

STUDIES OF STRESS AND BURNOUT AMONG TEACHERS: EPIDEMIOLOGICAL PROFILE AND RISK FACTORS

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Abstract- Burn-out is a state of extreme fatigue that can affect people from all walks of life, including teachers. This profession demands a high level of commitment in terms of the effort and responsibility associated with their duties. Our study aims to assess professional burnout and identify certain risk factors for this syndrome among teachers. The study conducted in public schools in Benslimane region, in middle of Morocco. and it concerned 60 teachers, 30 in high school and 30 in intermediate schools, 44 are male (73.33%) and 16 cases of female (26.67%). Results: The results indicate that 5% of individuals exhibit high levels of emotional exhaustion, high depersonalization, and low personal accomplishment, which is considered pathological. However, socio-economic and socio-demographic factors tend to be the major risk factors for burnout. In this critical situation, the competent authorities must step up their efforts to detect and address this syndrome.

Keywords: Burnout, Risk Factor, Prevalence, Teachers, Benslimane.

1. INTRODUCTION

Stress is a natural response to demands and pressures. It plays a crucial role in the optimal functioning of the body [1]. Teacher stress defined by Kyriacou as "the experience by a teacher of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression, resulting from aspects of work as a teacher" [2]. However, professional burnout is considered one of the most serious consequences of occupational stress [3]. It is characterized by a diverse range of symptoms centered around three major components: emotional exhaustion, depersonalization, and reduced personal accomplishment. In fact, the more disrupted the relationship between the individual and the work environment, the higher the risk of professional burnout [4].

Additionally, occupational stress can be a major cause of psychosomatic and cardiovascular diseases. Work-related stress is influenced by organizational, professional, and/or personal factors [5]. Teachers are faced with a range of constraints and difficulties that can

lead to stress and exhaustion, such as the lack of teaching aids, the teaching of scientific concepts, the use of the scientific approach, lack of time, adapting subject content to the cognitive level of learners, and identifying and correcting misrepresentations, particularly in scientific subjects [6].

These constraints can have a negative impact on teachers' physical and mental health, and can lead to a drop in motivation and professional effectiveness. When teachers experience well-being issues, including symptoms of burnout, they are more likely to have conflicted relationships with their students, becoming irritated when students do not follow instructions. and develop a negative opinion towards them. These factors will likely impact learner experience and outcomes [7]. In Morocco, research on this subject is limited and the assessment of burnout and stress among secondary school teachers in the province of Benslimane is non-existent. Consequently, our study aims to assess the prevalence of burnout and stress among these teachers and to identify the factors associated with these psychological behaviors.

2. MATERIALS AND METHODS

2.1. The Population and Study Area

The participants in this study are 60 teachers working in secondary education.

2.2. Procedures and Scales

We distributed a questionnaire detailing the characteristics of the sample (such as socio-demographic data and lifestyle habits) to teachers of different subjects. This questionnaire also included the perceived stress test and the Maslach burnout inventor. A meeting was organized with the teachers to explain the aims of our study and its importance. We also discussed ethical issues, in particular the voluntary and anonymous nature of the survey.

2.3. Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI) is a tool used to assess teacher burnout [12]. It consists of 22 items in

three dimensions: emotional exhaustion (EE) assessed using nine items, dehumanization of the relationship (DR) or 'depersonalization' (DP) assessed using five items, and personal fulfilment (PA) assessed using eight items. Each item is rated on a scale of 0 to 6. A high level of exhaustion is indicated by high scores on the EE and DP subscales, combined with a low score on the PA subscale. Conversely, a low level of exhaustion is characterized by low scores on the EE and DP subscales, and a high score on the PA subscale [13, 14]. The score calculated on the items of each dimension deduced by adding the results obtained for each respondent.

2.4. Perceived Stress Scale

The PSS is very often used as a psychological instrument to assess how individuals perceive stress. It measures the degree to which situations in a person's life are considered stressful. This scale asks several direct questions about the levels of stress currently experienced. The questions ask about thoughts and feelings experienced over the previous month. In each case, respondents are asked to indicate how often they felt a certain way [14].

2.5. Statistic Tools

The data were entered in excel and after filtration were exported on SPSS. Qualitative characteristics are expressed in frequency and quantitative characteristics expressed in averages plus at least standard deviation, the tests applied are khi-2 and ANOVA one way.

3. RESULTS

3.1. Socio-Demographic Characteristics of Teachers

The study was carried out on people aged between 24 and 59 working in secondary schools in the province of Benslimane, Morocco. Our study carried out on 60 teachers, 50% of whom are in high school (44 male and 16 female). The average age of the teachers participating in the study was 36.27 ± 1.17 years (minimum = 24 years and maximum = 60 years). 61.7% ($n = 37$) are married. The distribution of teachers according to seniority in the post shows that 53.3% ($n = 32$) work between 5 and 15 years and 28.3% ($n = 17$) under 5 years. Regarding the educational level attained, 68.3% ($n = 41$) have a bachelor's level.

3.2. Scale MBI (Maslach Burn out Inventory): Precision and Reliability Measured by Cronbach's Alpha (0.88)

3.2.1. Study of Emotional Exhaustion Dimension

The average score was 28.42 ± 1.29 points, the distribution of scores was symmetrical with a flattening coefficient of 0.02 and an asymmetry coefficient of -0.72. Indeed, 48.3% ($n = 29$) of these participants are in a high state of emotional exhaustion, 33.3% have a moderate degree and 18.3% ($n = 11$) are in a weak or no stated emotional exhaustion.

3.2.2. Study of the Depersonalization Dimension

The average score is 9.23 ± 0.86 points. The distribution of scores was symmetrical with an

asymmetry coefficient of 0.39. Indeed, 43.3% ($n = 26$) of respondents are in a high state of depersonalization, 18.3% have a moderate degree and 38.3% ($n = 23$) are in a weak or no state of depersonalization.

3.2.3. Study of the Accomplishment Dimension

The average score is 34.02 ± 0.93 points, the distribution of scores was symmetrical with an asymmetry coefficient of -0.63 and a kurtosis coefficient of 0.84. Indeed, 41% ($n = 25$) of these respondents are in a high state of accomplishment, 36.7% are in a moderate degree and 21.7% ($n = 13$) are in a low state of accomplishment.

3.2.4. Global Analysis of the Three Dimensions of Burnout

The two-to-two correlation results show that emotional exhaustion and depersonalization positively correlated with each other and these two factors negatively correlated with achievement. Indeed, 29 respondents showed a high degree of emotional exhaustion, 3 teachers had a high degree of depersonalization and a low degree of achievement which represents a prevalence of 5% as Table 1.

Table 1. Two to two correlations of the three dimensions

	EE	DP	PA
EE	1	0.280*	-0.253
DP		0.030	0.051
PA		1	-0.041
			0.754
			1

EE: professional exhaustion; DP: depersonalization, PA: Personal Accomplishment, *: significant difference

3.2.5. Study of the Link between the Dimensions of Burnout and Certain Socio-Demographic Factors

Analysis of our results allows us to retain the variables indicated below which show a significant association with exhaustion (Table 2).

- The chi-square test revealed a strong association between the means of transport and the state of exhaustion (chi-square = 9.14; $p < 0.05$). Indeed, the high rate of exposure to this behavior among those who choose a means of transport, taxi, car or on foot is respectively 31.58%; 40% and 71.43%. So, we can say that emotional exhaustion is very noticeable among teachers who walk to the workplace
- The work climate factor has been shown to be strongly associated with the two dimensions emotional exhaustion and depersonalization with a chi-square of 15.80 ($p < 0.000$) and 5.16 ($p < 0.05$) respectively. The 65% of teachers who say the work climate is unfavorable are in a state of high exhaustion and 45% are depersonalized.
- As for the relationship between the director and the SPE state, the chi-square test confirms this connection. Indeed, 76.19% who say they have misunderstandings with the manager are in a very high state of exhaustion. The lack of teaching aids is also a factor triggering exhaustion. However, 23 out of 37 teachers who said yes are in a high level of burnout. The practice of sport represents a factor of distraction and therefore of relief. Indeed, 11 out of 33 have a high level of exhaustion.

Table 2. The link between the category of exhaustion and certain socioeconomic and demographic factors

	Variable	Modality	Low	Moderate	High	Total	Khi2 (p value)
EE	Means of transport	Taxi	4	9	6	19	9.14 (0.05) *
		Car	6	6	8	20	
		Walk	1	5	15	21	
EE	Relationship with the director	Very good	0	2	0	2	15.78 (0.003) **
		Good	11	13	13	37	
		Not at all	0	5	16	21	
EE	Work Atmosphere	Favorable	8	9	3	20	15.80 (0.000) ***
		Unfavorable	3	11	26	40	
DP	Work Atmosphere	Favorable	11	1	8	20	5.16 (0.05) *
		Unfavorable	12	10	18	40	
EE	Communication	No	10	19	17	46	10.28 (0.006) **
		Yes	1	1	12	14	
EE	Didactic-means	No	8	9	6	23	9.70 (0.008) **
		Yes	3	11	23	37	
EE	Sport	No	3	6	18	27	6.63 (0.032) *
		Yes	8	14	11	33	
	Total	11	20	29	60		

EE: professional exhaustion; DP: depersonalization, *: significant difference; **: highly significant difference; ***: very highly significant difference

3.3. Study of Stress Among the Teachers Surveyed

This scale adapted from Cohen and Williamson is one of the most widely used to assess the perception of stress. Its 10 items allow you to quickly and easily measure the importance with which life situations are perceived as threatening. The breakdown of teachers surveyed according to stress level shows out of 60 respondents 30 have already suffered from a high level of stress, 21 out of 60 people suffer from it moderately and only 9 teachers report having no signs of perceived stress. Correlation results show that stress, emotional exhaustion, and depersonalization are positively and negatively associated with achievement (Table 3).

Table 3. Multiple correlation between dimensions of burnout and perceived stress

Burn out	stress	p value
SEP	0.54	p<0.05*
SD	0.31	p<0.05*
SAP	-0.33	p<0.05*

4. DISCUSSION

The objective of this study, which aims to assess perceived stress and burnout among secondary school teachers, is to determine the risk factors for these syndromes among teachers. In addition, the results concerning professional burnout are still very relevant, given the rates displayed in the three dimensions, recalling that the rate of emotional exhaustion 48.3% reached, while for depersonalization 43.3% is from and at the end, the frequency of teachings with low achievement is 21.7%. Combining these three factors, 5% of teachers considered pathological, so they must monitor. In parallel to these results, numerous studies around the world show that a significant proportion of teachers in many countries affected by this phenomenon [16-19].

Several studies provide illuminating statistics on the importance of the problem of teacher burnout and its consequences for the world of education. Comparing these studies, we see a large variation in the percentage of exhausted teachers. According to [20], these variations explained by the fact that, in several studies, the concepts

of stress and burnout were considered too synonymous. Likewise, this researcher adds that these multiple studies do not use the same definition of burnout, which may partly explain the differences between the proportions of exhausted teachers [21]. On the other hand, we have shown that certain factors can influence and promote burnout. One cites, for example, Means of transport, Relationship with the director, Favorable working climate, communication, Didactic means.

A strong correlation has shown between exhaustion and stress. This situation is discussed by [12], he concludes that teacher stress and burnout affect and will continue to affect the entire school community, namely teachers themselves and their families, teachers and students and their families and ultimately a large part of civil society. He adds that without an adequate understanding of the nature of the teachers' task and without a period of revalorization of this profession, the latter will continue to wear out prematurely to accomplish their mission in the classroom, a mission more and more difficult to achieve.

In this context, a study was conducted among physical education teachers in Beni Mellal - Khenifra, using an adapted version of the Maslach Burnout Inventory. The study involved 102 teachers. The results show that 47% of teachers suffer from a high degree of depersonalization, while 30% experience high emotional exhaustion. Furthermore, 40% report a low level of personal accomplishment. The study also confirms, similarly to our results, that there is no link between gender and the level of professional burnout. However, the study shows the existence of a link between the combined variable of grade/position and the occurrence of burnout among teachers [23].

On the other hand, a study aims to assess professional burnout and job satisfaction among Moroccan primary school teachers. The study also seeks to explore possible correlations among 404 teachers in a small town (El Kalaa of Sraghna). The results of the study confirmed the bio dimensionality of the burnout measurement scale,

namely depersonalization and emotional exhaustion. A negative correlation was revealed between teacher self-efficacy and job satisfaction, on one hand, and the two dimensions of professional burnout, namely emotional exhaustion and depersonalization [24]. A cross-sectional survey conducted among teachers working in public high schools in the Manouba governorate in Tunisia revealed that 66.4% of them reported being stressed at work. The main causes of stress were working conditions 80.3%, workload 75.2%, and administrative difficulties 70.4%. Furthermore, the burnout syndrome was observed in 21% of these teachers. Severe professional burnout was observed in 4.6% of cases, high emotional exhaustion in 27.4% of cases, and high depersonalization in 16.1% of participants. Moreover, 45.5% of them were likely to have reduced personal accomplishment. The majority of teachers 66.4% reported being stressed at work [25].

A study conducted among secondary school teachers in Rabat (Morocco) revealed that the frequency of stressful events leads to emotional exhaustion and depersonalization in their relationship with students. In addition to significant conflicts with students or hierarchy, the lack of accomplishment and loss of empathy that result are reinforced by the failure to use problem-solving strategies [26]. Another Study conducted by Belinda Agyapong aimed to determine the extent of literature on the prevalence and correlates of stress and burnout among teachers in Canada.

The findings showed that the prevalence of burnout ranged from 25.12% to 74%, while stress varied from 8.3% to 87.1%. Socio-demographic factors such as gender, age, marital status, and school organization, as well as work-related factors including years of teaching, class size job satisfaction, and subject taught, were identified as correlates of stress, burnout, anxiety and depression in this review [27]. A cohort study (2010-2014) of 310 Swedish teachers found that the frequency of burnout was high, ranging from 14% to 15%. According to this study, the strongest explanatory variables for burnout were a combination of low self-efficacy and high job demands. Even after adjusting for burnout, low self-efficacy remained the most significant contributing factor. Increased job demands during the follow-up period were associated with higher levels of burnout, while increased decision latitude was associated with a decrease in burnout levels [28].

In a study by Emma Guillet-Descas (2019), it was found that French women are more likely to suffer from burnout than Swiss teachers or French teachers. Additionally, male physical education teachers appear to have a lower likelihood of suffering from burnout than other teachers, particularly females. These results indicate that the risk of burnout varies depending on individual factors, such as gender and motivation, as well as contextual factors, such as the subject taught [29].

Despite the limitations of this research, which are primarily related to the scarcity of studies on the professional experience of teachers, burnout, and the health and well-being of teachers in Morocco, it paves the way for future research and the possibility of intervening

in schools by providing teachers with techniques and skills to manage their professional experience. It also adopts more effective approaches to support the most vulnerable teachers. It is important to optimize teachers' adaptation strategies in order to reduce professional stress and burnout, focusing not only on strengthening teachers' skills to cope with sources of burnout but also on improving the functioning of the school institution.

5. CONCLUSIONS

Teachers are exposed to many risk factors for burnout and stress, including high workloads, high performance expectations, complex interactions with students and parents, and a lack of administrative and institutional support. Studies have shown that these risk factors can adversely affect teachers' mental and physical health, as well as their job satisfaction and performance. It is therefore essential that schools and education authorities take steps to mitigate these risk factors and foster a healthy working environment conducive to teachers' well-being. On a personal level, teachers can use strategies to manage stress and emotional exhaustion, such as relaxation, time management and problem-solving techniques. On an organizational level, schools can reduce teachers' workloads, improve their relationships within the school community and provide them with resources and support. They can also improve teachers' working conditions by increasing salaries, reducing staff numbers and implementing training and support programmes. Preventing burnout and stress among teachers is essential for their health and well-being, as well as for maintaining the quality of teaching.

• Competing Interests:

No conflicts of interest

No funding

All authors agree

• What is Already Known on this Subject?

According to the bibliography, the prevalence of teachers is very high in Morocco

• What this Study Adds:

Teachers suffer burnout due to several factors are in a state of stress.

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