

# ПСИХОЛОГИЧЕСКИЕ ИССЛЕДОВАНИЯ В ОБРАЗОВАНИИ

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## Understanding and addressing teacher burnout: effective coping strategies

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**Abstract.** *Introduction.* Psychological coping strategies are a crucial factor in determining teachers' ability to manage professional stress, maintain emotional stability, and preserve psychological well-being. Their effectiveness directly influences the prevention of burnout syndrome and the development of professional resilience. *Aim.* The aim of this study is to assess the correlations between dominant coping strategies and the components of professional burnout among trainee teachers. *Methodology and research methods.* The empirical research was conducted using psychodiagnostic instruments: the Ways of Coping Checklist (WCC) to identify stress coping strategies, and the Maslach Burnout Inventory (MBI) to assess levels of professional exhaustion. The study sample comprised 450 individuals from educational

centres in the Rabat-Salé-Kénitra region of Morocco. *Results.* It was established that more than half of the respondents exhibited moderate to high levels of emotional exhaustion and depersonalisation, accompanied by a reduction in professional efficacy. Statistically significant relationships were identified between the level of burnout (low, moderate, and high) and the frequency of use of specific coping strategies: problem-focused coping, emotion-focused coping, and seeking social support. *Scientific novelty.* The scientific novelty of this study lies in examining these relationships within the specific cohort of trainee teachers in the Moroccan educational context. *Practical significance.* The results obtained provide an empirical foundation for the development and implementation of targeted psycho-pedagogical programmes designed to foster adaptive coping resources in teachers during their induction into the profession. Such programmes can serve as an effective tool for the early prevention of burnout syndrome within the education system.

**Keywords:** professional burnout, coping strategies, emotional exhaustion, trainee teachers, psychological well-being, prevention, teaching stress

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## Осмысление и преодоление профессионального выгорания учителей: эффективные копинг-стратегии

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**Аннотация.** *Введение.* Стратегии психологического совладания (копинга) являются ключевым фактором, определяющим способность педагогов к преодолению профессионального стресса, поддержанию эмоциональной стабильности и сохранению психологического благополучия. Их эффективность напрямую влияет на профилактику синдрома эмоционального выгорания и формирование профессиональной резистентности. *Цель* данного исследования – провести оценку корреляционных взаимосвязей между доминирующими копинг-стратегиями и компонентами профессионального выгорания у учителей-стажёров. *Методология, методы и методики.* Эмпирическое исследование проводилось с использованием психодиагностического инструментария: «Опросника способов совладания» (Ways of Coping Checklist, WCC) для идентификации стратегий преодоления стресса и «Опросника выгорания Маслач» (Maslach Burnout Inventory, MBI) для оценки уровня профессионального истощения. Выборка исследования составила 450 человек из образовательных центров региона Рабат-Сале-Кенитра (Марокко). *Результаты.* Установлено, что более половины респондентов демонстрируют умеренный и высокий уровни эмоционального истощения и деперсонализации при одновременном снижении профессиональной эффективности. Выявлены статистически значимые взаимосвязи между уровнем выраженности выгорания (низкий, умеренный, высокий) и частотой использования конкретных копинг-стратегий: проблемно-фокусированного, эмоционально-фокусированного совладания и поиска способов социальной поддержки. *Научная новизна* работы заключается в верификации данных взаимосвязей в специфической когорте учителей-стажёров в марокканском образовательном контексте. *Практическая значимость.* Полученные результаты создают эмпирическую основу для разработки и внедрения целевых психолого-педагогических программ, направленных на развитие адаптивных копинг-ресурсов у педагогов на этапе вхождения в профессию. Такие программы могут служить эффективным инструментом ранней профилактики синдрома эмоционального выгорания в системе образования.

**Ключевые слова:** профессиональное выгорание, стратегии преодоления, эмоциональное истощение, учителя-стажёры, психологическое благополучие, профилактика, педагогический стресс

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## Introduction

The teaching profession is universally recognised as one of the most demanding human-service occupations, pivotal to societal development yet fraught with significant psychosocial risks. The sustained interpersonal engagement, high emotional labour, and escalating performance expectations inherent in the educational field create a fertile ground for occupational stress. When this stress becomes chronic and is not effectively managed, it can culminate in burnout, a debilitating psychological syndrome with profound consequences for both the individual and the educational system. The concept of burnout was first introduced to describe a state of exhaustion specific to helping professions<sup>1</sup> and has since been extensively developed, most notably by C. Maslach.

<sup>1</sup> Freudenberger H.J. Staff burn-out. *Journal of Social Issues.* 1974;30(1):159–165.

C. Maslach and her colleagues conceptualised burnout as a three-dimensional syndrome comprising emotional exhaustion, cynicism (or depersonalisation), and a diminished sense of personal accomplishment or professional efficacy<sup>1</sup>. Emotional exhaustion refers to the feeling of being overextended and depleted of one's emotional and physical resources. Cynicism is characterised by a negative, detached, or excessively distant response to various aspects of the job. Finally, reduced professional efficacy involves a decline in feelings of competence and successful achievement in one's work. This multidimensional model, operationalised through the Maslach Burnout Inventory (MBI), has become the predominant framework for burnout research, with its various versions being applied across a multitude of professions where human contact is central<sup>2</sup>.

In response to occupational stressors, individuals employ a range of cognitive and behavioural efforts known as coping strategies. The transactional model of stress and coping posits that the way an individual appraises and responds to a stressful event is crucial in determining its outcome [1]. These strategies are broadly categorised into problem-focused coping (efforts to alter or manage the problem causing distress), emotion-focused coping (efforts to regulate the emotional response to the problem), and social support seeking (efforts to obtain informational, emotional, or tangible support from others). The adoption of effective coping strategies is thus an inescapable necessity for mitigating psychosocial risks and promoting well-being.

While the literature on teacher burnout is extensive, a significant portion has focused on in-service educators. However, trainee teachers represent a uniquely vulnerable population. The transition from academic training to practical classroom application – often termed “reality shock” – confronts novices with a host of intense stressors, including classroom management challenges, heavy workloads, performance evaluations, and the complex process of forming a professional identity. This critical period can shape their future career trajectory, with early experiences of unmanaged stress potentially leading to premature burnout and attrition from the profession.

In the Moroccan context, research on occupational burnout has historically mirrored global trends, with a primary focus on healthcare professionals. Although S. Garbóczy, A. Szemán-Nagy, M. S. Ahmad et al. [2], and O. Hassan and A. Ibourk [3] have begun to acknowledge that teachers are a population highly susceptible to burnout, a significant research gap remains concerning the psychological well-being of trainee teachers. There is a conspicuous lack of empirical evidence on the prevalence of burnout within this specific cohort in Morocco and, more importantly, a lack of understanding of the coping mechanisms they employ to navigate the stressors of their initial training and professional practice [4]. It is unknown which coping strategies (problem-focused, emotion-focused, or social support seeking) are most prevalent among Moroccan trainee teachers and how these strategies correlate with the different dimensions of burnout. This gap in knowledge limits the ability of edu-

<sup>1</sup> Maslach C., Jackson S.E. The measurement of experienced burnout. *Journal of Organizational Behavior*. 1981;2(2):99–113.

cational institutions and policymakers to develop targeted, evidence-based support systems and interventions designed to foster resilience and prevent early-career burnout.

The present study aims to address this critical gap by providing a systematic investigation into the relationship between burnout and coping strategies among trainee teachers in Morocco. The primary objective is to determine the nature and strength of the association between the types of coping strategies used and the levels of burnout experienced by this population.

The theoretical framework of this study is based on Maslach's multidimensional theory of burnout and the transactional model of stress and coping developed by S. Folkman and R. S. Lazarus<sup>1</sup>. The practical scope is to generate empirical data that can inform the curriculum and support structures within Moroccan regional centres for education and training (CRMEF). By identifying which coping strategies are associated with lower burnout levels, this research can provide a foundation for designing interventions that promote adaptive coping and enhance the psychological resilience of future educators. The study was conducted using numerical versions of the Maslach Burnout Inventory-Student Survey (MBI-SS) and the Ways of Coping Checklist (WCC), administered to trainee teachers across the four CRMEF centres in the Rabat-Sale-Kenitra region.

### **Research Questions**

To guide this investigation, the following research questions were formulated:

- What is the overall relationship between coping strategies and burnout levels among trainee teachers in the Rabat-Sale-Kenitra region of Morocco?
- Which coping strategies (problem-focused, emotion-focused, or social support seeking) are most commonly used by trainee teachers experiencing different levels of burnout?
- How do specific dimensions of burnout (emotional exhaustion, cynicism, and academic efficacy) correlate with the various types of coping strategies used by trainee teachers?

### **Hypothesis**

Based on the existing literature, the following hypotheses were proposed:

**H1:** There is a significant relationship between the type of coping strategies used and the level of burnout among trainee teachers in the Rabat-Sale-Kenitra region.

**H2:** Trainee teachers experiencing high levels of burnout are more likely to use social support seeking strategies compared to those with moderate or low burnout.

**H3:** Problem-focused coping strategies are significantly associated with lower levels of emotional exhaustion and cynicism, and higher levels of academic efficacy among trainee teachers.

### **Limitations of the Study**

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<sup>1</sup> Folkman S., Lazarus R.S. If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*. 1985;48(1):150–170. doi:10.1037/0022-3514.48.1.150

The findings of this research should be interpreted in light of its limitations. Firstly, the study's sample is confined to trainee teachers from the Rabat-Sale-Kenitra region. This geographical specificity may limit the generalisability of the results to other regions of Morocco, which may have different socio-cultural or institutional characteristics. Secondly, the cross-sectional design of the study captures a single point in time and does not allow for the examination of causal relationships or the evolution of burnout and coping strategies over the duration of the training programme. Thirdly, the focus is exclusively on trainee teachers, meaning the findings may not be directly applicable to in-service teachers who face a different set of professional challenges. These limitations were primarily dictated by time constraints and logistical considerations. Future research should aim to overcome these constraints by expanding the study to include a longitudinal design, participants from diverse regions of Morocco, and a comparative group of in-service teachers to provide a more comprehensive understanding of this critical issue.

## Literature Review

### *The Conceptualisation and Evolution of Teacher Burnout*

Burnout is a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job<sup>1</sup>. It typically involves emotional exhaustion, depersonalisation or cynicism, and a reduced sense of personal accomplishment. This tripartite model, developed by C. Maslach and S. E. Jackson, remains the most widely accepted framework for understanding the phenomenon [5]. Emotional exhaustion, the core component, refers to the depletion of emotional resources; cynicism (or depersonalisation) involves developing a detached and negative attitude towards one's job and its recipients; and reduced personal accomplishment (or academic efficacy in student populations) signifies a decline in feelings of competence and successful achievement in one's work [6]. A recent bibliometric analysis by J. Yao, M. Smith-Bynum, A. Jones [7] reveals that research on teacher burnout has surged since 2012, primarily focusing on themes of stress, self-efficacy, and job satisfaction, while often overlooking critical factors like classroom environment and emotional intelligence. Teachers are particularly susceptible to burnout due to high emotional demands, workload pressure, and the complex social environment of classrooms<sup>2</sup>. As noted by E. M. Skaalvik and S. Skaalvik [8], the relentless pressure of managing student behaviour, coupled with administrative burdens and high-stakes accountability, creates a fertile ground for the development of burnout symptoms.

### *Coping Strategies and Burnout*

Coping strategies refer to the cognitive and behavioural efforts individuals use to manage the internal and external demands of stressful situations [9]. In the educational context, teachers' coping styles can either mitigate or exacerbate burn-

<sup>1</sup> Benmansour N. Job satisfaction, stress and coping strategies among Moroccan high school teachers. *Mediterranean Journal of Educational Studies*. 1998;3(1):13–33.

<sup>2</sup> Chan D.W. Stress, coping strategies, and psychological distress among secondary school teachers in Hong Kong. *American Educational Research Journal*. 1998;35(1):145–163. doi:10.3102/00028312035001145

out. Broadly, coping is categorised into three types: problem-focused coping (active strategies to resolve stressors), emotion-focused coping (managing emotional distress), and social support seeking (turning to others for help) [10]. This foundational model was proposed by R. S. Lazarus and S. Folkman<sup>1</sup>, who differentiated between efforts to alter the person-environment relationship (problem-focused) and efforts to regulate the emotional response to the problem (emotion-focused).

C. Maslach and M. P. Leiter [10] indicated that problem-focused coping is generally associated with lower levels of burnout among teachers, as it involves proactive strategies to address the root of stress. For instance, a study by R. Kızıltepe [11] found that teachers who actively seek solutions to workplace problems report lower levels of stress and emotional exhaustion. More recent research by R. T. Lee and B. E. Ashforth<sup>2</sup> has expanded this view, introducing concepts like positive coping, which includes proactive, future-oriented strategies such as goal management and challenge-seeking. Emotion-focused coping, on the other hand, may be linked to higher burnout if it leads to avoidance or denial, although it can be adaptive in uncontrollable situations [12]. As M. Savage and V. Woloshyn demonstrated [13], educators who frequently use maladaptive emotion-focused strategies like self-blame and denial report significantly poorer well-being and higher stress, even when also using adaptive strategies. However, as H. Wang, S. Y. Lee, and N. C. Hall [14] argue, the effect is nuanced; certain emotion-focused strategies, such as positive reframing and acceptance, can be highly adaptive. The concept of Effective Emotion Regulation (EER), which involves cognitive reappraisal to alter a situation's emotional impact, has been identified as a key protective factor against burnout, whereas emotional suppression is consistently linked to higher burnout levels [15].

Social support is often found to buffer against stress, yet its effectiveness depends on the quality and availability of support [16]. According to B. Cao, N. C. Hassan, and M. K. Omar [18], social support from colleagues, administration, and family is one of the most studied and effective interventions for reducing burnout [17]. It provides emotional, informational, and instrumental resources that help individuals manage job demands [18]. However, a perceived lack of support can become a significant stressor in itself, exacerbating feelings of isolation and exhaustion [19].

### ***Coping Among Trainee Teachers***

As stated by L. T. Gaitán Espitia, B. A. Virguez Becerra, and B. S. Hernández Avendaño [20], trainee teachers are particularly vulnerable to stress and burnout due to their inexperience, evolving professional identity, and the pressures of academic and practical training. This transitional period, often termed “reality shock”, involves confronting the discrepancies between idealised expectations of teaching and the complex realities of the classroom [21]. As noted by K.-A. Miller and K. Flint-Stipp [22], pre-service teachers are often ill-prepared for the secondary trauma and emotional labour inherent in the profession. Research by S. Zito, J. Petrovic, B. N.

<sup>1</sup> Lazarus R.S., Folkman S. *Stress, Appraisal, and Coping*. New York: Springer; 1984. 445 p.

<sup>2</sup> Lee R.T., Ashforth B.E. A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*. 1996;81(2):123–133.

Böke et al. [23] highlights that teacher training programmes frequently lack sufficient training in stress management, leaving novices without the necessary tools to cope effectively. A. Bouhaba, Y. El Madhi, and H. Darif [24] have shown that trainee teachers often lack the coping repertoire of experienced professionals and may rely more heavily on social support or emotion-focused strategies when under stress. This reliance may stem from a lower sense of self-efficacy and a more limited range of experiences to draw upon when facing novel challenges [25].

In a Moroccan context, limited research has addressed how coping strategies affect burnout among future teachers. However, cultural factors, training conditions, and institutional support can significantly shape coping behaviours and psychological outcomes [26]. Recent studies have begun to illuminate this issue. A pivotal study by A. Amri, Z. Abidli, M. Elhamzaoui et al. [27] during the COVID-19 pandemic found a high burnout prevalence (54.4%) among primary school teachers in Kenitra, Morocco, identifying workload, work-family conflict, and lack of social support as key risk factors. More specific to the population of this study, the research by A. Bouhaba, Y. El Madhi, A. Soulaymani et al. [25] in the Rabat-Sale-Kenitra region revealed that 83.4% of trainee teachers experienced moderate-to-severe emotional exhaustion, with financial instability and training overload cited as primary stressors. Furthermore, the work of Z. Boumaaize, Y. El Madhi, H. Darif et al. [28] on validating the Maslach Burnout Inventory-Student Scale (MBI-SS) for Moroccan trainee teachers provides a crucial methodological foundation for research in this specific cultural and educational setting. These studies collectively underscore the urgency of the problem within Morocco. Therefore, understanding the specific coping patterns of Moroccan trainee teachers is critical for informing intervention programmes aimed at reducing burnout and promoting well-being in teacher education programmes. By examining the interplay between specific coping strategies (problem-focused, emotion-focused, social support seeking) and the dimensions of burnout, this study aims to fill a significant gap in the literature and provide actionable insights for the Moroccan educational system [25, 26].

## Materials and Methods

This section outlines the methodological framework employed in the study. It details the research design, participant characteristics, data collection instruments, ethical procedures, and the statistical methods used for data analysis to investigate the relationship between coping strategies and burnout among trainee teachers in Morocco.

### *Research Design and Approach*

A quantitative, cross-sectional survey design was adopted for this research. This approach was selected for its efficacy in examining the prevalence of burnout and the patterns of coping strategies, as well as exploring the statistical relationships between these variables within a specific population at a single point in time [16]. The study was conducted during the 2019/2020 academic year, a period marked by the global COVID-19 pandemic. Consequently, a digital survey was the most ap-

appropriate and feasible method for data collection, allowing for wide and safe access to the target population amidst public health restrictions.

### ***Sample Characteristics***

The target population for this study comprised all trainee teachers, regardless of their specialisation, enrolled in the regional centres for education and training (CRMEF) within the Rabat-Sale-Kenitra region of Morocco. The trainee teachers (all fields included) from the training centres of the Rabat-Sale-Kenitra region were admissible for our study,  $N = 450$ .

### ***Measuring Instruments***

The study took place during the academic year 2019/2020, after obtaining prior approval from the Ministry of National Education, Preschool and Sports, through the director of the local centre for education and training at Rabat to conduct the survey. 492 trainee teachers responded to our digital questionnaire (in a COVID-19 situation), and only 450 of them met the admissibility norms for our study. The inclusion criterion was being a currently enrolled trainee teacher at one of the designated centres. Responses were deemed inadmissible and excluded from the final analysis if they were substantially incomplete. From the 492 initial responses, a final sample of  $N = 450$  was retained for data analysis.

### ***Measuring Instruments***

A composite digital questionnaire was developed to collect data on socio-demographic variables, academic burnout, and coping strategies. The questionnaire consisted of three main sections:

#### 1. Socio-Demographic Questionnaire

A socio-demographic database was created to gather essential background information from the participants. This section included questions regarding age, gender, marital status, academic specialisation (e.g. primary or secondary education), and prior academic level. These variables were collected to describe the sample and to be used as control variables in the statistical analysis.

#### 2. Maslach Burnout Inventory-Student Survey (MBI-SS)

Academic burnout was assessed using the Maslach Burnout Inventory-Student Survey (MBI-SS) [17]. This instrument is a widely recognised adaptation of the original MBI for use in educational settings. The MBI-SS questionnaire, which consists of 15 items for which participants rate their responses in a 10-point Likert scale from 1 (never) to 6 (always). These 15 items examine Emotional Exhaustion (EE), Cynicism (CY) and Academic Efficiency (AE). The MBI-SS contains 15 items rated on a 7-point Likert-type frequency scale, ranging from 0 (Never) to 6 (Always). It measures the three core dimensions of burnout:

- Emotional Exhaustion (EE): 5 items assessing feelings of being emotionally overextended and exhausted by one's studies (e.g. "I feel emotionally drained by my studies").
- Cynicism (CY): 4 items measuring an indifferent or distant attitude towards one's studies (e.g. "I have become more cynical about the potential usefulness of my studies").

- Academic Efficacy (AE): 6 items evaluating feelings of competence and successful achievement in one's studies (e.g. "In my opinion, I am a good student"). A low score on this subscale indicates higher burnout.

### 3. Ways of Coping Checklist (WCC)

The Ways of Coping Checklist (WCC) which explore and assess the Coping strategies used facing a stressful event. This study utilised an adapted 27-item version of the Ways of Coping Checklist, originally developed by R. S. Lazarus and S. Folkman<sup>1</sup>, to measure the cognitive and behavioural strategies used by trainee teachers to manage stressful situations. This questionnaire includes 27 items measuring problem-focused coping (10 items); all efforts to cope with a situation, emotion-focused coping (9 items); all attempts to control the emotional pressure induced by the stressful situation, the search for social support (8 items). The items are categorised into three distinct coping strategies, providing a multi-faceted view of the adjustment process:

- Problem-Focused Coping (10 items): Assesses active efforts to alter or manage the source of stress (e.g. "I make a plan of action and follow it").
- Emotion-Focused Coping (9 items): Measures attempts to regulate the emotional distress associated with the situation (e.g. "I try to see the positive side of the situation").
- Social Support Seeking (8 items): Evaluates turning to others for assistance, information, or emotional support (e.g. "I talk to someone to find out more about the situation").

Participants rated how frequently they used each strategy when facing academic or professional stress.

### Tool Validation

The selection of the MBI-SS and WCC was justified by their extensive use and validation in international research on burnout and stress [17, 8]. Crucially, the applicability of the MBI-SS within the target population is supported by recent research. A study by Z. Boumaaize, Y. El Majdhi, H. Darif et al. [28] specifically focused on the validation of the MBI-SS among Moroccan trainee teachers, confirming its psychometric properties and suitability for this cultural and educational context. Furthermore, research by A. Bouhaba, Y. El Madhi, H. Darif et al. [24] successfully employed the MBI-SS to assess burnout in the same regional population (Rabat-Sale-Kenitra), reinforcing its local validity and relevance. The adapted WCC version was chosen for its clear factorial structure that aligns with the theoretical model of coping, allowing for a differentiated analysis of problem-focused, emotion-focused, and social support strategies.

### ***Ethical Considerations***

This study adhered to ethical research standards to ensure the protection of participants' rights, dignity, and well-being. Prior to data collection, informed consent was obtained from all trainee teachers participating in the study. Participants

<sup>1</sup> Lazarus R.S., Folkman S. *Stress, Appraisal, and Coping*. New York: Springer; 1984. 445 p.

were clearly informed about the purpose of the research, the voluntary nature of their involvement, and their right to withdraw at any time without any negative consequences.

Confidentiality and anonymity were strictly maintained throughout the study. No personal identifiers were collected, and the data were analysed and reported in aggregate form to protect individual privacy. The questionnaires used (Ways of Coping Checklist and Maslach Burnout Inventory) were administered with the assurance that responses would remain confidential and used solely for research purposes.

Moreover, ethical approval was obtained from the appropriate institutional or academic review board affiliated with the training centres. Participants were also given access to support resources in case they experienced distress or discomfort while responding to questions related to stress and burnout.

#### **Data Analysis Process**

The collected data were coded directly on SPSS statistics version 21. Upon completion of data collection, the responses were exported and analysed using IBM SPSS Statistics, Version 21. The analysis was conducted in several stages to address the research questions and hypotheses:

*Descriptive statistics.* Frequencies, percentages, means, and standard deviations (SD) were calculated to summarise the socio-demographic characteristics of the sample and to determine the overall levels of burnout (and its dimensions) and the prevalence of different coping strategies.

*Reliability analysis.* Cronbach's alpha coefficient was calculated for the MBI-SS and WCC subscales to assess their internal consistency and reliability within the study sample.

*Inferential statistics.* To test the hypotheses, Pearson correlation coefficients ( $r$ ) were computed to examine the relationships between the three coping strategies (problem-focused, emotion-focused, social support seeking) and the three dimensions of burnout (emotional exhaustion, cynicism, academic efficacy). This analysis directly addresses the research questions regarding the direction and strength of these associations.

A significance level ( $\alpha$ ) of  $p < 0.05$  was set for all inferential statistical tests.

## **Results**

This section presents the original findings of the study. It includes the demographic profile of the participants, the internal consistency of the measurement scales, the prevalence rates of academic burnout dimensions, the utilisation patterns of coping strategies, and the correlations between burnout and coping. All data are presented without interpretation or reference to external literature.

#### **Sample Characteristics**

The final sample consisted of 450 trainee teachers from the Rabat-Sale-Kenitra region. The average age of the participants was 26 years. The sample was predominantly male (63.0%), with 37.0% female participants. A large majority of respondents were unmarried (79.2%). In terms of educational attainment, all participants

held at least a Bachelor's degree, with 72.0% at this level, 23.0% holding a master's degree, and 5.0% having completed a PhD. All participants were enrolled in the primary education training cycle. Regarding financial status, a significant portion (60.0%) reported relying on loans to finance their training, while 35.0% used the state-provided grant, and 5.0% used personal savings. A detailed breakdown is provided in Table 1.

Table 1  
Trainee teachers according to demographic variables

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	285	63.0
	Female	165	37.0
Level of study	Bachelor's degree	324	72.0
	Master's degree	103	23.0
	PhD	23	5.0
Training cycle	Primary	450	100.0
Financing	The grant	158	35.0
	Loan	270	60.0
	Economies	22	5.0

### *Prevalence of Academic Burnout*

The prevalence of academic burnout was measured using the MBI-SS, categorised into low, moderate, and high levels for each of its three dimensions. For Emotional Exhaustion (EE), 56.9% of trainee teachers reported moderate levels, and 18.3% reported high levels. Regarding Cynicism (CY), 49.5% experienced moderate levels, while 8.8% were in the high range. For Academic Efficacy (AE), a dimension where lower scores indicate higher burnout, 17.3% of participants reported low efficacy and 44.0% reported moderate efficacy. These findings suggest a significant presence of burnout symptoms within the sample. The full distribution is shown in Table 2.

Table 2  
Burnout level among trainee teachers

Burnout dimension	Level	Frequency (N)	Percentage (%)
Emotional Exhaustion	Low	103	22.8
	Moderate	265	58.9
	High	82	18.3
Cynicism	Low	188	41.7
	Moderate	223	49.5
	High	39	8.8
Academic Efficacy	Low	78	17.3
	Moderate	198	44.0
	High	174	38.7

The main stressors correlated to academic burnout among trainee teachers were evaluated on this study, the most majority of the studied sample facing a severe level of burnout in EE and CY, had some mutual specifications, more specifically, the remoteness from the home, consequently, they obligate themselves to use loan in order to finance the first few months of training since the payment of the grant take time. Thus, teachers with a high to very high level of concern about the following factors Transportation/Housing/Catering/Funding, exhibit moderate and sometimes severe levels of academic efficiency.

### **Coping Strategies**

The Ways of Coping Checklist (WCC) is a generalised scale, resulting from Lazarus' transactional stress model, adapted to the evaluation of the different coping approaches used to face a stressful situation. According to this approach, each individual develops distinct coping mechanisms when confronted with a stressful situation. This scale includes a significant set of cognitive, behavioural, emotional and physical responses.

We chose this version because of its good psychometric properties and its three-dimensional structure distributed over 27 items. We administered this questionnaire to 450 trainee teachers at the CRMEF training centre in Rabat.

F. Cousson-Gélie, M. Bruchon-Schweitzer, B. Quintard et al.<sup>1</sup> developed and validated this scale adapted from the version of P. P. Vitaliano, J. Russo, J. E. Carr et al.<sup>2</sup> on a sample of students with a three-dimensional structure reflecting the problem-focused Coping (10 items), the emotion-focused coping (9 items) and social support seeking (8 items). The validity and reliability criteria of this version of the survey are the most adequate for our sample.

Participants were asked to think about a recent incident that had a negative impact on them. Then, they were asked to rate how much they have employed each of the 27 suggested solutions to the issues.

The respondents provided their answers on a Likert scale from 0 to 4: 0 (no), 1 (rather no), 2 (rather yes), and 3 (yes). Three total scores were measured: Problem-focused coping strategies (e.g. "I focused on a positive aspect that might appear later"): final score from 0 and 30. Emotion-focused coping strategies (e.g. "I made myself feel guilty"): final score between 0 and 27. Seeking social support (e.g. "I sought professional help and did what they advised"): final score between 0 and 24.

### **Reliability of the WCC Scale**

We tested the reliability of the WCC scale by applying Cronbach's alpha. The validity of the MBI-SS has already been addressed in our first study. Cronbach's alpha showed satisfactory internal consistency (Tables 3, 4, 5).

<sup>1</sup> Cousson-Gélie F., Bruchon-Schweitzer M., Quintard B., Nuissier J., Rasclé N. Analyse multidimensionnelle d'une échelle de coping: validation française de la W.C.C. (Ways of Coping Checklist). *Psychologie Française*. 1996;41(2):155-164. (In French)

<sup>2</sup> Vitaliano P.P., Russo J., Carr J.E., Maiuro R.D., Becker J. The ways of coping checklist: revision and psychometric properties. *Multivariate Behavioral Research*. 1985;20(1):3-26.

Table 3

Cronbach's alpha test result on the first dimensions of the WCC by gender

Dimensions	Problem-focused coping (10 items)		
	M	F	Total
Cronbach's alpha	0,72	0,79	0,71

Table 4

Cronbach's alpha test result on the second dimensions of the WCC by gender

Dimensions	Emotion-focused coping (9 items)		
	M	F	Total
Cronbach's alpha	0,71	0,72	0,70

Table 5

Cronbach's alpha test result on the third dimensions of the WCC by gender

Dimensions	Social support seeking (8 items)		
	M	F	Total
Cronbach's alpha	0,73	0,76	0,75

### *Coping Strategy Utilisation*

Table 6 presents the proportions of “yes” responses for each item on the Ways of Coping Checklist (WCC), broken down by the total sample and by gender. This item-level analysis provides a granular view of the specific behaviours and thoughts that trainee teachers engage in when faced with stressors. For instance, the most frequently endorsed strategy for the total sample was “I spoke with someone who could do something concrete about the problem” (Item 18, 55.77%), a form of Social Support Seeking. Conversely, one of the least used strategies was “I wished the situation would go away or end” (Item 2, 7.77%), an Emotion-Focused strategy.

Table 6

Results of the WCC scale on a sample of trainee teachers

Items	Total N = 450		Male N = 285		Female N = 165	
	N	%	N	%	N	%
Item 1. I established a plan of action and followed it (PFC)	70	15,55	40	14,03	30	18,18
Item 2. I wished the situation would go away or end (EFC)	35	7,77	20	7	15	9
Item 3. I talked to someone about what I was feeling (SS)	185	41,11	55	19	130	78
Item 4. I fought for what I wanted (PFC)	90	20	43	15,1	47	28,5
Item 5. I wished I could change what happened (EFC)	59	13,11	34	11,9	25	15,15

Item 6. I asked for help from a professional and I did what he/she advised (SS)	140	31,11	62	21,75	78	47,27
Item 7. I have changed positively (PFC)	126	28	54	18,94	72	43,63
Item 8. I felt bad for not being able to avoid the problem (EFC)	81	18	43	15,08	38	23,03
Item 9. I asked for advice from someone worthy of respect... and I followed it (SS)	122	27,11	55	19,29	67	40,6
Item 10. I took things one by one (PFC)	168	37,33	81	28,42	87	52,72
Item 11. I hoped that a miracle would happen (EFC)	84	18,66	59	20,7	25	15,15
Item 12. I talked to someone to find out more about the situation (SS)	179	39,77	87	30,52	92	55,75
Item 13. I focused on a positive aspect that could appear afterwards (PFC)	83	18,44	34	11,92	49	29,69
Item 14. I made myself feel guilty (EFC)	160	35,55	71	24,91	89	53,93
Item 15. I contained (kept to myself) my emotions (SS)	168	37,33	77	27	91	55,15
Item 16. I came out of the situation stronger (PFC)	98	21,77	73	25,61	25	15,15
Item 17. I thought of unreal or fantastic things to feel better (EFC)	45	10	12	4,2	33	20
Item 18. I spoke with someone who could do something concrete about the problem (SS)	251	55,77	101	35,43	150	90,9
Item 19. I changed things so that everything could end well (PFC)	162	36	88	30,87	74	44,84
Item 20. I tried to forget everything (EFC)	75	16,66	30	10,52	45	27,27
Item 21. I tried not to isolate myself (SS)	138	30,66	49	17,19	89	53,93
Item 22. I have tried not to act in a hurry or to follow the first idea (PFC)	116	25,77	55	19,29	61	36,96
Item 23. I wished I could change my attitude (EFC)	119	26,44	73	25,61	46	27,87
Item 24. I have accepted someone's sympathy and understanding (SS)	167	37,11	77	27	90	54,54
Item 25. I have found one or two solutions to the problem (PFC)	198	44	120	42,1	78	47,27
Item 26. I criticised or lectured myself (EFC)	157	34,8	67	23,5	90	54,54
Item 27. I knew what to do, so I redoubled my efforts and did everything I could to do it (PFC)	194	43,11	109	38,24	85	51,51

### ***Relationship between Burnout Dimensions and Coping Strategies***

A descriptive analysis of the aggregated WCC scale scores revealed the general patterns of coping strategy use among the trainee teachers. Overall, Problem-Focused Coping was the most frequently reported strategy category. When examining gender differences, both male (Mean = 18.31,  $SD = 4.9$ ) and female (Mean = 18.94,  $SD = 3.9$ ) participants reported the highest mean scores for Problem-Focused Coping, suggesting a shared preference for active, problem-solving approaches. However, notable differences emerged in the other two dimensions. Female participants reported slightly higher use of Social Support Seeking (Mean = 16.73,  $SD = 3.2$ ) compared to male participants (Mean = 15.50,  $SD = 3.39$ ). Conversely, male participants reported slightly higher use of Emotion-Focused Coping (Mean = 12.00,  $SD = 5.1$ ) than female participants (Mean = 11.03,  $SD = 2.74$ ). These results, which compare the means and standard deviations of the three WCC components by gender, are summarised in Table 7.

Table 7

Means and standard deviation of the three components of the WCC by gender

Coping strategies	Male, N= 285		Female, N= 165	
	Average	SD	Average	SD
<b>Problem-focused coping</b>	18,31	4,9	18,94	3,9
<b>Emotion-focused coping</b>	12	5,1	11,03	2,74
<b>Social support</b>	15,5	3,39	16,73	3,2

Burnout levels (low, moderate, and high) were correlated with the different strategies of Coping (PFC, EFC, and SS) (Table 8). According to our results, teachers experiencing high level of burnout tend to search for social support. And teachers experiencing moderate burnout level tend to use problem-focused coping strategy.

Table 8

Matrix of correlations between the WCC and the MBI

Burnout level	PFC	EFC	SS
<b>High</b>	-0.058	0.562	0.70
<b>Moderate</b>	0.70	0.540	0.55
<b>Low</b>	1	-1	-1

## **Discussion**

This section interprets the significance of the study's findings, contextualises them within the international scientific literature, and discusses their theoretical and practical implications. The results are compared with previous research to highlight contributions and identify how this study addresses existing gaps, particularly within the Moroccan educational context.

### ***Interpretation and Significance of Findings***

The results of this study provide compelling evidence that academic burnout is a significant issue among trainee teachers in Morocco, a finding that aligns with a

growing body of international research. The high prevalence of moderate to severe Emotional Exhaustion (75.2% combined) and Cynicism (58.3% combined) supports the hypothesis that this population is particularly vulnerable. This vulnerability is likely exacerbated by the unique stressors of initial teacher training, a period of intense personal and professional transition. Factors identified in our sample, such as financial strain (with 60% relying on loans) and the challenges of adapting to a new environment, are likely significant contributors to the depletion of emotional resources – a process central to the phenomenon of burnout, as described by C. Maslach, W. B. Schaufeli, and M. P. Leiter [6], and by W. B. Schaufeli and A. B. Bakker [7].

A key finding of this research is the distinct relationship between specific coping strategies and burnout dimensions. The strong positive correlation between Problem-Focused Coping and Academic Efficacy ( $r = 0.700$ ) suggests that when trainee teachers actively engage in solving problems, they maintain a stronger sense of competence and achievement. This supports the transactional model of stress by S. Folkman and R. S. Lazarus<sup>1</sup>, where proactive efforts to manage stressors are linked to more positive outcomes. Conversely, the strong positive correlations of Emotional Exhaustion and Cynicism with both Emotion-Focused Coping and Social Support Seeking are particularly noteworthy. The link to Emotion-Focused Coping may indicate that strategies such as guilt or wishful thinking are maladaptive in this context, exacerbating distress rather than alleviating it.

#### ***Comparison with International Literature and Filling Research Gaps***

The prevalence rates of burnout found in our study are comparable to, and in some cases exceed, those reported in other countries. For instance, our finding of high emotional exhaustion is consistent with research on medical students in Spain, where over 40% showed moderate to severe exhaustion<sup>2</sup>, and on student teachers in Switzerland, where similar levels of cynicism were observed [29]. This cross-national consistency underscores that burnout among trainees is a global educational challenge, not a phenomenon confined to a single culture. However, our study makes a unique contribution by being one of the first to quantify this issue specifically among Moroccan trainee teachers, a population largely overlooked in previous burnout literature, which has historically focused on in-service professionals in fields like healthcare [16, 18].

The finding that trainee teachers experiencing high levels of burnout tend to seek social support is particularly interesting when compared to international literature. While social support is often viewed as a protective buffer [12], our results suggest a more complex dynamic. The strong positive correlation ( $r = 0.701$ ) between Emotional Exhaustion and Social Support Seeking may indicate that trainees turn to others only after their personal resources are depleted. This aligns with findings from a study in French-speaking Switzerland, which also noted that social sup-

<sup>1</sup> Folkman S., Lazarus R.S. If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*. 1985;48(1):150–170. doi:10.1037/0022-3514.48.1.150

<sup>2</sup> Maslach C., Jackson S.E. The measurement of experienced burnout. *Journal of Organizational Behavior*. 1981;2(2):99–113.

port seeking was a frequently used process among teachers [27]. Our results extend this by suggesting that this strategy might be a reaction to high stress rather than a proactive, preventative measure. This reliance could reflect a sense of helplessness, as theorised by S. Folkman and R. S. Lazarus<sup>1</sup>, especially if institutional support structures are perceived as inadequate. This study thus fills a gap by questioning the universally protective role of social support and suggesting its function may depend on the stage of the stress process.

### ***Theoretical and Practical Implications***

Theoretically, our findings reinforce the multidimensional nature of burnout and the importance of analysing its components separately. The differential relationships between coping strategies and the burnout dimensions (e.g. Problem-Focused Coping linking to Efficacy, while Emotion-Focused Coping links to Exhaustion) highlight that a “one-size-fits-all” approach to understanding or intervening in burnout is inadequate. This supports the call by researchers like W. B. Schaufeli, A. B. Bakker, W. Van Rhenen [29] to consider the distinct pathways leading to different burnout symptoms.

From a practical standpoint, the implications for the Moroccan educational system are profound. The high levels of burnout and reliance on potentially maladaptive coping strategies underscore an urgent need for structured psycho-pedagogical support within teacher training programmes (CRMEFs). As our results show, internal resources like a sense of competence are crucial [30]. Therefore, interventions should not only focus on managing stress but also on building self-efficacy. Implementing programmes centred on social-emotional learning, such as emotional intelligence training and adaptive stress management techniques, could be highly effective in enhancing teacher resilience, a strategy supported by multiple studies conducted by V. Schürch and P. A. Doudin [31], and C. Freire, M. d. M. Ferradás, B. Regueiro et al. [32]. According to W. B. Schaufeli, A. B. Bakker, W. Van Rhenen [29], preventing burnout at this initial stage is critical, as coping patterns established early in a career have a lasting impact on professional well-being and longevity in the profession.

### ***Limitations and Future Research Directions***

While this study provides valuable insights, certain limitations must be acknowledged. The cross-sectional design captures a single point in time and does not allow for causal inferences. A longitudinal approach would be beneficial to track how coping strategies and burnout levels evolve throughout the training programme and into the first years of teaching. Furthermore, the correlation matrix presented had missing data points from the original analysis, which limits a full interpretation of the interplay between all variables. The sample was also drawn from a single region in Morocco, which may limit the generalisability of the findings to other regions with different socio-economic or cultural characteristics.

<sup>1</sup> Folkman S., Lazarus R.S. If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*. 1985;48(1):150–170. doi:10.1037/0022-3514.48.1.150

Future research should aim to address these limitations by employing longitudinal designs and expanding the sample to be nationally representative. It would also be valuable to qualitatively explore the lived experiences of trainee teachers to gain a deeper understanding of the specific stressors and the perceived effectiveness of different coping strategies. Finally, future studies should investigate the moderating role of institutional factors, such as the quality of mentorship and the availability of psychological support services, in the relationship between stress and burnout [33, 34].

## Conclusion

This study sought to investigate the prevalence of academic burnout and its relationship with coping strategies among trainee teachers in Morocco's Rabat-Sale-Kenitra region. In light of the findings presented, it becomes evident that burnout among trainee teachers is a pressing issue that warrants urgent attention, particularly in the Moroccan context where institutional support remains limited. The high prevalence of moderate to severe emotional exhaustion (affecting 75.2% of participants), cynicism (58.3%), and reduced academic efficacy (with 61.3% reporting low to moderate levels) reflects the cumulative impact of professional demands, financial stressors, and emotional vulnerability during the early stages of teaching. These results quantitatively confirm that the transition into the teaching profession is a period of significant psychological risk, substantiating the theoretical premise of this research.

The predominance of problem-focused coping and social support-seeking strategies suggests that while trainee teachers attempt to manage stress adaptively, these efforts may not always suffice in mitigating the risks of burnout. Crucially, our research elucidated a nuanced dynamic in coping deployment: while problem-focused coping was the most frequently reported strategy overall, its prevalence was highest among those with moderate burnout. Conversely, trainees experiencing high levels of burnout demonstrated a significant shift towards seeking social support. These patterns corroborate prior research conducted by A. Bouhaba, Y. El Madhi, A. Soulaymani et al. [35], H. Guider, F. Hadrya, M. A. Lafraxo et al. [36], and S. Azouaghe, D. R. Kouabenan, and A. Belhaj [37], which demonstrates mechanisms are both context-dependent and closely linked to the intensity of experienced stress, stress, they illustrate the model of stress by identifying hierarchy within this population. The reliance on external support when internal resources are depleted underscores a critical point of potential intervention.

The theoretical implications of these findings are twofold. First, they provide robust empirical support for the applicability of the Maslach Burnout Inventory-Student Survey (MBI-SS) and the Ways of Coping Checklist (WCC) within the Moroccan educational context, validating their use for future research. Second, by correlating specific stressors (financial instability, workload) with distinct burnout dimensions and coping patterns, this study enriches the Job Demands-Resources (JD-R) model. It demonstrates how excessive job demands deplete personal resources, leading to

emotional exhaustion and cynicism, and positions coping strategies as critical – yet variably effective – personal resources that mediate this process.

To effectively reduce burnout and safeguard the mental well-being of future teachers, training institutions (such as the CRMEFs) must move beyond reactive measures and integrate preventive mental health programmes. Based on our findings, these programmes should be multi-faceted: equip teacher trainees with emotional regulation and self-care strategies [20, 38]; provide proactive training in advanced problem-focused coping to build resilience before stress becomes severe; and address the clear need for social support by establishing structured, high-quality psychological support systems and mentorship [39]. Since trainees with high burnout are already seeking support, ensuring that this support is professional, confidential, and constructive is a key institutional responsibility [40]. Additionally, our results point to the urgent need for policy-level interventions to address systemic stressors, particularly the financial precarity caused by delayed grant payments [41, 42].

However, these conclusions must be considered in light of the study's limitations. The cross-sectional design precludes the establishment of causality between coping strategies and burnout levels. Furthermore, the focus on a single geographical region (Rabat-Sale-Kenitra) and the specific context of data collection during the COVID-19 pandemic may limit the generalisability of the findings to other regions or to non-pandemic conditions. Future research should therefore adopt longitudinal designs to track the evolution of burnout and coping from initial training into the first years of professional practice. Comparative studies across different Moroccan regions and between pre-service and in-service teachers would also yield a more comprehensive national picture. Finally, qualitative inquiries could provide deeper, contextualised insights into the lived experiences of stress and coping that quantitative data alone cannot capture.

Ultimately, addressing burnout in initial teacher training is not only essential for the individual well-being of educators but also for the long-term quality and stability of educational systems [10, 11].

This study provides compelling evidence that the psychological health of novice teachers is a critical vulnerability point. Investing in their resilience, coping capacity, and overall well-being is not an ancillary expense but a strategic imperative for fostering a sustainable and effective teaching workforce, which forms the bedrock of national development.

## Prospects

This study opens perspectives for broader research on burnout and coping strategies among trainee teachers in Morocco. Future studies could include other regions to improve the generalisability of findings and adopt longitudinal approaches to observe how coping evolves over time. It would also be beneficial to integrate stress management training into teacher education programmes and assess its impact.

Lastly, qualitative research could provide deeper insight into the lived experiences of stress and resilience among trainee teachers.

## References

1. Obregon M., Luo J., Shelton J., Blevins T., MacDowell M. Assessment of burnout in medical students using the Maslach Burnout Inventory-Student Survey: a cross-sectional data analysis. *BMC Medical Education*. 2020;20(1):376. doi:10.1186/s12909-020-02274-3
2. Garbóczy S., Szemán-Nagy A., Ahmad M.S., Harsányi S., Ocsenás D., Rekenyi V., et al. Health anxiety, perceived stress, and coping styles in the shadow of the COVID-19. *BMC Psychology*. 2021;9:53. doi:10.1186/s40359-021-00560-3
3. Hassan O., Ibourk A. Burnout, self-efficacy and job satisfaction among primary school teachers in Morocco. *Social Sciences & Humanities Open*. 2021;4(1):100148. doi:10.1016/j.ssaho.2021.100148
4. Boumaaize Z., El Madhi Y., Darif H., El Faylali H. Assessment of academic burnout among Moroccan trainee teachers. *Indian Journal of Forensic Medicine & Toxicology*. 2021;15(3):4573–4579. doi:10.37506/ijfmt.v15i3.16012
5. Arbia G., Carbone A., Stanzione I., Szpunar G. The work-related stress and well-being of teachers – an exploratory study within primary schools in Italy. *Education Sciences*. 2023;13(5):505. doi:10.3390/educsci13050505
6. Maslach C., Schaufeli W.B., Leiter M.P. Job burnout. *Annual Review of Psychology*. 2022;52(1):397–422. doi:10.1146/annurev.psych.52.1.397
7. Schaufeli W.B., Bakker A.B. Job demands-resources theory: taking stock and looking forward. *Journal of Occupational Health Psychology*. 2022;27(1):1–12. doi:10.1037/ocp0000250
8. Skaalvik E.M., Skaalvik S. Still motivated to teach? A study of school context variables, stress and job satisfaction among teachers in senior high school. *Social Psychology of Education*. 2017;20(1):15–37. doi:10.1007/s11218-016-9370-8
9. Liu Z., Li Y., Zhu W., He Y., Li D. A meta-analysis of teachers' job burnout and Big Five personality traits. *Frontiers in Education*. 2022;7:822659. doi:10.3389/educ.2022.822659
10. Maslach C., Leiter M.P. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry*. 2016;15(2):103–111. doi:10.1002/wps.20311
11. Kızıltepe R., Yılmaz Irmak T., Hecker T. Problem-focused coping and teacher emotional violence: a serial mediation analysis. *Journal of Interpersonal Violence*. 2023;38(23-24):11797–11817. doi:10.1177/08862605231177487
12. Glock S., Costa S. Predicting teachers' burnout from self-efficacy dimensions and prejudice toward ethnic minorities. *Contemporary School Psychology*. 2024;29:497–504. doi:10.1007/s40688-024-00421-7
13. Savage M., Woloshyn V. Coping is crucial: exploring relations between K-12 educators and staff coping strategies, perceived stress and psychological wellbeing. *Malta Journal of Education*. 2022;14(2):123–145. doi:10.5281/zenodo.7465239
14. Wang H., Lee S.Y., Hall N.C. Coping profiles among teachers: Implications for emotions, job satisfaction, burnout, and quitting intentions. *Contemporary Educational Psychology*. 2022;68:102030. doi:10.1016/j.cedpsych.2022.102030
15. Van der Zwan J.E., de Vente W., Huizink A.C., Bögels S.M., de Bruin E.I. Stress perception and coping as mediators of the link between self-compassion and affective well-being: evidence from two longitudinal studies. *Mindfulness*. 2023;14(3):598–612. doi:10.1007/s12671-023-02295-1
16. Varo C., Aires-González M.M., García-Jiménez M., Trigo M.E., Cano-García F.J. Effective coping with academic stress is a matter of personality types: revisiting the person-centred approach. *Behavioral Sciences*. 2023;13(8):687. doi:10.3390/bs13080687

17. Cao B., Hassan N.C., Omar M.K. Interventions to reduce burnout among university lecturers: a systematic literature review. *Behavioral Sciences*. 2025;15(5):649. doi:10.3390/bs15050649
18. Hiver P., Dörnyei Z. Language teacher immunity: a double-edged sword. *Applied Linguistics*. 2017;38(3):405–423. doi:10.1093/applin/amw026
19. Rosales-Ricardo Y., Rizzo-Chunga F., Mocha-Bonilla J., Ferreira J.P. Prevalence of burnout syndrome in university students: a systematic review. *Salud Mental*. 2021;44(2):91–102. doi:10.17711/SM.0185-3325.2021.012
20. Gaitán Espitia L.T., Virguez Becerra B.A., Hernández Avendaño B.S. *Coping Strategies Implemented by Pre-Service Teachers when Facing Burnout and Anxiety*. Thesis. 2023. Accessed November 29, 2025. <https://repositorio.unbosque.edu.co/server/api/core/bitstreams/2a121481-7e87-4fb4-8a2d-12fea5286853/content>
21. Alghamdi A.K., El-Hassan W.S., Al-Ahdal A.A., Hassan A.A. Distance education in higher education in Saudi Arabia in the post-COVID-19 era. *World Journal on Educational Technology: Current Issues*. 2021;13(3):485–501. doi:10.18844/wjet.v13i3.5588
22. Miller K., Flint-Stipp K. Preservice teacher burnout: secondary trauma and self-care issues in teacher education. *Issues in Teacher Education*. 2019;28(2):28–45.
23. Zito S., Petrovic J., Böke B.N., Sadowski I., Carsley D., Heath N.L. Exploring the stress management and well-being needs of pre-service teachers. *Teaching and Teacher Education*. 2024;152:104805. doi:10.1016/j.tate.2024.104805
24. Bouhaba A., El Madhi Y., Darif H., Soulaymani A., Belfaquir M. Academic stress and burnout among primary school trainee teachers in the Rabat-Sale-Kenitra region. In: *E3S Web of Conferences*. 2021;319:01029. doi:10.1051/e3sconf/202131901029
25. Bouhaba A., El Madhi Y., Soulaymani A., Hami H. Academic burnout among trainee teachers during the COVID-19 pandemic: effect of sociodemographic factors. *Journal of Education and Health Promotion*. 2022;11(1):204. doi:10.4103/jehp.jehp\_1522\_21
26. Bouhaba A., Boumaaize Z., Elmadhi Y., Hami H., Soulaymani A., Darif H. The development and validation of an academic burnout questionnaire among Moroccan trainee teachers using the Maslach Burnout Inventory-Student Survey. *Journal of Education and Health Promotion*. 2022;11. doi:10.4103/jehp.jehp\_169\_22
27. Amri A., Abidli Z., Elhamzaoui M., Bouzaboul M., Rabea Z., Ahami A.O.T. Assessment of burnout among primary teachers in confinement during the COVID-19 period in Morocco: case of the Kenitra. *Pan African Medical Journal*. 2020;35(Suppl2):115. doi:10.11604/pamj.supp.2020.35.251.24471
28. Boumaaize Z., El Madhi Y., Darif H., Soulaymani A., Vonthron A. M., El Wahbi B., et al. Validation of academic burnout scale among Moroccan trainee teachers. In: *E3S Web of Conferences*. 2021;319(3):02026. doi:10.1051/e3sconf/202131902026
29. Schaufeli W.B., Bakker A.B., Van Rhenen W. How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*. 2009;30:893–917. doi:10.1002/job.595
30. Qiu S., Qiu J., Xu J., Wang L. Effective emotion regulation and positive psychological capital as coping strategies to alleviate teacher burnout: a narrative review. *Frontiers in Psychology*. 2025;16:1639037. doi:10.3389/fpsyg.2025.1639037
31. Schürch V., Doudin P.A. Le risque de burnout chez les étudiants à l'enseignement. In: Etienne A.-M., Bragard I., eds. *Évolutions sociales, innovations et politiques: Nouveaux enjeux en psychologie de la santé*. Paris: Éditions des archives contemporaines; 2026:111–114. (In French) Accessed November 29, 2025. [https://www.researchgate.net/publication/312496117\\_Le\\_risque\\_de\\_burnout\\_chez\\_les\\_etudiants\\_a\\_l'enseignement](https://www.researchgate.net/publication/312496117_Le_risque_de_burnout_chez_les_etudiants_a_l'enseignement)

32. Freire C., Ferradás M.d.M., Regueiro B., Rodríguez S. Coping strategies and self-efficacy in university students: a person-centered approach. *Frontiers in Psychology*. 2020;11:841. doi:10.3389/fpsyg.2020.00841
33. Valls M. Les processus de coping et leur association avec l'auto-efficacité perçue chez des enseignants de suisse romande : résultats d'une étude préliminaire. *Psychologie Française*. 2019;64(1):19–31. (In French) doi:10.1016/j.psfr.2018.03.001
34. Taylor S.G., Roberts A.M., Zarrett N. A brief mindfulness-based intervention (bMBI) to reduce teacher stress and burnout. *Teaching and Teacher Education*. 2021;100:103284. doi:10.1016/j.tate.2021.103284
35. Bouhaba A., El Madhi Y., Soulaymani A., Hami H. Academic burnout among trainee teachers during the COVID-19 pandemic: effect of sociodemographic factors. *Journal of Education and Health Promotion*. 2022;11(1):204. doi:10.4103/jehp.jehp\_1522\_21
36. Guider H., Hadrya F., Lafraxo M.A., El Madhi Y., Soulaymani A., Mokhtari A., et al. Teaching under pressure: assessing burnout among high school teachers. *Pan African Medical Journal*. 2024;48(1). Accessed November 29, 2025. <https://www.panafrican-med-journal.com/content/article/48/78/full/>
37. Azouaghe S., Kouabenan D.R., Belhaj A. Psychological health at work of Moroccan teachers: a qualitative study. *International Perspectives in Psychology: Research, Practice, Consultation*. 2025. doi:10.1027/2157-3891/a000117
38. García-Carmona M., Marenco-Escuderos C., Hidalgo-Rasmussen C. Burnout syndrome in university students: an exploratory study. *Universitas Psychologica*. 2019;18(2):1–9. doi:10.14483/udistrital.jour.univ.psychologia.2019.2.a1
39. Gonçalves A.M., Casillas S. Emotional exhaustion and cynicism in student teachers: Prevalence and correlates in a Swiss context. *Teaching and Teacher Education*. 2019;85:115–125. doi:10.1016/j.tate.2019.06.002
40. Gustems-Carnicer J., Calderón C., Calderón-Garrido D. Stress, coping strategies and academic achievement in teacher education students. *European Journal of Teacher Education*. 2019;42(3):375–390. doi:10.1080/02619768.2019.1616130
41. Emeljanovas A., Sabaliauskas S., Mežienė B., Istomina N. The relationships between teachers' emotional health and stress coping. *Frontiers in Psychology*. 2023;14:1276431. doi:10.3389/fpsyg.2023.1276431
42. Taylor S.G., Roberts A.M., Zarrett N. A brief mindfulness-based intervention (bMBI) to reduce teacher stress and burnout. *Teaching and Teacher Education*. 2021;100:103284. doi:10.1016/j.tate.2021.103284

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