MSA}{MSE}$
Nationality Factor B	SSB	$b-1$	$MSB=\frac{SSB}{b-1}$	$F_B=\frac{MSB}{MSE}$
Sex Factor C	SSC	$c-1$	$MSC=\frac{SSC}{c-1}$	$F_C=\frac{MSC}{MSE}$
Interaction Subscale-Nationality	SSAB	$(a-1)(b-1)$	$MSAB=\frac{SSAB}{(a-1)(b-1)}$	$F_{AB}=\frac{MSAB}{MSE}$
Interaction Subscale – Sex	SSAC	$(a-1)(c-1)$	$MSAC=\frac{SSAC}{(a-1)(c-1)}$	$F_{AC}=\frac{MSAC}{MSE}$
Interaction Nationality-Sex	SSBC	$(b-1)(c-1)$	$MSBC=\frac{SSBC}{(b-1)(c-1)}$	$F_{BC}=\frac{MSBC}{MSE}$
Interaction Three factors	SSABC	$(a-1)(b-1)(c-1)$	$MSABC=\frac{SSABC}{(a-1)(b-1)(c-1)}$	$F_{ABC}=\frac{MSABC}{MSE}$
Error	SSE	$n-(abc)$	$MSE=\frac{SSE}{abc(n-1)}$	
Total	SStotal	$n-1$		

Source: Compiled by the authors.

Where variables $a=3$, $b=6$, $c=2$, denote the number of levels for each factor, specifically 3 burnout representation scales, 6 nationalities, and 2 sexes, $n=720$ is the total number of observations. Variables SS represent the sum of squared differences: total $SStotal$ (1); for factor A, subscales of burnout, SSA (2); for factor B, nationalities, SSB (3); for factor C, sexes, SSC (4); for the interaction subscale-nationality, A-B, $SSAB$ (5); for the interaction subscale-sex, A-C, $SSAC$ (6); for the interaction nationality-sex, B-C, $SSBC$ (7); for the three factor interaction, A-B-C, $SSABC$ (8), and variable SSE represents the sum of squared differences of Error.

$$SStotal=\sum_{i=1}^{a}\sum_{j=1}^{b}\sum_{k=1}^{c}\sum_{l=1}^{n}x_{ijkl}^2-\frac{x^2}{abcn} \quad (1)$$

$$SA=\frac{1}{bcn}\sum_{i=1}^{a}x_i^2-\frac{x^2}{abcn} \quad (2)$$

$$SSB=\frac{1}{acn}\sum_{j=1}^{b}x_j^2-\frac{x^2}{abcn} \quad (3)$$

$$SSC=\frac{1}{abn}\sum_{k=1}^{c}x_k^2-\frac{x^2}{abcn} \quad (4)$$

$$SSAB = \frac{1}{cn}\sum_{i=1}^{a}\sum_{j=1}^{b} x_{ij}^2 - \frac{x^2}{abcn} - SSA - SSB \quad (5)$$

$$SSAC = \frac{1}{bn}\sum_{i=1}^{a}\sum_{k=1}^{c} x_{ik}^2 - \frac{x^2}{abcn} - SSA - SSC \quad (6)$$

$$SSBC = \frac{1}{an}\sum_{j=1}^{b}\sum_{k=1}^{c} x_{jk}^2 - \frac{x^2}{abcn} - SSB - SSC \quad (7)$$

$$SSABC = \frac{1}{n}\sum_{i=1}^{a}\sum_{j=1}^{b}\sum_{k=1}^{c} x_{ijk}^2 - \frac{x^2}{abcn} - SSA - SSB - SSC - SSAB - SSAC - SSBC \quad (8)$$

$$SSE = SStotal - SSA - SSB - SSC - SSAB - SSAC - SSBC \quad (9)$$

The responses from the 240 teachers surveyed across the three levels of burnout to be analyzed yield a total of 720 data points, distributed as follows: 40 teachers per country and 20 teachers per sex per country, resulting in a total of 20 replications for the experiment.

Results and Discussion

Overview of the Respondent Group

In the present study, 240 university professors from six Latin American countries—Mexico, Colombia, Brazil, Peru, Ecuador, and Chile—participated, with ages ranging from 24 to 57 years (mean age: 42 years). The sample comprised 50% (n = 120) women and 50% (n = 120) men. All participants possessed higher education qualifications; 53.3% held a bachelor's degree, 21.7% a master's degree, and 25.0% a doctoral degree. Each survey participant had a minimum of two years of teaching experience at the time of the study. The entire sample had been previously diagnosed with Burnout Syndrome according to the Maslach Burnout Inventory, specifically the MBI-Educators Survey (MBI-ES), which is a version of the original MBI tailored for educators, including teachers, administrators, other staff members, and volunteers in various educational settings (Olivares, 2016).

ANOVA test results

Table 4 presents the results of the ANOVA tests solved in Minitab at a significance level $\alpha = 0.05$.

It can be observed that, in the subscales test (Factor A), sex (Factor C), and the interactions scale-sex (A-C), country-sex (B-C), and scale-country-sex (A-B-C), the value of the test statistic F is below the critical value at a significance level of $\alpha = 0.05$. Consequently, the following conclusions are drawn:

- Subscale test: No significant difference in the degree of burnout was observed among the three representation scales, $p - value = 0.293$. This indicates that the surveyed teachers exhibit consistent levels of burnout across the three scales (Emotional exhaustion, Depersonalization, and Personal accomplishment).
- Sex test: There is no significant difference in the level of burnout exhibited by both sexes, men and women, $p - value = 0.082$.
- Scale-sex interaction test. No significant interaction was found between burnout scales and sexes, yielding a $p - value = 0.121$.
- Nationality-sex interaction analysis: There is no significant interaction observed between countries and sexes, $p - value = 0.536$.
- Three-factor interaction test: No significant interaction exists among the three factors: burnout scales, countries, and sexes, $p - value = 0.483$.

Table 4.
ANOVA test results

Factor	Levels	Values				
SUBSCALE	3	Emotional exhaustion, Depersonalization, Personal accomplishment				
NATIONALITY	6	Brasil, Chile, Colombia, Ecuador, Mexico, Peru				
SEX	2	Male, Female				
Analysis of variance Source of variation	**DF**	**Adj SS**	**Adj MS**	**F-Value**	**Critical value**	**p-Value**
SUBSCALE	2	477.17	238.59	1.27	3.01	0.293
NATIONALITY	5	6866.38	1373.28	7.31	2.23	0.000
SEX	1	601.16	601.16	3.20	3.86	0.082
SUBSCALE*NATIONALITY	10	11816.55	1181.67	6.29	1.84	0.000
SUBSCALE*SEX	2	841.62	420.81	2.24	3.01	0.121
NATIONALITY*SEX	5	779.63	155.93	0.83	2.23	0.536
SUBSCALE*NATIONALITY*SEX	10	1822.27	182.23	0.97	1.84	0.483
Error	684	128498.01	187.86			
Total	719	151702.79				

Source: Compiled by the authors.

Analysis of significant factors

- Conversely, in the tests concerning countries (Factor B) and the interaction between countries and the burnout scale (A - B), an F value exceeding the critical threshold is computed, leading to the following conclusions:
- Nationality test: The average burnout value of at least one country significantly differs from the others, resulting in a $p - value \approx 0$.
- Nationality - subscale interaction test: A significant interaction exists between the burnout representation scales and the nationalities, indicating that the combination of at least one scale with a nationality, results in markedly different levels of burnout, resulting a $p - value \approx 0$.

Figure 1 presents the Pareto chart of the standardized effects. It is evident that factor B (Nationalities), along with the interaction of factors A and B (subscale – nationality), represent the greatest effects at a significance level $\alpha = 0.05$.

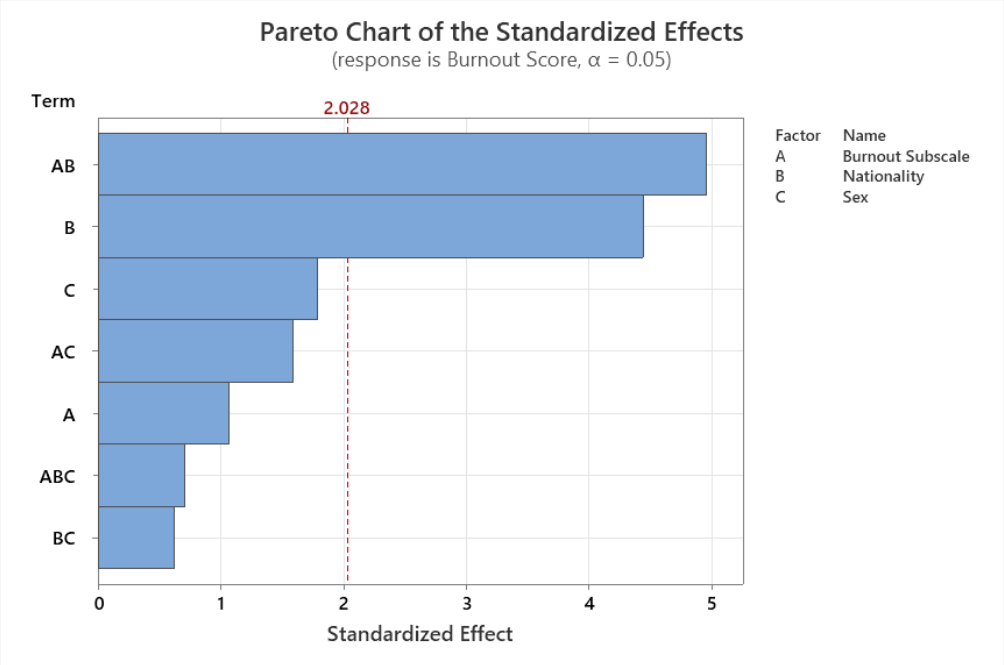

Figure 1. Pareto chart of the standardized effects.
Source: Compiled by the authors.

Upon examining the main effects graphs depicted in Figure 2, it is evident that the three scales (Factor A) and both sexes (Factor C) do not exhibit average burnout levels that significantly deviate from the overall average. Additionally, it is noteworthy that in Mexico and Colombia, average burnout levels are markedly higher than the general average by country, while in Ecuador and Peru, the calculated averages fall below the general average.

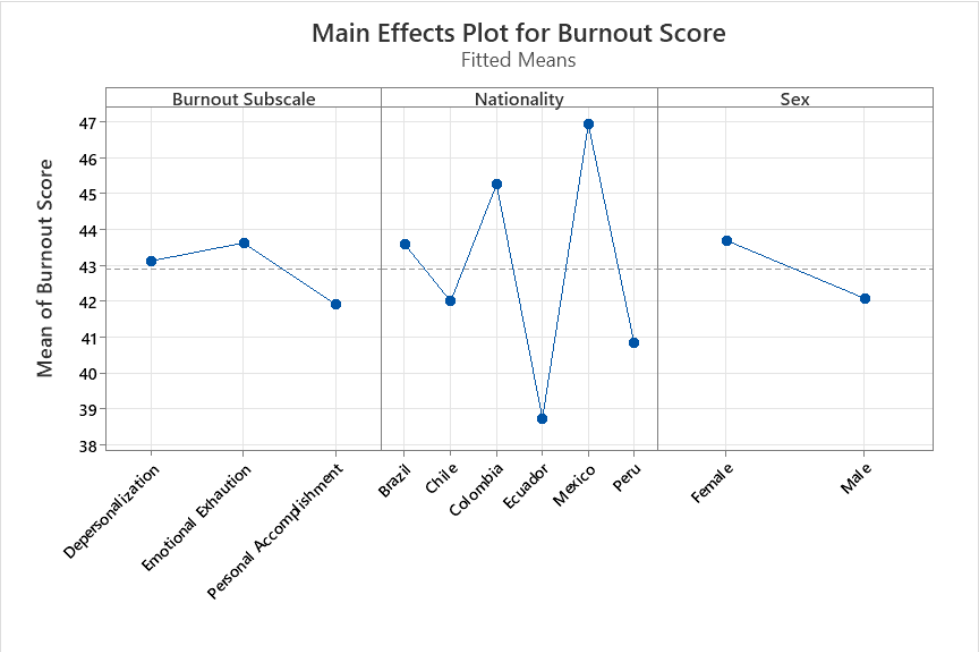

Figure 2. Main effects plot for burnout levels.
Source: Compiled by the authors.

Analysis of interactions

Figure 3 illustrates the interaction graphs, revealing that the primary interactions are as follows:

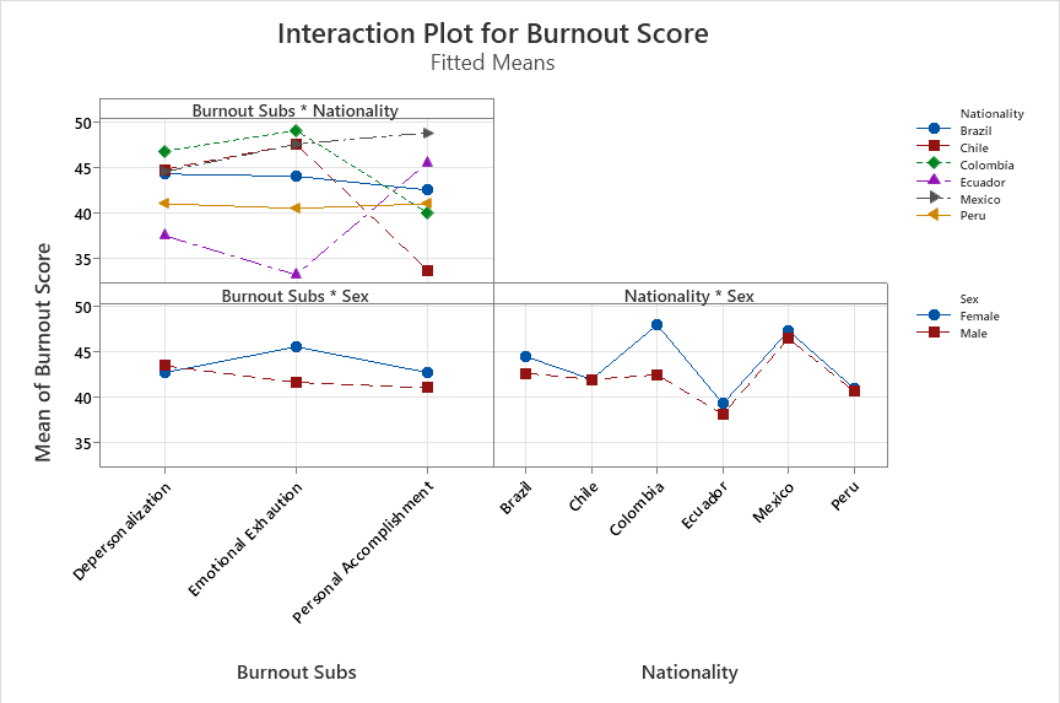

Figure 3. Interaction plot for burnout levels.
Source: Compiled by the authors.

The teachers surveyed in Ecuador exhibit a notably lower level of burnout on the emotional exhaustion scale and a higher level on the personal accomplishment scale.

In Chile and Colombia, significantly lower levels are noted on the personal achievement scale in comparison to the other two scales.

The role of the university professor is crucial in enhancing educational quality. In addition to helping students develop professional skills, they contribute to national development. Their work, both directly and indirectly, influences the development and growth of the society in which they develop their educational function.

It is widely recognized that a country's progress and evolution are directly and proportionally correlated with the advancement of science and technology, which stems from the research conducted by its human talent. Consequently, investing in this area will yield substantial benefits for society.

It is essential to recognize that the university educator is a professional who requires ongoing social interaction with students, fellow professors, professional staff, business leaders, and others.

Educators are uniquely distinguished among professionals in other fields, as they are daily compelled to engage in human relationships characterized by direct and specialized attention, this role inherently involves the subjectivity of the human psyche. As interactions occur with students, professional staff, parents, and the broader community, as well as with family members in a direct manner, such interactions are often overlooked in contrast to other professions where work is predominantly dictated by the use of inanimate tools, such as computers, mechanical devices, and plans. This necessitates the management of both personal and others' emotions, requiring a nuanced understanding of interpersonal and intrapersonal intelligences in a highly specific context (Cota et al., 2022).

University professors must possess emotional intelligence and strong interpersonal skills. Additionally, they are required to collaborate in resolving daily conflicts within the academic community, which suggests that they may be adversely affected intrapersonally.

The educator must manage time effectively, by addressing workload scenarios, including planning academic activities, preparing instructional materials, designing assessments, reviewing assignments, and engaging in institutional activities, among other commitments that occupy both work and personal time.

The necessity for immediate adaptation, coupled with a consistent level of demand, presents challenges that higher education instructors encounter daily. These factors undoubtedly contribute to stressful environments, adversely affecting the well-being of educational professionals. Such stressors can lead to alterations in both physical and mental behavior, resulting in negative psychosomatic manifestations.

Consequently, this may foster a disinterest in teaching, hinder social interactions with the surrounding community, including colleagues, students, and professional staff members, and can be attributed to the excessive efforts of educators striving for social recognition. Additionally, the imperative to integrate new information and communication technologies, embrace the intercultural dynamics of a globalized educational community, and navigate frequent curricular reforms may precipitate work-related accidents or chronic health issues within the profession (Olaya Arevalo, 2015) (Bilozerska et al., 2022).

While the work context of teachers in Latin America may appear similar across the countries examined in this study, significant differences in the prevalence of Burnout syndrome have been identified. This suggests that varying working conditions or coping mechanisms exist for teachers in each nation.

As part of the future work of this research, the analysis of the specific factors influencing the varying levels of burnout outlined in this study is considered. This analysis will encompass the variables related to both general and specific working conditions across all six countries examined, as well as the inclusion of sociodemographic variables pertinent to each sample. Additionally, it will consider factors such as weekly working hours, commute time, tenure, and salary levels.

Conclusions

It is concluded that despite the work context of teachers in Latin America may appear uniform, a notable disparity exists in the prevalence of Burnout syndrome, this variation may indicate differing working conditions or coping mechanisms employed by teachers in each nation. Mexico and Colombia exhibit burnout levels exceeding the general average, while Ecuador and Peru demonstrate averages below the general average. Educators in Ecuador display a markedly lower level of burnout on the emotional exhaustion scale and a higher level on the personal accomplishment scale. In contrast, Chile and Colombia reveal lower levels on the personal accomplishment scale compared to the other two scales.

The innovation inherent in this study resides in the application of methodologies to analyze the factors contributing to the most prevalent Burnout Syndrome among higher education instructors across six Latin American countries. The aim is to identify significant differences in Burnout levels across three scales of representation, the six countries, and between male and female genders, as well as the interaction of these three factors.
The study's findings suggest a critical need for a more in-depth examination of burnout syndrome among university educators in Latin American, as noted by (Caldichoury-Obando et al., 2024). It is vital to consider the unique characteristics of the work environment in Latin America. In this region, the prevalence of decent, quality employment and favorable working conditions that enhance the quality of life for education professionals has been lacking. Furthermore, it is imperative to acknowledge the transformations occurring in the work environment across social, cultural, economic, technological, and political dimensions, as these changes have often resulted in the decline of traditional employment forms, while alternative modalities such as remote service provision, informal work, and employment flexibility have surged. Consequently, there is an urgent need for more targeted research on the prevention and intervention of burnout, negative stress, and early intervention strategies for burnout syndrome among education workers. This is particularly important given the significance of instructional work in the teaching-learning process at the university level and the risks educators face when operating under exhaustion, which can lead to inadequate performance and pose a socially significant issue for each country.

This initial study focused on analyzing the interaction of burnout subscales across six countries and gender. Future research aims to incorporate additional variables, including the inclusion of all Latin American countries and various demographic factors that may yield more precise data.

The analysis of the results from the study indicates that no significant differences were observed in the level of Burnout across the three classification scales, to be precise, similar Burnout values were observed on the following scales: 1. Emotional exhaustion, 2. Depersonalization, 3. Personal achievement.

Furthermore, this study indicates that in Mexico and Colombia, average levels of burnout exceed significantly the general average, while in Ecuador and Peru, the averages fall below the general average. The teachers surveyed in Ecuador demonstrate a relatively lower level of burnout on the emotional exhaustion scale and a higher level on the personal accomplishment scale. Additionally, in Chile and Colombia, significantly lower levels are noted on the personal accomplishment scale in comparison to the other two scales.

Conversely, the results reveal a markedly significant difference in the comparison of the six countries examined. The average graphs demonstrate that Colombia and Mexico exhibit the highest Burnout levels, with scores of 45 and 47, respectively. In contrast, Ecuador and Peru show the lowest levels of Burnout, with average scores of 39 and 41, respectively. It is crucial to note that, despite all countries included in the sample display having elevated levels of Burnout, it exists a significant variation in prevalence among them.

In terms of sex, it is evident that there is no substantial difference in the level of burnout; men and women exhibit comparable scores, with men scoring 42 and women scoring 44.

The study also revealed no significant interactions between the factor associated with the Burnout scales and sex, suggesting that both women and men exhibit comparable average scores across the three subscales:

1. Emotional exhaustion, 2. Depersonalization, 3. Personal accomplishment.

Similarly, no substantial interaction was identified between nationalities and sex, indicating that men and women from the six countries exhibit homogeneous burnout scores.

The interaction among the three factors is not significant, suggesting that no specific combination of sex, nationality, and burnout scale level yields notably higher or lower scores.

Conversely, the subscale-nationality interaction is significant, indicating that certain combinations of nationalities exhibit markedly higher or lower scores on specific burnout representation scales. The interaction graph distinctly illustrates that the Personal Accomplishment scale is lower in Chile and higher in Ecuador.

It can be asserted that Burnout Syndrome is primarily the result of a confluence of individual, social, and organizational factors prevalent among many Latin American educators. The principal causes contributing to the manifestation of this syndrome include elements such as work overload; excessive demands for compliance that surpass teachers' capacity for adequate performance; a lack of control or feelings of inadequacy stemming from insufficient autonomy and decision-making power in their professional roles; minimal or inadequate rewards; and a lack of recognition and appropriate compensation for performance, effort, and accomplishments. Additionally, it is essential to consider the ethical value conflicts arising from the pursuit of personal objectives by each educator versus those of the educational institution, as well as poor labor relations with colleagues and authorities, and even conflicts within their workplaces.

The study's findings have underscored several risk factors and mental health consequences associated with burnout among university professors. In this regard, research gaps have been identified, particularly concerning the necessity for detection tools and their effects on mental health. Future research implications encompass the development of preventive strategies aimed at enhancing self-efficacy and addressing issues in a solution-focused manner.

Bibliographic references

Bakker, A. B., & Demerouti, E. (2013). La teoría de las demandas y los recursos laborales. *Revista de Psicologia Del Trabajo y de Las Organizaciones*, *29*(3). https://doi.org/10.5093/tr2013a16

Benkova, K., Taneva, T., Georgiev, Y., Vlaeva, N., & Raleva, S. (2022). Influence of the occupational burnout syndrome on the work attractiveness among social workers. *Amazonia Investiga*, *11*(53), 70–81. https://doi.org/10.34069/ai/2022.53.05.7

Bilozerska, S., Leshchenko, I., Cherusheva, H., Roksoliana, B., & Ushakova, I. (2022). Psychological health of personnel of educational and scientific organizations under conditions of war (Ukrainian experience). *Amazonia Investiga*, *11*(58), 186–193. https://doi.org/10.34069/ai/2022.58.10.20

Caldichoury-Obando, N., Ripoll-Córdoba, D., Morales-Asencio, B., Ibañez-Reyes, S., Flórez, Y., Reyes-Cervantes, C., Coronado-López, J., Gargiulo, P. A., Quispe-Ayala, C., Herrera-Pino, J., Cárdenas, J., Flores-Poma, I., Rojas-Orellana, F., Ocampo-Barba, N., Cuevas-Montes, F., Camargo, L., Martínez, J., Salazar, D., Soto-Añari, M., … López, N. (2024). Burnout in Healthcare Professionals in Latin America in times of COVID-19. *Revista Colombiana de Psiquiatria*. https://doi.org/10.1016/j.rcp.2024.04.008

Cazalla-Luna, N., & Molero, D. (2015). Inteligencia emocional percibida, ansiedad y afectos en estudiantes universitarios = Perceived emotional intelligence, anxiety and affect on university students. *REOP - Revista Española de Orientación y Psicopedagogía*, *25*(3). https://doi.org/10.5944/reop.vol.25.num.3.2014.13858

Collado, P. A., Soria, C. B., Canafoglia, E., & Collado, S. A. (2016). Condiciones de trabajo y salud en docentes universitarios y de enseñanza media de Mendoza, Argentina: Entre el compromiso y el desgaste emocional. *Salud Colectiva*, *12*(2). https://doi.org/10.18294/sc.2016.710

Cota, J. C. N., Yescas, M. J. M., & Murrieta, R. E. M. (2022). "Análisis de la deserción estudiantil en la Universidad Tecnológica de Puerto Peñasco: factores y causas." *Brazilian Journal of Development*, *8*(12). https://doi.org/10.34117/bjdv8n12-228

Díaz Bambula, F., & Gómez, I. C. (2016). Research on burnout from 2000 to 2010 in Latin America. *Psicología Desde El Caribe*, *33*(1), 113–131. https://doi.org/10.14482/psdc.33.1.8065

Enache, R., & Călin, M. (2014). Teacher's Personality and the Burnout Syndrome. In *Journal of Experiential Psychotherapy*, *17*(3).

Faraci, P. (2018). Testing for the dimensionality of the maslach burnout inventory (MBI) on a sample of high school teachers. *Clinical Neuropsychiatry*, *15*(1).

Fiorilli, C., Pepe, A., Buonomo, I., & Albanese, O. (2017). At-Risk Teachers: The Association Between Burnout Levels and Emotional Appraisal Processes. *The Open Psychology Journal*, *10*(1). https://doi.org/10.2174/1874350101710010127

Freudenberger, H. J. (1975). The staff burn out syndrome in alternative institutions. *Psychotherapy*, *12*(1). https://doi.org/10.1037/h0086411

Gil-Monte, P. R. (2003). Artículo Burnout syndrome: ¿síndrome de quemarse por el trabajo, desgaste profesional, estrés laboral o enfermedad de Tomás? *Revista de Psicología Del Trabajo y de Las Organizaciones*, *192*, 181–197.

González-Romá, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, *68*(1). https://doi.org/10.1016/j.jvb.2005.01.003

Leka, S., Griffiths, A., & Cox, T. (2005). Work-related stress: The risk management paradigm. In *Research Companion to Organizational Health Psychology*. https://doi.org/10.4337/9781845423308.00019

Manassero, M. A., García Buades, E., Torrens, G., Ramis, C., Vázquez, Á., & Ferrer Pérez, V. A. (2005). Burnout en la enseñanza: aspectos atribucionales. *Journal of Work and Organizational Psychology*, *21*(1-2), 89-105.

Marques Pinto, A., Lima, M. L., & Lopes da Silva, A. (2005). Fuentes de estrés, burnout y estrategias de coping en profesores portugueses. *Revista de Psicologia Del Trabajo y de Las Organizaciones*, *21*(1–2).

Marsollier, G. R. (2013). *La despersonalización y su incidencia en los procesos de desgaste laboral*. Revistapsicologia.Com.

Maslach, C. (2023). A Multidimensional Theory of Burnout. In *Theories of Organizational Stress*. https://doi.org/10.1093/oso/9780198522799.003.0004

McClenahan, C. A., Giles, M. L., & Mallett, J. (2007). The importance of context specificity in work stress research: A test of the Demand-Control-Support model in academics. *Work and Stress*, *21*(1). https://doi.org/10.1080/02678370701264552

Mohammed, S. S., Suleyman, C., & Taylan, B. (2020). Burnout Determinants and Consequences Among University Lecturers. *Amazonia Investiga*, *9*(27), 13–24. https://doi.org/10.34069/AI/2020.27.03.2

Ms.Rashmi Ram Hunnur, Ms. R. R. H. (2013). "A Study on Job Stress For School Teachers." *IOSR Journal of Business and Management*, *7*(4). https://doi.org/10.9790/487x-0744244

Olaya Arevalo, C. (2015). *Síndrome de burnout o síndrome de agotamiento profesional (SAP) en el trabajo de los docentes distritales de la Localidad de Usme*. (Trabajo de grado), Universidad Militar Nueva Granada. https://repository.unimilitar.edu.co/items/a16b0821-b3f3-4a27-b697-861b16fe26d1

Olivares, V. (2016). Christina Maslach, comprendiendo el burnout. *Christina Maslach, Comprendiendo El Burnout*, *October*. https://doi.org/http://dx.doi.org/10.4067/S0718-24492017000100059

Olivares-Faúndez, V. E., Mena-Miranda, L., Je´lvez-Wilke, C., & Maci´a-Sepu´lveda, F. (2014). Validez factorial del Maslach Burnout Inventory human services (MBI-HSS) en profesionales Chilenos. *Universitas Psychologica*, *13*(1), 145–160. https://doi.org/10.11144/Javeriana.UPSY13-1.vfmb

Poalses, J., & Bezuidenhout, A. (2018). Number 2 April-2018 Mental Health in Higher Education: A Comparative Stress Risk Assessment at an Open Distance Learning. *International Review of Research in Open and Distributed Learning*, *19*(2).

Salanova, M., & Futuros, Y. R. (2008). Estudio del Burnout Marisa Salanova y Susana Llorens. *Papeles Del Psicólogo*, *29*(1).

Salazar Manosalvas, F. M., Paredes Jiménez, Y., Rosero Quintana, M., Estrella Cahueñas, R., & Jácome Espinoza, G. (2022). El estrés laboral en el profesorado de las Ciencias Médicas de la Universidad Central del Ecuador. 2020. Del conocimiento del profesorado a defender su derecho a una formación integral y una vida digna. *Revista de Educación y Derecho*, *(1 Extraordinario)*, 381–405. https://doi.org/10.1344/reyd2021.1ext.37711

Sestili, C., Cianfanelli, S., Scalingi, S., Del Cimmuto, A., De Sio, S., Villari, P., De Giusti, M., & La Torre, G. (2018). Reliability and use of Copenhagen Burnout Inventory in Italian sample of University Professors. *European Journal of Public Health*, *28*(suppl_4). https://doi.org/10.1093/eurpub/cky218.272

Skaalvik, E. M., & Skaalvik, S. (2015). Job satisfaction, stress and coping strategies in the teaching profession-what do teachers say? *International Education Studies*, *8*(3). https://doi.org/10.5539/ies.v8n3p181

Squillaci, M. (2021). Analysis of the burnout levels of special education teachers in Switzerland in link with a reform implementation. *European Journal of Special Needs Education*, *36*(5). https://doi.org/10.1080/08856257.2020.1809802

Torkelson, E., & Muhonen, T. (2008). Work stress, coping, and gender: Implications for health and well-being. In *The Individual in the Changing Working Life*. https://doi.org/10.1017/CBO9780511490064.015

Walsh, P., Owen, P. A., Mustafa, N., & Beech, R. (2020). Learning and teaching approaches promoting resilience in student nurses: An integrated review of the literature. In *Nurse Education in Practice* (Vol. 45). https://doi.org/10.1016/j.nepr.2020.102748

Wefald, A. J., Mills, M. J., Smith, M. R., & Downey, R. G. (2012). A Comparison of Three Job Engagement Measures: Examining their Factorial and Criterion-Related Validity. *Applied Psychology: Health and Well-Being*, *4*(1). https://doi.org/10.1111/j.1758-0854.2011.01059.x

Zhylin, M., Mendelo, V., Cherusheva, G., Romanova, I., & Borysenko, K. (2023). Analysis of the role of emotional intelligence in the formation of identity in different European cultures. *Amazonia Investiga*, *12*(62), 319–326. https://doi.org/10.34069/ai/2023.62.02.32