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Impact of emotional intelligence on academic burnout among master students in pedagogy of nursing sciences and health techniques in Morocco, 2019: A cross-sectional study

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Abstract:

BACKGROUND: Burnout is spreading to the student population and becoming a threat of global concern. The aim of our research is to determine the prevalence and socio-demographic factors associated with the academic burnout of master students in the Pedagogy of Nursing and Health Technology in Morocco and to discover the impact of these students' emotional intelligence on their academic burnout.

MATERIALS AND METHOD: This is a descriptive, cross-sectional analytical study conducted among students in the Pedagogy of Nursing and Health Technology in Morocco out of a total of 108 students of different ages and genders. A questionnaire is used for the collection of data pertaining to students. For each dependent variable, a bivariate analysis was conducted, and the independent variables associated with it were included in a multivariate model.

RESULTS: The prevalence of academic burnout is estimated at 36.1% among the studied populations (exhaustion 19.4%, cynicism 21.3%, and reduced efficacy 2.8%). 53.7% of students have a high level of emotional intelligence. Multivariate analysis showed that exhaustion is significantly associated with gender (aOR = 3.4, 95% CI = 1.0-11.7, *P* = 0.04), age (aOR = 0.2, 95% CI = 0.0-0.8, *P* = 0.02) and cynicism was associated with sports activity (aOR = 2.9, 95% CI = 1.0-8.1, *P* = 0.038). The emotional intelligence is independent predictor of exhaustion, but it has a positive impact on cynicism (aOR = 1.05, 95% CI = 1.0-1.09, *P* = 0,027) and a negative impact on reduced efficacy (aOR = 0.8, 95% CI = 0.6-0.9, *P* = 0.01).

CONCLUSION: The results of this study uncover the prevalence of the phenomenon of burnout among students and the importance of integrating emotional education into health training.

Keywords:

Academic burnout, emotional intelligence, impact, student

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Introduction

During their training, university students are exposed to several risks that can hinder their development and prevent them from acquiring the skills necessary to practice their future profession. Indeed, the students are subjected to many constraints: the burden of studies and examinations, the pressure to succeed, and economic difficulties. They are under perpetual stress, which weakens their psychological life and makes them easy prey to exhaustion.[1]

Nursing students are considered to be the future teacher of nursing students.

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His or her good health, both physical and mental, is a fundamental element in ensuring the strength of the nursing profession in general. In other words, an exhausted, psychologically unhealthy teacher is a burden and also a threat. This work focuses on an important issue associated with student psychological health, namely, academic exhaustion or student burnout, and the question that arises is directly related to what influences the vulnerability or resistance of university students to academic exhaustion despite similar circumstances. The ability to adapt to work pressures can be influenced by individual factors such as self-efficacy at work,[2] personality,[3] and emotional intelligence.[4] The field of studies concerning emotions has been very interested in the educational context, in this case, the impact of the emotional intelligence variable on the adaptation to school and academic success.[5] In addition, a huge part of the student's psychological life is dominated by emotions that strongly impact his academic motivation and his mobilized cognitive strategies.[6] Moreover, burnout is a personal phenomenon that includes a negative emotional experience and is based on a non-interruptive emotion.[7] This shows that the concept of emotional intelligence can be a determining factor in burnout syndrome.

This study aims to discover the prevalence of academic burnout of master students in the Pedagogy of Nursing and Health Technology in Morocco and to determine the impact of these students' emotional intelligence on their academic burnout.

The specific objectives include discovering the socio-demographic factors influencing the student's burnout.

Materials and Methods

Study design

A cross-sectional study was conducted to determine the prevalence of the academic burnout of master students in the Pedagogy of Nursing and Health Technology in Morocco and to determine the impact of these students' emotional intelligence on their academic burnout.

Study setting and population

The institutes (mothers) of nursing professions and health techniques in Morocco have about 140 students in master's degree courses distributed among seven structures: Rabat, Tetouan, Casablanca, Agadir, Fez, Marrakech, and Oujda. The vast majority of this population has already confronted the professional environment, and it includes almost all nursing specialties combined. Field data were collected from February to July 2019.

Variables

Academic burnout is the dependent variable, which includes three symptoms such as exhaustion (EX), cynicism (CY), and efficacy (EF), and it was defined as having high scores on EX and/or CY and/or low scores on EF. The independent variables are emotional intelligence score with higher scores indicating higher emotional intelligence and socio-demographic factors: gender, age, marital status, parenthood, morbidity, residence in the study setting, sports activity, smoking, and alcohol consumption. We considered possible confounders in our analysis.

Data resource and measurement

Data collection

Socio-demographic variables such as gender, age, and marital status were collected. For the independent variable, emotional intelligence score of the participants in the study was evaluated using the Schutte Self-Report Inventory (SSRI), also known as the Schutte Self-Report Emotional Intelligence (SSREI) scale proposed by Ref.[8] It includes both intra-personal and interpersonal aspects. It is a 33-item self-report scale that assesses the extent to which participants identify, understand, manage, and regulate their own and others' emotions (items 5, 28, and 33 are scored in the reverse order). Respondents rate themselves on the items using a five-point scale. Total scores can range from 33 to 165 with higher scores indicating higher emotional intelligence. To measure academic burnout, the student-specific Maslach Burnout Inventory-Student Survey (MBI-SS) was used.[9] The MBI-SS consists of 15 items, 5 items for exhaustion (EX) related to the increased fatigue caused by the pressures and stresses of study, 4 items for cynicism (CY) refers to the development of detached, negative attitudes toward colleagues and studies, and 6 items to appreciate efficacy (EF). All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always). (All efficacy items are reverse scored, which is denoted by reduced efficacy (REF).) The interpretation of the degree of severity of academic burnout remains at the discretion of the researcher since there is no scale for global burnout. In our study, we consider high scores on EX and/or CY and/or low scores on EF to be indicative of burnout.

The data were collected through questionnaire, which was pre-tested using sample size of 5% from the total population, and it was developed by using a tool from the Google office suite (a lighter equivalent of Microsoft office), which is the Google forms in order to remedy the inaccessibility of our target population spread over the territory of the kingdom. Subsequently, the link to the questionnaire was sent via email to the master students asking them to fill it in.

Study size

Since we are dealing with a more or less restricted population, we opted for an exhaustive census of all master students in the Pedagogy of Nursing and Health Technology in Morocco.

Data analysis

Statistical analysis was performed using SPSS, Version 25 (Statistical Package for the Social Sciences). The dependent variables were the symptoms of academic burnout: exhaustion, cynicism, and reduced efficacy. The independent variables included socio-demographic factors and emotional intelligence score. We used univariate analysis to measure the association between the independent variables and the dependent variables. For each dependent variable, a bivariate analysis is performed first with the independent variables, and only those independent variables with a significant association $P < 0.05$ are considered in the multivariate model. Depending on the nature of our variables, we opted for multivariate logistic regression analysis, using a backward stepwise approach to select variables in order to build the best model. We started with a complete model that included all potential predictor variables with $P < 0.05$. We then evaluated the significance of each predictor variable and removed the variables with $P < 0.05$. The best multivariate model was selected, and independent variables with less than $P < 0.05$ were considered as statistically associated with dependent variable.

Ethical considerations

This study was approved by the High Institute of Nursing and Health Techniques-Fez Ethical Committee as part of the Master's final year project. All participants were asked to give informed consent and sign a consent form before participating in the study. Our study adhered to the principles of informed consent and guaranteed anonymity. No personally identifiable information was collected, and confidentiality was ensured. The electronic data have been stored in a password-protected computer.

Results

Descriptive analysis

We counted a total of 140 students, 108 students responded to this survey, which gives us a response rate of 77%. A predominance of women with 66 women (61%) and 42 men (39%). The average age of our sample was 33 years. The majority of our students were married with a rate of 66.7%, and those singles represented a rate of 33.3%. 66.7% of the students live in the same place of study, while 33.3% do not live in the same city where they study. 47 or 43.5% do not have children. 26.9% of the respondents suffer from illnesses, while the rest have no illnesses. The exercise of sports activity represents 25% of our population. Regarding the results of risk behaviors, only four persons smoked and three people drank alcohol among the participants [Table 1].

The results of the MBI-SS scale showed high to moderate levels of exhaustion are being experienced by 89.8% of the surveyed students, noting that this dimension is the most central and most predictive of burnout. The degree of cynicism is qualified from moderate to high in 94% of the surveyed students. In the third and last symptoms, the survey revealed that it is high in 31 students (28.7%) and low in 3 students (2.8%), Thus, the degree of academic burnout among master students at the High Institute of Nursing and Health Techniques of Morocco is qualified from moderate to high [Table 2].

With the results, 36.1% of the students have a pathological level with at least one pathological symptom (high level) of burnout against 63.9% who do not have any pathological symptoms. Regarding the emotional intelligence score, fifty-eight (58) participants (53.7%) have high emotional intelligence scores, while 50 students (46.3%) have below-average emotional intelligence.

Bivariate analysis

Concerning the first symptom of burnout, which is emotional exhaustion, we note that women were 3.2

Table 1: Socio-demographic characteristics of students (*n*=108)

Socio-demographic variable	*n* (108)	Percentage
Gender		
Men	42	38.9
women	66	61.1
Age		
<33 years	49	45.4
≥33 years	59	54.6
Marital status		
Single	36	33.6
Married	72	66.7
Parenthood		
No	47	43.7
Yes	61	56.5
Morbidity		
No	79	73.1
Yes	29	26.9
Residence in the study setting		
Yes	72	66.7
No	36	33.3
Sports activity		
No	81	75
Yes	27	25
Smoking		
No	104	96.3
Yes	4	3.7
Alcohol		
No	105	97.2
Yes	3	2.8

more likely to develop exhaustion than man (OR = 3.2, 95% CI = 1.0-10.6, *P* = 0.038). Students under 33 years old were less likely to get exhaustion than students over 33 years (OR = 0.2, 95% CI = 0.0-0.7, *P* = 0.008). Single persons were less likely to suffer from exhaustion than married people (OR = 0.3, 95% CI = 0.1-0.9, *P* = 0.039) [Table 3]. For cynicism, the second dependent variable, students who played sports are 3.0 more likely to get cynicism than those who do not (OR = 3.0, 95% CI = 1.1-8.2, *P* = 0.02). Students with high emotional intelligence scores are 1.05 more likely to develop cynicism than those with low emotional intelligence scores (OR = 1.05, 95% CI = 1.0-1.1, *P* = 0,004) [Table 3-1]. On reduced efficacy, students with high emotional intelligence scores are less likely to have a reduced efficacy than those with low emotional intelligence scores (OR = 0.8, 95% CI = 0.6-0.9, *P* = 0.01) [Table 3-2].

Multivariate analysis

For each dependent variable, all independent variables that were significant in the bivariate analysis were introduced into the multivariate analysis. For the first logistic regression model, two variables were found to be statistically associated with exhaustion; woman were 3.4 more likely to develop exhaustion than man (aOR = 3.4, 95% CI = 1.0-11.7, *P* = 0.04). Students under 33 years old were less likely to get exhaustion than students over 33 years (aOR = 0.2, 95% CI = 0.0-0.8, *P* = 0.02) [Table 4]. Concerning the second multivariate model, two variables were statistically associated with cynicism; students who practice sports activity are 2.9 more likely to get cynicism than those who do not (aOR = 2.9, 95% CI = 1.0-8.1, *P* = 0.038). Students with high emotional intelligence scores are 1.05 more likely to develop cynicism than those with low emotional intelligence scores (aOR = 1.05, 95% CI = 1.0-1.09, *P* = 0,027) [Table 4]. The bivariate analysis revealed that only one variable was significantly associated with the third dependent variable, reduced efficacy, so we relied on the results of the simple logistic regression (aOR = 0.8, 95% CI = 0.6-0.9, *P* = 0.01) [Table 4].

Discussion

The prevalence of academic burnout at the level of the study population is 36.1%. This proportion is very high compared to the prevalence of academic burnout among university students in France in Nantes at 5%.[1] However, this prevalence remains lower if compared to the prevalence of burnout of medical students in specialization in Senegal, which reaches 91.9%,[10] and to the prevalence of burnout of medical students in Rabat at 44%.[11] Another survey on interruptions in nursing training in Ile de France reveals that burnout affects 39.3% of students.[12] Data from the Anglo-Saxon literature reveal variable rates of student burnout ranging from 10% in a cross-sectional study of medical students at Vanderbilt University in the USA,[13] to 45% in another multicenter study conducted in 2006 in three Minnesota medical schools.[14]

Table 2: Distribution of students according to their levels of academic burnout (*n*=108)

Burnout symptoms	*n* (108)	Percentage
Exhaustion		
Low	11	10.2
Moderate	76	70.4
High	21	19.4
Cynicism		
Low	7	6.5
Moderate	78	72.2
High	23	21.3
Efficacy		
Low	3	2.8
Moderate	74	68.5
High	31	28.7

Table 3: Bivariate analysis for socio-demographic factors and emotional intelligence score in relation to exhaustion. (*n*=108)

Variable	Exhaustion		OR	95% C.I	*P*
	No	Yes			
Gender					
Man	38	4	Ref		
women	49	17	3.2	1.0-10.6	0.038
Age					
<33 years	34	15	Ref		
≥33 years	53	6	0.2	0.0-0.7	0.008
Marital status					
Single	25	11	Ref		
Married	62	10	0.3	0.1-0.9	0.039
Parenthood					
No	35	12	Ref		
Yes	52	9	0.5	0.1-1.3	0.16
Morbidity					
No	66	13	Ref		
Yes	21	8	1.9	0.7-5.3	0.19
Reside in the study setting					
No	30	6	Ref		
Yes	57	15	1.3	0.4-3.7	0.60
Sports activity					
No	64	17	Ref		
Yes	23	4	0.6	0.1-2.1	0.48
Smoking					
No	84	20	Ref		
Yes	3	1	1.4	0.1-14.1	0.7
Alcohol					
No	85	20	Ref		
Yes	2	1	2.1	0.1-24.6	0.53
EI score Mean (SD)	128.2 (12.07)	126.6 (13.5)	0.9	0.9-1.0	0.8

Table 3-1: Bivariate analysis for socio-demographic factors and emotional intelligence score in relation to cynicism. (*n*=108)

Variable	Cynicism		OR	95% C.I	*P*
	No	Yes			
Gender					
Man	35	7	Ref		
women	50	16	1.6	0.5-4.2	0.34
Age					
<33 years	40	9	Ref		
≥33 years	45	14	1.38	0.5-3.5	0.49
Marital status					
No	28	8	Ref		
Yes	57	15	0.9	0.3-2.4	0.86
Parenthood					
No	38	9	Ref		
Yes	47	14	1.2	0.6-2.0	0.36
Morbidity					
No	62	17	Ref		
Yes	23	6	0.9	0.3-2.7	0.92
Reside in the study setting					
No	31	5	Ref		
Yes	54	18	2.0	0.6-6.1	0.18
Sports activity					
No	68	13	Ref		
Yes	17	10	3.0	1.1-8.2	0.02
Smoking					
No	84	22	Ref		
Yes	3	1	1.2	0.1-12.5	0.8
Alcohol					
No	83	22	Ref		
Yes	2	1	1.8	0.1-21.7	0.6
EI score Mean (SD)	126.4 (12.1)	133.3 (11.6)	1.05	1.0-1.1	0.004

Table 3-2: Bivariate analysis for socio-demographic factors and emotional intelligence score in relation to reduced efficacy. (*n*=108)

Variable	Reduced efficacy		OR	95% C.I	*P*
	No	Yes			
Gender					
Men	41	1	Ref		
Women	64	2	1.2	0.1-14.5	1.0
Age					
<33 years	48	1	Ref		
≥33 years	57	2	1.6	0.1-19.4	1.0
Marital status					
No	34	2	Ref		
Yes	71	1	0.23	0.0-2.7	0.2
Parenthood					
No	45	2	Ref		
Yes	60	1	0.3	0.0-4.2	0.5
Morbidity					
No	77	2	Ref		
Yes	28	1	1.3	0.1-15.7	1.0
Reside in the study setting					
No	36	0	Ref		
Yes	69	3	0.6	0.5-0.7	0.5
Sports activity					
No	79	2	Ref		
Yes	26	1	1.5	0.1-17.4	1.0
Smoking					
No	102	2	Ref		
Yes	3	1	17.0	1.1-243.2	0.1
Alcohol					
No	102	3	Ref		
Yes	3	0	0.9	0.9-1.0	0.9
EI score Mean (SD)	128.6 (11.4)	101.6 (13.42)	0.8	0.6-0.9	0.01

This difference in prevalence is due to the methodological measures followed in each study, but it is also due to the personal, environmental, and cultural specificities of each study population. Concerning the evaluation of the symptoms of burnout, the results of our study show that moderate to severe levels of exhaustion represent 89.8%. During a survey among dental surgery students, they noted that 54.8% have a moderate to high score.[15] and in Dakar, Senegal medical students during specialization presented a high score of exhaustion at 64%.[10] The dimension of exhaustion remains the central and most predictive dimension, which is why a significant proportion of the high score of this dimension clearly reflects the presence of burnout. For cynicism, 21.3% of the students present a high level, while 72.2% have a moderate level, and with regard to efficacy, only 2.8% of the students present a low level. These results corroborate the theory of burnout syndrome, which, according to Maslach, begins with the appearance of emotional exhaustion associated with cynicism as a defense that both lead to the decline in efficacy. The degree of academic burnout among our students is qualified from moderate to high, which agrees with the results of the study of Erbil *et al*.,[7] as well as those of Debec-Pucelle.[15]

For the distribution of burnt-out cases according to socio-demographic characteristics, analysis of the data collected showed a significant correlation between exhaustion and gender (P = 0.04). 3.70% of the men presented exhaustion against 15.74% of women. This finding is consistent with the study of Kilic who found that women are the most exposed to burnout.[16] Another study confirms this relation between gender and burnout.[17] This is probably because of their physical and emotional vulnerability or one of the aspects of the feminization of the profession. However, several studies do not show any correlation between exhaustion and gender.[10,15]

The risk of developing burnout is also associated with age (P = 0.02), a young age is a risk factor for developing

Table 4: Multivariate logistic regression for risk factors associated to academic burnout symptoms (*n*=108)

Variable	Exhaustion		a OR	95% C.I	*P*
	No	Yes			
Gender					
Men	38	4	Ref		
Women	49	17	3.4	1.0-11.7	0.04
Age					
<33 years	34	15	Ref		
≥33 years	53	6	0.2	0.0-0.8	0.02
Marital status					
Single	25	11	Ref		
Married	62	10	0.5	0.1-1.5	0.23
Variable	**Cynicism**		**a OR**	**95% C.I**	***P***
	No	**Yes**			
Sports activity					
No	64	17	Ref		
Yes	23	4	2.9	1.0-8.1	0.038
EI Mean (SD)	126.4 (12.1)	133.3 (11.6)	1.05	1.0-1.09	0.027
Variable	**Reduced efficacy**		**a OR**	**95% C.I**	***P***
	No	**Yes**			
EI Mean (SD)	128.6 (11.4)	101.6 (13.4)	0.8	0.6-0.9	0.01

exhaustion, and these observations are consistent with those of Wiertz[18] who indicate an absence of progression of burnout with age is found, in other words, the absence of high rates with a later age. In another study, young age is found to be a risk factor for exhaustion,[19] while Bugel[20] notes that people aged between 40 and 50 would be more at risk. To explain our results, we can suggest: the rethinking of expectations, a decrease in commitment, the progressive reinforcement of skills, and the acquisition of more effective ways to cope.

Although an association has been observed between marital status and academic burnout, this association is not statistically significant. Our findings are inconsistent with the results of a study of burnout syndrome among specialization students at the Dakar University Hospital Centre, which discover a significative relation between burnout and marital status and explain that the absence of support from the family could impel the individual to be more involved in work, thus increasing the risk of the appearance of burnout.[10] In contrast, another study shows that being single or married has no influence on the onset or development of burnout.[21]

For sports activity, the survey shows a statistically significant correlation with the dimension of cynicism (P = 0.038), students who engage in sports activity are more vulnerable to cynicism and detached from their studies more than those who do not practice sports. This finding does not corroborate with that of Ben Moussa[19] who explains that there is no significant relationship between sports activity and the occurrence of burnout. However, according to Doré,[22] physical activity is associated with higher levels of mental health and lower levels of depressive symptoms.

It turns out that the average emotional intelligence in our study group is 127.1, which is consistent with the literature that explains that this average is often between 125 and 130 in an adult population. In fact, 53.7% of those surveyed had high emotional intelligence scores.

The bivariate analysis indicated that emotional intelligence is associated with burnout and particularly with cynicism (P = 0,027) and reduced efficacy (P = 0.01), while the symptom of exhaustion is independent of the emotional intelligence score (P = 0,8). This result was uncovered by several research studies. Moreover, high emotional competence leads to greater well-being and fewer psychological disorders.[23] In addition, nurses with high emotional intelligence have lower levels of job stress and lower rates of burnout.[24] Another study revealed that each burnout component is associated with global emotional intelligence, with a strong relationship with personal accomplishment.[25] However, the study by Lindeman *et al*.[17] found after approaching a multivariate analysis that high emotional intelligence is independent of low burnout.

The results of multivariate logistic regression show that emotional intelligence score has a positive impact on cynicism and positive impact on efficacy (or a negative impact on reduced efficacy). In other words, students with high emotional intelligence scores are more likely to catch cynicism and less vulnerable to reduced efficacy. Our findings corroborate those of Ebril *et al*. study, which found a strong statistically significant relationship, moving in the same direction between students' emotional intelligence levels and their burnout status,[7] but other studies find a significant negative association between burnout levels and emotional intelligence,[26,27] while other studies demonstrate that EI was correlated with symptoms of burnout that negatively correlated with emotional exhaustion and depersonalization (cynicism) and positively with Personal Accomplishment.[28,29]

Thus, and according to our results, we can explain that emotional intelligence has no impact on the onset of academic burnout, since it has no significant link with emotional exhaustion, the symptom of burnout that sets in first. Emotional intelligence does, however, have an impact on the development of burnout, since it has a positive influence on cynicism and a negative one on reduced efficiency, the two symptoms of burnout that set in later.

Methodological limits

The study was carried out during a period of 6 months, which coincided with the last semester of master's training. This period can affect the perceptions as well as the emotions of the participants.

The size of the general population that we have targeted, 140 students in pedagogy of nursing sciences and health techniques in Morocco, may constitute a limit that necessitates caution in the interpretation and generalization of the findings.

The interpretation of burnout results should also be approached with caution due to the intricacy of this concept. The burnout is comprised of three symptoms that manifest gradually, and due to the absence of an overall score, each component represents a distinct dependent variable that necessitates meticulous interpretation.

Conclusion

Usually recognized within the active population, burnout seems to extend to a new category of the population: students and more particularly students in health training, this phenomenon then affects the world of training beyond the world of work. The results of our study demonstrate the impact of a student's emotional intelligence on his academic burnout status. The emotional intelligence score has a positive impact on cynicism and a negative impact on reduced efficacy, while the symptom of exhaustion is independent of the emotional intelligence score. Finally, it seems that emotional intelligence is a crucial concept to act on the burnout of the student in the health curriculum, so we hope that other works expand the research in this field, apply the concept of emotional intelligence, and discover solutions related to the management of academic burnout to improve student health.

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Conflicts of interest

There are no conflicts of interest.

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