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Original research article

Personality predictors and their impact on coping with burnout among students preparing for the nursing and midwifery profession

*Ľudmila Majerníková *, Andrea Obročníková*

Prešov University in Prešov, Faculty of Health Care, Department of Nursing, Prešov, Slovak Republic

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ABSTRACT

Personality characteristics might be important factors influencing an individual's ability to cope with burnout syndrome. The aim of the study was to examine the relationship between personality factors such as self-evaluation and a sense of coherence and burnout syndrome among students of nursing. The study involved a total of 190 university students of the study programme Nursing and Midwifery (average age 20.66 ± 3.01; 98.4% females). Scale Burnout Inventory (SBI) in the school was used for assessing the burnout levels. A Sense of Coherence Questionnaire (SOC) and Rosenberger's Self-Esteem Scale (SES) were used as well. A significant negative relationship was found between burnout syndrome and self-esteem ($p \leq 0.01$), as well as sense of coherence ($p \leq 0.01$); it means that higher levels of self-esteem and sense of coherence were associated with lower burnout syndrome levels among students. Personality factors are strongly linked to burnout among students. Therefore it is important to observe and guide the students and appropriately utilize their predispositions in the management of the demanding study, as they tend to persist after a period of professional practice. It is therefore considered, that improving the skills of coping with stress among students is beneficial in preventing the subsequent occurrence of burnout in the profession of a nurse.

Introduction

The concept of burnout was introduced in 1975 by the psychoanalyst Herbert Freundenberg. He defines it as a final stage, in which people are emotionally dried out; lose their original enthusiasm and motivation [1]. The key factors of burnout are feeling absolutely exhausted and worn out, and overall fatigue. The clinical picture of burnout is reminiscent of depression; it is the opposite of positive symptoms such as joy, contentment and serenity. It is associated with negative emotions such as fear, anxiety and anger. Most often it occurs in people in permanent social contact, people in isolation or in people performing monotonous work [2]. Burnout initially operates subtly. A common trigger is a change in one's job (especially promotion) or a new job. According to Bártová [3], the most vulnerable groups are doctors, nurses,

* **Korespondenční autor:** PhDr. Ľudmila Majerníková, PhD., Prešov University in Prešov, Faculty of Healthcare, Department of Nursing, Partizánska 1, 080 01 Prešov, Slovak Republic; e-mail: ludmila.majernikova@unipo.sk
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psychologists and psychiatrists, social workers, teachers at all types of schools, staff in correctional facilities for juveniles and adults, police officers, managers and business people. In their study, Maslach and Leiter [4] highlighted the importance of personality and socio-demographic predictors such as age and level of education, which are important predictors for the development of burnout syndrome. Working conditions are also identified as significant factors affecting burnout. Each individual has a different degree of adaptability to the stress factors operating on them.

More than 20 years have passed since the American-Israeli medical sociologist Aaron Antonovsky introduced his salutogenic theory "sense of coherence". He described it as a global orientation to view the world and the individual environment as comprehensible, manageable, and meaningful, claiming that the way people view their life has a positive influence on their health [5]. In the 10 years after the introduction of the salutogenesis, Antonovsky developed the Life Orientation Questionnaire, Sense of Coherence Scale, and examined its properties. In addition, the theory was somewhat revised over time and made more explicit in his second book *Unravelling the Mystery of Health* [6]. The paradigm shift from the pathogenic focus on the risk factors for disease to the salutogenic focus on the strengths and determinants for health was introduced. Fortigenesis, referring to the origins of one's psychological strength in general, attempts to broaden the SOC concept [7]. Nowadays, this theory has been successfully used in relation to mental health, as well as the risks of burnout.

Self-esteem is generally considered the evaluative component of the self-concept, a broader representation of the self that includes cognitive and behavioural aspects as well as the evaluative or affective ones [8]. While the construct is most often used to refer to a global sense of self-worth, narrower concepts such as self-confidence or body-esteem are used to imply a sense of self-esteem in more specific domains. It is also widely assumed that self-esteem functions as a trait, i.e. is stable across time within individuals. Self-esteem is an extremely popular construct within psychology, and has been related to virtually every other psychological concept or domain, including personality (e.g. shyness), behavioural (e.g. task performance), cognitive (e.g. attributional bias), and clinical concepts (e.g. anxiety and depression). While some researchers have been particularly concerned with understanding the nuances of the self-esteem construct, others have focused on the adaptive and self-protective functions of self-esteem [8].

Several studies indicate a significant influence of personality predictors for the development of burnout. The most important predictors include the ability to cope with stressful situations, disposition of coping strategies [9–11]; disposition of selected individual personality characteristics from the view of personality equipment, which is associated with resistance to burnout, higher degree of self-esteem and internal locus of control [12]; the ability to resist the most adverse life circumstances and a sense of integrity, characterized by a tendency to see the world as consistent, relatively predictable, and comprehensible [13]. The issue of burnout has proved to be relevant in students of healthcare disciplines (non-medical). The researches focus mainly on students in the health and helping professions, for which a risk of burnout, lower quality of life, increased risk of depression, and experiencing negative emotions is observed [14, 15]. For this reason, we focused our attention on nursing and midwifery students; future health staff during their bachelor degree studies.

Aim of study

Research was conducted in order to determine the existence of relationships between personality factors of self-esteem, a sense of coherence and the prevalence of burnout among 2nd and 3rd year undergraduate students of the study programme Nursing and Midwifery. Further subdivision of the group was in terms of age, type of previously completed high school education, and years of study in the field.

Materials and methods

A total of 190 full time bachelor students in the study programme Nursing (n = 130) and Midwifery (n = 60) in the second and third years at the Department of Nursing and the Department of Midwifery at the Faculty of Health Care of the Prešov University in Prešov were questioned. The response rate was 92%; data collection took place from February to December 2016. The majority of students (98.5%) were women; the mean age was 20.66 ± 3.01. More than half of the respondents had completed high school education with a healthcare specialization. The sample consisted of 50% of students in the second year and 50% in the third year of their studies. More information on the respondents is presented in Table 1.

Table 1 – Demographic characteristics of respondents

	n	%
Gender		
Female	187	98.4
Male	3	1.6
Age		
20–21 years	111	58
22–25 years	77	41
26 years and above	2	1
Completed high school education		
Healthcare high school	98	52
Other	92	48
Year of study		
Second	95	50
Third	95	50

Data collection

In the study we obtained the necessary data using three standardized questionnaires. To measure the level of burnout, the School Burnout Inventory (SBI) scale was used. This tool is specifically designed for the purpose of determining the level of burnout in the school environment; its advantage is therefore its targeted nature

and timeliness for the selected sample group of the study. The questionnaire consists of nine items scored using the Likert scale (from 1 – fully agree, up to 6 – strongly disagree). The maximum score on the questionnaire is 54, with higher scores indicating higher levels of burnout [16]. To detect levels of self-esteem, the Rosenberg Self-esteem Scale (RSS) was used (with a maximum score of 30 points). A higher score means a higher level of self-esteem [17]. In the study, we used the standardized questionnaire and Sense of Coherence Inventory (SOC) – the Antonovsky scale, which consists of thirteen items [18]. The questionnaire uses a 7-point Likert scale for scoring responses. The maximum score is 91; a higher score obtained on the questionnaire would imply an increased sense of coherence.

Data analysis

For processing the results of the research, we used statistical methods of descriptive statistics – calculation of frequency (n) and percentage values (%), calculation of the average scale values (M), and standard deviation (SD). For statistical processing of our data, we used the SPSS 15.0 software. For statistical comparison of observed groups, we used the *t*-test (Student's *t*-distribution). This statistical methodology enabled us to identify statistically significant differences between groups for the monitored parameters. Correlation analysis (Pearson correlation coefficients calculation) was used to detect interactions between variables. All tests were performed at the significance level of $\alpha = 0.05 = 5\%$.

Results

The average value of each of the variables studied is presented in Table 2. The average burnout score using SBI in the sample was 24.66 ± 7.74, the level of self-esteem was 18.12 ± 4.66 and sense of coherence was 59.51 ± 11.44.

Table 2 – Average values of monitored variables in the whole sample

			Respondents		Min–max
			M	SD	
Variable	O1.	Burnout syndrome	24.66	7.74	21–29
	O2.	Self-esteem	19.12	4.66	15–22
	O3.	Sense of coherence	59.51	12.44	49–72

M – mean; SD – standard deviation.

We compared the group of respondents in terms of variables based on the type of the study programme at the Faculty of Health Care at Prešov University in Prešov (Table 3). Students of Nursing had a lower level of burnout (at $p < 0.05$) then the students of Midwifery. The significance of the difference in other areas (self-esteem and sense of coherence) was not confirmed as statistically significant.

In terms of comparing groups of students who had completed healthcare high school education (52%) and non-healthcare education (48%) we found a higher burnout score among the healthcare-educated group at the level of average value of individual factors. The level of self-esteem and sense of coherence was judged more highly among the non-healthcare educated group. The significance of the difference was analyzed using the Student's *t*-test, but in our sample of respondents, correlation between prior healthcare education and likelihood of experience with this problem was not confirmed as a statistically significant difference (Table 4).

In terms of age, significant differences were found in the group of students in the age category under 21 years in the overall mean score for SBI at the level of $p < 0.05$. The lower value for burnout syndrome was reported by

Table 3 – Comparison of variables based on type of study branches

			Nursing			Midwifery			*p*
			M	SD	Min–max	M	SD	Min–max	
Variable	O1.	Burnout syndrome	25.17	7.87	21–29	24.36	7.79	21–29	0.042[a]
	O2.	Self-esteem	19.17	4.65	16–22	19.04	4.55	15–22	0.52
	O3.	Sense of coherence	59.55	11.68	49–72	59.42	11.75	49–72	0.452

[a] – Level of significance at $p < 0.05$; M – mean; SD – standard deviation.

Table 4 – Comparison of variables based on type of completed high school education

			Non-healthcare			Healthcare			*p*
			M	SD	Min–max	M	SD	Min–max	
Variable	O1.	Burnout syndrome	25.01	7.88	21–29	25.08	7.75	21–29	0.855
	O2.	Self-esteem	19.19	4.77	16–22	19.02	4.68	15–22	0.302
	O3.	Sense of coherence	59.55	11.68	49–72	59.56	11.75	49–72	0.452

M – mean; SD – standard deviation.

respondents in a lower age category. In other areas of measurement, on the basis of second-degree analysis we did not find significant differences in the observed groups (Table 5).

Table 5 – Comparison of variables based on type of completed high school education

			21 years and under			22 years and over			*p*
			M	SD	Min–max	M	SD	Min–max	
Variable	O1.	Burnout syndrome	24.14	7.85	21–28	25.77	7.75	21–29	0.033[a]
	O2.	Self-esteem	19.25	4.80	16–22	19.03	4.88	15–21	0.523
	O3.	Sense of coherence	61.05	11.45	49–70	59.13	11.88	49–72	0.325

[a] Level of significance at $p < 0.05$; M – mean; SD – standard deviation.

We also compared the group of respondents in terms of the year of study at the Faculty of Health Care at Prešov University in Prešov (Table 6). Students from the lower year had a lower level of burnout ($p < 0.05$) and a higher level of personality characteristics of self-esteem ($p < 0.05$) and sense of coherence ($p < 0.05$).

Table 6 – Comparison of variables in terms of year of study

			2nd year			3rd year			*p*
			M	SD	Min–max	M	SD	Min–max	
Variable	O1.	Burnout syndrome	24.03	7.68	21–29	25.94	7.68	21–29	0.042[a]
	O2.	Self-esteem	19.63	4.65	16–22	17.78	4.62	15–22	0.036[a]
	O3.	Sense of coherence	61.99	11.55	50–72	58.33	11.35	49–72	0.021[a]

[a] Level of significance at $p < 0.05$; M – mean; SD – standard deviation.

On the basis of the results of correlation analysis, we found a statistically significant mutual relationship between the monitored variables. A negative correlation was shown between burnout and self-esteem ($r = –0.33$, $p < 0.01$) and a sense of coherence ($r = –0.39$, $p < 0.01$). This relationship shows that factors such as high levels of self-esteem and sense of coherence were associated with lower levels of burnout in our sample group. A positive correlation was observed in relation to the length of study for burnout ($r = 0.44$, $p < 0.05$), a negative correlation was observed in the level of self-esteem ($r = –0.33$, $p < 0.01$) and sense of coherence ($r = –0.44$, $p < 0.01$) (Table 7).

Table 7 – Correlation relationships of monitored variables

	Length of study (*r*)	Type of high school (*r*)	Burnout syndrome (*r*)	Self-esteem (*r*)	Sense of coherence (*r*)
Length of study	1	0.05	**0.43[a]**	**–0.31[b]**	**–0.44[a]**
Type of high school	0.05	1	–0.11	0.13	0.14
Burnout syndrome	**0.43[a]**	–0.11	1	**–0.33[b]**	**–0.39[b]**
Self-esteem	**–0.31[b]**	0.13	**–0.33[b]**	1	**0.52[a]**
Sense of coherence	**–0.44[a]**	0.14	**–0.39[b]**	0.52[a]	1

[a] Level of significance at $p < 0.05$; [b] Level of significance at $p < 0.01$; (*r*) Pearson correlation coefficient.

Discussion

Several studies have recently focused on the prevalence of burnout among students, especially in the fields with a higher risk of burnout (the helping professions). During studies there are already training programmes aimed at developing communication skills and the improvement of coping strategies. These are generally considered to be effective tools to prevent burnout syndrome, even though there are relatively few studies focusing on research to confirm this relationship. A positive effect of social and psychological interventions was recorded for individual components of burnout among health professionals on psychiatric wards. In Slovakia, the issue was addressed in their study by Škodová and Paceková [15]. A total of 75 university students participated in their research: 48 students of Psychology (mean age 21.1 ± 3.3; 29% men) and 27 students of Nursing and Public Health (19.8 ± 1.7; all women). To measure the level of burnout the School Burnout Indicator (SBI) was used; they also used the Antonovsky SOC scale for sense of coherence and

the Rosenberg Self-esteem Scale (RSS). For statistical data processing linear regression was used. Variables were analyzed using linear regression based on age and gender as the possible independent variables, the level of self-esteem (RSS) and sense of coherence as the possible predictors, and the level of burnout (SBI) as the dependent variable. Burnout was significantly predicted only by the level of sense of the coherence, but not by self-esteem. In comparison with our results, in the study of Škodová and Paceková the values of burnout were (32.9), self-esteem (18.8), and the sense of coherence (57.8), suggesting a higher risk of burnout than in our respondents.

Academic achievement and preservation of students' educational failure are two of the most important concerns of university academic staff and parents of the students [19, 20]. The opposite of educational progress is educational failure which considering the results from various studies, could highly affect people's destinies and impose much expense on families. In this regard, studies have shown that self-esteem is an important factor for education progress [21]. Students with higher self-esteem appeared to be more successful in education [22, 23]. Self-esteem is considered as a vital capital and the most effective factor to progress and develop talent and creativity [24–26]. Low self-esteem is introduced as a risk factor leading to aggression, depression, felony and weak educational outcomes [27, 28].

In another study, Škodová and Bánovčinová [29] focused on students from the helping professions, and investigated the effect of socio-psychological training on the level of burnout and personality predictors (self-esteem and sense of coherence). The study used a quasi-experimental pre-test and post-test. The participants were 111 university students of Psychology and Nursing study programmes divided into experimental and control groups. The experimental group participated in social-psychological training for a period of six months. The measuring instruments used were the standardized SBI questionnaire, SOC questionnaire and the Rosenberg Self-esteem Scale. The results showed that socio-psychological training had a positive impact on both the level of burnout, as well as the level of personality predictors of burnout. After completing the training, the level of burnout in the experimental group significantly decreased, while the control group did not alter. On the contrary, the sense of coherence in the sample group increased. In the case of self-esteem, the level was not altered either in the sample or in the control group. The socio-psychological training in this study proved an effective support method for positively affecting burnout among students. This suggests that strategies to tackle workload will be related to the strategies of coping with stress at work, and that activity to develop stress management abilities will also be useful in preventing later development of burnout during the performance of their profession. Personal characteristics such as self-esteem and "sense of coherence" can be an important factor influencing the individual's capability to handle burnout.

Abroad, the evaluation of an individual's personality is part of the routine before accepting a student into an educational institution, especially in the healthcare disciplines [30]. In Western countries applicants for study have usually decided at a younger or middle adulthood age what job they would like to pursue in the future (at adolescence age in our country). When applying for a job, personal experience as a healthcare professional is a benefit for being accepted for lower-level positions/posts in healthcare facilities providing nursing care. In this way, such a person has a clear idea about the workload before being admitted to study.

In view of the prevention and the development of burnout in the period of preparation of the nursing students for the job, we recommend increasing the individual skills necessary for coping with stress, at both the theoretical and practical level, as well as to prepare future health professionals for the possible workload, contact with suffering, pain, intense emotions, and continual satisfying of the patients' needs.

Conclusion

Our research results point to the fact that burnout significantly relates to low levels of self-esteem and sense of coherence and vice versa. They also confirm a mutual correlation with the length of the study. Relationships between burnout and personality characteristics are therefore complex, but in the future it will be appropriate to undertake a study to confirm the results in a larger and more consistent group of participants, since some results may have been influenced by the methodological limitations (size and composition of the sample group).

Ethical aspects and conflict of interest

The authors are not aware of any conflict of interest and have complied with ethical standards of research. The institutions where research was conducted have consented to the use of the questionnaire. Participants were informed of the purpose of the research and only those who signed an informed consent form were included in the research sample.

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