

BURNOUT SYNDROME AMONG NURSING STUDENTS

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Abstract

Aim: To identify the level of burnout among freshman nursing students. **Materials and methods:** a number of 89 students enrolled in the first year of medical school took part in the research. The *Maslach Burnout Inventory* was used in order to identify the level of burnout, *The Job Satisfaction Scale* to assess satisfaction with the job (especially for those who work as nurses) and alexithymia was measured with the *Toronto Alexithymia Scale*. Variables like age, environment, work experience or academic results were considered. Collected data were analyzed with SPSS 19.0. **Results and discussion:** A number of 89 students (91% women and 9% men) were included in the research. High levels of emotional exhaustion were identified in 15.7 % of the students, while 13.5% had high scores on depersonalization. Age and nursing experience are negatively correlated with personal achievement. A positive correlation was identified between emotional exhaustion and total score for alexithymia and a negative correlation between this subscale and all subscales for job satisfaction. There are statistically significant differences between participants with nursing experience and those without nursing experience in personal achievement: $t(71) = 3.907, p < .001$. **Conclusion:** results are important for nursing students and for academic curricula. Data prove that emotional exhaustion has a great negative impact on job satisfaction. Practical experience and age contribute to a low level of emotional exhaustion. Personal achievement seems to be higher in the case of nurses without professional experience.

Keywords: nursing student, burnout, job satisfaction, alexithymia.

1. INTRODUCTION

During the academic year, medical students experience a lot of stressors, related to their curricula but also to the endeavor of their practical sessions (Zugun et al., 2016). In the case of nursing students, due to the fact that an important number of them work as nurses in general offices or in private clinics, the job experience becomes a positive aspect in what concerns practical knowledge, but a negative aspect when it comes to burnout or satisfaction.

The burnout syndrome has higher rates among healthcare professionals (Iorga et al., 2016, Iorga et al., 2017). That is why it is meaningful to identify the factors that are important for burnout (personality traits, age, gender etc.) and to include into the academic curricula courses in order to teach nursing students how to cope with it.

Studies proved that high levels of burnout among students are correlated with high rates of absenteeism, low academic results and professional errors (Garrett, 2008).

In a study led in several universities in Brazil with the aim to identify the levels of burnout subscales, it was found that 64.04% of nursing students had a high level of emotional exhaustion, 35.79% had a high level of cynicism, and 87.72% had a low level of professional efficacy (da Silva, 2014). In the study of Beck (1985), the use of MBI proved that nursing students experience burnout syndrome and the levels are comparable with nursing students who have a job in the medical field.

The aim of the study was to identify the level of burnout, alexithymia and job satisfaction among nursing students and to discover if there was a difference between individuals with and without medical experience, as well as the relationship with other socio-demographic variables.

2. MATERIALS AND METHODS

Sample

The research was conducted on freshman nursing students from a medical university in eastern Romania. A number of 89 students voluntarily took 3 tests: *The Maslach Burnout*

Inventory (MBI), *The Job Satisfaction Scale* (JSS) and the *Toronto Alexithymia Scale* (TAS). A number of 120 tests were distributed in printed format and filled in after obtaining informed consent. A total of 89 questionnaires were returned fully filled in and they were considered for the research.

Apart from the three instruments, socio-demographic variables were considered: sex, age, department, academic results, family data, marital status, the number of their own children, the presence of a chronic disease and experience as a nurse.

Instruments

The Maslach Burnout Inventory (MBI) was used to assess burnout (Maslach and Jackson, 1986; Maslach et al., 1996) The inventory has 22 items and consists of 3 subscales which assess the following domains: *emotional exhaustion* (9 items) describes feelings of being emotionally drained and worked out by work; reliability statistics for the subscale show a very good level for Cronbach's alpha (.828); *depersonalization* (5 items) describes insensible and impersonal responses towards the beneficiaries of one's work. Reliability statistics for the subscale show unacceptable levels for Cronbach's alpha (.591); *personal achievement* (8 items) describes feelings of competence and achievement in working with other people. Reliability statistics for the personal achievement subscale of the MBI show a very good level for Cronbach's alpha (.829). For the emotional exhaustion and depersonalization subscales, higher scores correspond to higher degrees of burnout and for the personal achievement subscale, lower scores correspond to higher degrees of burnout.

The Job Satisfaction Scale - JSS (Stoica-Constantin&Constantin, 2009) was used to assess satisfaction with one's job (reliability statistics for the Job Satisfaction Scale show a very good level for Cronbach's alpha: .86). The scale (32 items) consists of 4 factors related to job satisfaction: *payment and promotions* (14 items) assesses an employee's dissatisfaction (low scores) or satisfaction (high score) concerning payment; *management and interpersonal relationships* (8 items) assesses an employee's dissatisfaction (low scores) or satisfaction (high

score) concerning social climate and relationships with colleagues/manager; *organization and communication* (10 items) assesses an employee's dissatisfaction (low scores) or satisfaction (high score) concerning the way the work is organised and performed; *overall job satisfaction* (the total score of the scale) assesses an employee's dissatisfaction (low scores) or satisfaction (high score) with work.

Alexithymia was assessed using the *Toronto Alexithymia Scale* (TAS-20), a 20-item instrument. The TAS-20 has 3 subscales: *difficulty describing feelings* subscale is used to measure difficulty describing emotions (5 items), *difficulty identifying feeling* subscale is used to measure difficulty identifying emotions (7 items), *externally-oriented thinking* subscale is used to measure the tendency of individuals to focus their attention externally (8 items). The TAS-20 uses cutoff scoring: scores equal to or less than 51 correspond to non-alexithymia, scores equal to or greater than 61 correspond to total alexithymia, and scores of 52 to 60 correspond to possible alexithymia. Cronbach's alpha for TAS-20 is .533.

Statistical procedure

The collected data were processed by means of the statistical processing software *SPSS* (Statistical Package for Social Sciences) version 19.0 for Windows and the following types of statistical methods were used:

- descriptive statistics, which pursued the central tendency and dispersion indicators (the mean and standard deviation),
- correlational study, in order to point correlations between independent and dependent variables, by calculating Pearson's correlation coefficient,
- comparative statistics were performed using *one-way ANOVAs and Independent samples t tests*. The one-way analysis of variance (ANOVA) to establish if there are any statistically significant differences between the means of three or more independent (unrelated) groups and the *Independent samples t test* was used to compare the means of two independent groups in order to determine if these are significantly different.

3. RESULTS AND DISCUSSION

Descriptive statistics

The study included 89 students from the first year of medical studies. Eight participants (9%) were male and 81 (91%) female. They came from 6 counties from north-eastern Romania (Iași, Suceava, Vaslui, Neamț, Botoșani, Bacău).

The mean age is 25.52 ± 9.42 (with a minimum of 19 years and a maximum of 48 years). The average is higher compared to students from other medical specialties. This score is due to the fact that most of the students work as nurses in clinics or hospitals and they want to obtain a university degree.

Subjects were questioned about their marital status. A number of 54 students (60.7%) declared that they were single, 12 (13.5%) were living together with their partner, 19 (21.3%) were married and 4 (4.5%) were divorced. No participants declared that they were widowers.

Data related to the number of children in the family of origin was recorded. A total of 14 (15.7%) were single children, 38 (42.7%) came from families with 2 children, 22 (24.7%) came

from families with 3 children, 5 (5.6%) came from families with 4 children, 3 (3.4%) came from families with 5 children, 3 (3.4%) came from families with 6 children. One subject (1.1%) came from a family with 7, 2 (2.2) from a family with 8, and one subject (1.1%) came from a family with 9 children.

Due to the fact that 40% of the students are in a partnership, an item targeted their number of children. A total of 70 (78.7%) participants did not have children, 8 (9%) had one child, 9 (10.1%) had 2 children, and 2 (2.2%) of them had 3 children.

Concerning the students' experience as nurses, a mean of $M = 3.31 \pm 6.52$ years of experience was recorded, with a minimum of 0 years and a maximum of 26 years. More than half of the students ($N = 67$; 75.3%) had no nursing experience yet.

The subjects also provided data about high school academic results (8.03 ± 0.89) and admission means (7.58 ± 1.05).

The presence of a chronic disease was identified in case of 67.05% of students.

Results obtained for MBI, TAS-20 and JSS are presented in *Table 1*.

Table 1. Results for MBI, TAS-20 and JSS

Instruments	Domains	M \pm St.d (total)
MBI	emotional exhaustion	19.54 \pm 10.08
	personal achievement	12.79 \pm 8.56
	depersonalization	6.57 \pm 5.41
TAS-20	difficulty identifying feelings	18.55 \pm 8.12
	difficulty describing feelings	14.68 \pm 3.73
	externally orientated thinking	18.89 \pm 3.71
	total score on alexithymia	52.13 \pm 11.17
JSS	payment and promotion	3.23 \pm .70
	management-interpersonal relationships	4.05 \pm .72
	organization-communication	4.28 \pm .60
	overall satisfaction	3.80 \pm .58

The results show that 33.7% of the participants reported low levels of *emotional exhaustion*, 33.7% reported medium levels and 15.7%, high levels. For the subscale *personal achievement*, 2.2 subjects

reported medium levels, while 79.8 reported high levels. In the case of *depersonalization*, 44.9% of the participants scored low on the scale, 23.6 had medium scores, and 13.5% had high scores.

Regarding alexithymia scores, the results prove that approximately half of the participants (51.7%) did not have alexithymia, 31.5% probably had alexithymia, and 16.9% had alexithymia.

On the job satisfaction scale, the results show that 39.3% of the participants reported low levels, while 42.7% reported high levels of job satisfaction.

Correlational analysis

Pearson correlations were used for the investigated variables in the present study. We considered all 3 scales (with subscales) and socio-demographic variables (age, number of children) and academic results (baccalaureate scores and admission scores).

Table 2. Results regarding correlations between MBI, JSS and variables

Burnout subscales Variables	Emotional exhaustion (EE)	Personal achievement (PA)	Depersonalization (D)
Age	R=.072, p=.544	R= -.343** , p=.003	R=-.186, p= .116
Admission mean	R=-.175, p=.144	R=.050, p=.679	R=.038, p=.755
Graduation mean	R=-.200, p=.090	R=.010, p=.935	R=.029, p=.810
Number of children	R=-.096, p=.417	R=-.108, p=.365	R=-.028, p=.816
Nurse experience	R=.225, p=.054	R= -.306** , p=.008	R=-.124, p=.297
Alexithymia - total	R= .234* , p=.045	R=-.004, p=.970	R=.224, p=.056
Difficulty Describing Feelings	R=.122, p=.299	R=.032, p=.789	R=.141, p=.234
Difficulty Identifying Feelings	R=.198, p=.091	R=-.032, p=.790	R=.175, p=.139
Externally-Oriented Thinking	R=.148, p=.207	R=.032, p=.788	R=.154, p=.194
Payment - promotion	R= -.309* , p=.012	R=.117, p=.357	R=-.065, p=.612
Management - interpersonal relationships	R= -.350** , p=.004	R=-.057, p=.654	R=-.105, p=.410
Organization - communication	R= -.513** , p=.000	R=-.145, p=.245	R=-.138, .270
Overall job satisfaction	R= -.448** , p=.000	R=-.013, p= .917	R=-.090, p=.485

Age and nursing experience are negatively correlated with personal achievement. That is, the younger the person, the higher personal achievement is; the more nursing experience participants have, the lower their scores on personal achievement.

From the analysis of the statistical results, a positive correlation is highlighted between alexithymia and emotional exhaustion, meaning that the higher the score is on alexithymia, the higher emotional exhaustion value is.

Also, there are negative correlations between all factors of job satisfaction (including the overall scores) and emotional exhaustion. More

specifically, the more satisfied participants were with payment - promotion, the lower they scored on emotional exhaustion. When considering the management - interpersonal relationships subdomain, the higher subjects scored on this variable, the lower their scores on emotional exhaustion. The more satisfied individuals were with the organization - communication aspect of job satisfaction, the less they felt they were emotionally exhausted. Finally, the higher the overall job satisfaction score, the lower emotional exhaustion value is.

None of the variables are correlated with depersonalization.

Comparative analysis

To examine the effects of alexithymia, participants' age, gender, participants' civil status, and participants' number of children on burnout, we used one-way ANOVA. For multiple/post-hoc comparisons we used the Bonferroni procedure. Gender analysis was excluded due to the low number of males.

The Independent Samples *t* Test was used in order to determine whether there are differences on burnout between subjects with low job satisfaction and high job satisfaction, between subjects with a low admission mean and a high admission mean, between subjects with a low graduation mean and a high graduation mean, between subjects with and without chronic diseases, and between individuals with nursing experience and those without nursing experience.

For analyses concerning *participants' age*, we divided the participants in three groups: the first group for participants aged between 18 and 25, the second group for participants aged between 26 and 35, and the third group for participants aged 36 and higher. Our aim was to determine if there are any differences between subjects (based on their belonging to a group age) on burnout. To examine whether participants' age has an effect on burnout, we used one-way ANOVA. These analyses showed that participants' age does not have an influence on emotional exhaustion: $F(2,71) = .202, p = .818$. There are no statistically significant differences between subjects on emotional exhaustion according to their age group. Also, participants' age does not have an influence on depersonalization: $F(2,70) = 1.223, p = .301$. There are no statistically significant differences between subjects on depersonalization according to their age group. However, participants' age (three groups: 18-25, 26-35, 36 and older) has an influence on personal achievement: $F(2,70) = 4.726, p = .012$. More specifically, younger participants (ages 18 to 25) have a higher level of personal achievement compared to older participants (older than 36). The result could be explained by the fact that younger students consider the admission at the faculty as a successful step, due to the fact that the selection is difficult. The older students consider that combining studies with work is demanding and

extra efforts should be made in order to accomplish both tasks.

For analyses concerning *alexithymia*, we divided the participants in three groups: without alexithymia, possible alexithymia, and with alexithymia. Our purpose was to establish if there are any differences between subjects without alexithymia, subjects with possible alexithymia, and subjects with alexithymia on burnout (emotional exhaustion, depersonalization, and personal achievement). The results showed that alexithymia does not have an effect on emotional exhaustion ($F(2,71) = 1.152, p = .322$) or personal achievement ($F(2,71) = 1.152, p = .740$). More specifically, there are no statistically significant differences between subjects with alexithymia, possible alexithymia or no alexithymia on emotional exhaustion or personal achievement. However, alexithymia has an influence on depersonalization ($F(2,70) = 4.134, p = .020$); we identified a significant difference between participants without alexithymia and those with alexithymia. That is, participants with low scores on alexithymia have lower scores on DP, while those with high scores on alexithymia have higher scores on DP.

For analyses concerning *participants' civil status*, we divided the variable into five groups: single, living together with their partner, married, divorced, and widower. Our aim was to establish whether there are any difference between subjects (according to their belonging to a certain civil status) on burnout. One-way ANOVA results show that participants' civil status does not influence emotional exhaustion ($F(3,70) = .360, p = .782$) or depersonalization ($F(3,69) = .617, p = .606$). Although one-way ANOVA results show that participants' civil status influences personal achievement ($F(3,69) = 3.001, p = .036$), multiple comparisons do not display any differences in PA when considering participants' civil status.

For analyses concerning participants' number of children, we divided the variable into four groups: no children, one child, two children, and three children. The purpose of this division was to determine whether there are any differences between subjects (based on how many children they have) on burnout. The one-way ANOVA results show that participants' number of children does not influence EE: $F(3,70) = 2.207,$

$p = .095$. Although one-way ANOVA results show that participants' number of children influences PA ($F(3.69) = 2.785, p = .047$), multiple comparisons do not display any differences in PA when considering participants' number of children. One-way ANOVA results show that participants' number of children influences depersonalization ($F(3.69) = 2.815, p = .046$), but multiple comparisons do not display any differences in DP when considering participants' number of children.

For analyses concerning *job satisfaction*, we divided the variable into two groups: high and low job satisfaction, according to the mean of the sample ($M=3.80$). Our goal was to assess whether there are differences on burnout between subjects with low job satisfaction and high job satisfaction. Independent samples *t* tests show that job satisfaction does not have an influence on emotional exhaustion, personal achievement, or depersonalization. More specifically, there are no statistically significant differences between subjects with high or low job satisfaction on emotional exhaustion ($t(62) = 1.093, p = .279$), personal achievement ($t(61) = .759, p = .759$), or depersonalization ($t(61) = 1.479, p = .145$).

Given these results, we decided to see if there are any differences on each of the subscales of the JSS: payment - promotion, management - interpersonal relationships, and organization - communication. For these analyses, we divided the variables into two groups: high and low job, according to the mean of the sample ($M = 3.23$ for payment - promotion, $M = 4.04$ for management - interpersonal relationships, and $M = 4.28$ for organization - communication). The statistical analysis proved only one significant difference: subjects with lower scores on satisfaction with organization - communication had higher scores on emotional exhaustion ($t(65) = 2.41, p = .018$). More specifically, multiple/post-hoc comparisons revealed that younger participants (ages 18 to 25) have a higher level of personal achievement compared to older participants (older than 36).

For analyses concerning the *admission score at the faculty*, we divided the participants into two groups: low admission mean and high admission mean, according to the mean of the sample ($M=7.58$). Our goal was to assess whether there

are differences on burnout between subjects with a low admission mean and a high admission mean. No statistically significant differences between participants with high and low admission means on emotional exhaustion ($t(69) = 1.521, p = .133$), personal achievement ($t(68) = .276, p = .784$) or depersonalization: $t(68) = -.499, p = .619$ were identified.

For analyses concerning the high school *graduation mean*, we divided the participants into two groups: low admission mean and high admission mean, according to the mean of the sample ($M = 8.03$). Our intent was to determine if there are differences on burnout between subjects with a low graduation mean and a high graduation mean. There is no statistically significant difference between participants with high and low graduation means on emotional exhaustion ($t(71) = 1.649, p = .104$), personal achievement ($t(70) = -.343, p = .733$) or depersonalization ($t(70) = -1.094, p = .278$).

We also aimed at determining whether there are any differences on burnout between subjects with and without *chronic diseases*. The *Independent samples t test* shows no statistically significant differences between participants with chronic diseases and those without chronic diseases regarding emotional exhaustion ($t(71) = -1.022, p = .310$), personal achievement: ($t(70) = .491, p = .625$) or depersonalization: ($t(70) = .179, p = .859$).

For analyses concerning *nursing experience*, we divided the participants into two groups: no nursing experience (less than or equal to one year) and with nursing experience (more than a year). Our goal was to establish if there are any differences on burnout between individuals with nursing experience and those without nursing experience. There is no statistically significant difference between participants with nursing experience and those without nursing experience on emotional exhaustion ($t(72) = -1.121, p = .271$) and depersonalization: ($t(71) = 1.358, p = .179$). However, there are statistically significant differences between participants with nursing experience and those without nursing experience on personal achievement: $t(71) = 3.907, p < .001$. More specifically, those without nursing experience have higher scores on personal achievement than those with nursing experience.

The results of our study prove that burnout levels for undergraduate nursing students are comparable with those identified in the scientific literature. For example, younger nurses experience higher levels of burnout compared to older nurses (Winwood et al., 2006). Another study comparing students from different academic years revealed that 1st-year students identified significantly lower levels of emotional exhaustion compared to 2nd- and 3rd-year students (Michalec et al., 2013).

Burnout and chronic fatigue seem to begin from the very first academic year. Since most of the nursing students have some healthcare experiences and a lot of studies target these aspects, the results from other researches show that there is no statistical difference in mean chronic fatigue scores between students with and without nursing experience, but the non-experienced group reported significantly higher recovery scores than the experienced group (Rella et al., 2009). Our study proves the results obtained by other researches, referring to the fact that there are no differences between nurses with and without experience regarding the level of burnout (Beck, 1985).

Limits of the study

The research included nursing students from the same university. A comparative analysis should point out if there are aspects related to environment or curricula variables. The second limitation is due to the fact that a comparative analysis considering all academic years could establish if there are any differences between the levels of burnout between students in different academic years. The third limitation is the number of students included in the research; therefore, the conclusions cannot be generalized.

4. CONCLUSION

The results of the study prove that 15.7% of students have high levels of emotional exhaustion and 13.5% of them have high levels on the depersonalization subscale. Data prove that emotional exhaustion has a great negative impact on job satisfaction. The variables age and experience in the medical field have been found

to contribute to a low level of emotional exhaustion. Personal achievement seems to be higher in nurses without professional experience. The data obtained are important for consoling nursing students about these aspects and for academic staff to adjust the university curricula. Nursing students must be taught how to cope with burnout.

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