

Original Article

Burnout, decision-making and coping among healthcare workers: How the world was before the COVID-19 pandemic

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Abstract

Introduction: The international literature in the past two years has focused on work-related stress and burnout symptoms among healthcare workers involved in the COVID-19 emergency. However, high levels of burnout syndrome (BOS) had previously been traced in this population. The present study investigated the relationship between BOS, decision-making and coping styles in a sample of physicians and nurses before the pandemic.

Methods: A sample of 90 healthcare workers (male= 47.9%; mean age = 45.23 ± 7.37) participated in the study. A socio-demographic questionnaire, the Link Burnout Questionnaire, the CISS Coping Inventory in Stressful Situations for adults and the General Decision-Making Style questionnaire were used.

Results: Linear regression analysis showed that low decision style and emotion-oriented coping predict the onset of BOS. Subjects with and without BOS differ in decision-making styles and coping strategies.

Discussion: This study could contribute to identifying precursors of BOS and suggests the need for preventive psychological and psychotherapeutic interventions to include emotions in the decision-making process.

Key words: burnout, coping, decision-making, health professions.

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INTRODUCTION

The Burnout Syndrome (BOS) has been defined as a condition characterized by high emotional exhaustion (EE), which is a depletion of resources and decreased energy, high depersonalisation (DP) or cynicism, which is a negative attitude characterised by insensitivity and lack of compassion towards the clients, and low personal accomplishment (PA), which is a negative evaluation of one's work related to feelings of reduced competence [1]. This unconscious process predominantly affects the helping professions with a worsening of behavioural attitudes and consequent reduction in the quality of job performance. Compared to other healthcare workers (HCWs), nurses have higher levels of BOS related to prolonged face-to-face contact, risk of emotional involvement, and low levels of job satisfaction [2,3]. However, the general tendency is to overestimate the influence of personal characteristics as risk factors, underestimating the role of the working organisational factors. In literature, indeed, scholars emphasise the role of certain occupational psychosocial risk factors, including overload, low autonomy and support, high emotional demands, and complex interpersonal relationships at the workplace [4].

Undoubtedly, personal characteristics influence how one interprets, analyses and react to the context, but they do not explain the determining components of BOS. Some authors pointed out individual factors predisposing to BOS, including younger age, being single, and having a high cultural level; in general, facing difficulties with a passive or defensive style, reduced control skills and being highly committed to work represent some individual risk factors [5].

Some studies on the effects of risk factors on practitioners' health found correlations between the types of treatment provided and the different characteristics of the patient in determining the specific working conditions which influence the level of well-being in the working context [6,7]. Several studies showed a higher incidence of BOS in units that mainly deal with chronic diseases, specifically oncology [8;9], psychiatry, and infectious diseases [10]. The emotional involvement with the patient has repercussions on practitioners, who tend to perceive the care failure as a personal failure [12]. Neoplastic pathology, the complexity of treatments, facing death, and related-ethical issues are the main stressors that influence daily operations [13].

The concepts of compassion fatigue have explained the "burden of caregiving" [14,15], as health professions have a high relational and empathic involvement [16]. In literature, studies concerning the incidence of BOS in intensive care units are common. In Europe, 30% of nurses and 40 to 50% of physicians are reportedly involved in at least one of the BOS dimensions [17]. Specifically, regarding nurses working in intensive care units, there is evidence of high levels of DP toward patients as a risk factor for the syndrome, but low EE levels [18,19]. Furthermore,

nurses' low satisfaction in acute wards is presumably due to an increased workload and reduced relational time [20]. An Italian study showed no statistical differences in EE, DP and PA levels between chronic and acute units. In this study, EE was higher among nurses in the emergency-urgency department, while DP was higher in regular units [21]. Therefore, the present study investigated the relationship between BOS, decision-making and coping styles in a sample of physicians and nurses before the pandemic.

METHODS

Study participants and procedure

Participants were recruited during a continuing education course for the health professions in 2019, before the pandemic outbreak. Participation was voluntary, and the subjects signed an informed consent explaining the purpose of the research and guaranteeing anonymity and privacy for sensitive data. The study followed the ethical research principles contained in the Declaration of Helsinki. The participation did not involve the manipulation of psychological variables or experimental treatments or conditions that could cause any modification or harm to the participating subjects. Approximately 120 healthcare (HCWs) workers were involved, of whom 100 consented to participate in the study. The final sample consisted of 90 valid cases (52.1% female; 47.9% male) aged between 31 and 58 (mean age = 45.23 ± 7.37). Concerning the type of work, 45 were medical doctors, and 45 were nurses. The participants belonged to paediatrics (n=30), intensive care units (n=30) and psychiatric departments (n=30) and were enrolled with a convenience sampling method. The participants answered a self-reported questionnaire containing socio-demographic questions about age, gender, profession, professional area and affiliation. In addition, the Link Burnout Questionnaire [33], the CISS Coping Inventory in Stressful Situations for adults [34], and the General Decision-Making Style in their Italian version [35] were administered by two researchers of our team.

Study instruments

The Link Burnout Questionnaire (LBQ) is an instrument developed by Santinello [33] to measure the burnout levels of people working in the helping professions. The author reworked the three dimensions investigated by the Maslach Burnout Inventory (MBI) and considered it appropriate to expand the theoretical tradition on BOS by adding the new disillusionment scale. The four dimensions surveyed by the LBQ are; 1) *Psychophysical exhaustion*, relating to the feeling of having exhausted psychophysical resources, a sense that reflects negatively both on the user, who does not receive adequate care and on the practitioner, who is no longer able to understand the user's needs; 2) *Deterioration of the relationship* with the clients, caused by an attitude of indifference and detachment of the operator from the users, who are seen as impersonal objects to whom to manifest negative and hostile behaviour. 3) *Job ineffectiveness*, i.e., the perception caused by the BOS experience of being unable to realise goals in one's work. The practitioner no longer feels gratified and fulfilled by his/her work; 4) *Disappointment*, which refers to the disillusion of positive expectations concerning professional activity due to an excessive idealisation, represents the dimension of existential expectations. Disillusionment manifests itself through the loss of passion and enthusiasm for daily activities. BOS, therefore, can be characterised as the end state of a long

process of disillusionment. Each of the four dimensions of BOS is articulated along a continuum that oscillates between two opposite poles: exhaustion-energy (psychophysical measurement); impairment-involvement (relationship dimension); ineffectiveness-efficacy (professional competence dimension); disillusionment-satisfaction (existential expectations dimension). The instrument consists of a total of 24 items that are answered on a six-point Likert scale ranging from "Never" (1) to Every day (6). The scales's internal consistency ranges from .68 (Professional Ineffectiveness) to .85 (Disillusionment).

The Coping Inventory for Stressful Situations (CISS) is an instrument to measure coping styles (problem-oriented, emotion-oriented and avoidance-oriented coping) [34]. The CISS consists of three scales, each with 16 items: 1. *Task-Oriented Coping*: describes efforts to solve the problem by cognitively restructuring or attempting to alter the situation. The focus is on the task and trying to solve the problem. 2. *Emotion-Oriented Coping*: describes emotional reactions that are oriented towards the self, aimed at reducing stress. 3. *Avoidance-Oriented Coping*: describes actions and cognitive changes implemented to avoid a stressful situation. It includes two further subscales: Distraction (8 items) and Social Diversion (5 items). The former concerns avoiding stressful circumstances by distracting oneself with other situations or tasks (task orientation), and the latter by social diversion (person orientation). The General Decision-Making Style or GDMS [30] is an instrument that detects individual decision-making styles. In particular, the questionnaire consists of five subscales measuring different decision-making styles identified by Scott and Bruce [30]: Rational, Intuitive, Dependent, Avoidant, and Spontaneous. The rational decision-making style refers to the systematic evaluation of alternatives. The intuitive decision-making style is described as a tendency to rely on feelings. The dependent decision-making style is characterised by seeking advice from others before making a decision. The avoidant decision-making style refers to the avoidance of making decisions whenever possible. The last decision-making style, spontaneous decision-making, is described by the tendency to make a decision quickly. Each subscale consists of 5 items for each, for 25 articles. Subjects are asked to express their degree of agreement on a 5-point Likert scale. The Italian version was used in the present study, which has good factorial validity and scale reliability [35].

Data analysis

The data was entered into an Excel spreadsheet, following the scoring instructions in the original manuals of the instruments described above. Statistical analyses were performed using SPSS 26.0 software. Student's t-test for independent samples and linear regression analysis were used to evaluate the hypotheses. The data on the subjects' scores on the individual subscales were represented in means and standard deviations. To understand the distribution of the subjects with high and low BOS levels within the sample and the relationship to the categorical variables, chi-square was used. Before carrying out the regression analyses, we assessed via Student's t-test for independent samples whether there were any gender differences. The significance index was set at $p < .05$ after the Bonferroni correction.

RESULTS

The results showed no significant differences between men and women in BOS levels, decision-making style and stress-coping strategies. Similarly, the professionals were compared by category through Student's t for independent samples based on the profession of physician *vs* nurse. Again, no differences emerged between physicians and nurses in BOS levels, decision-making, and coping styles. In addition, the professionals were compared according to the ward they belonged to. The three groups, paediatrics, intensive care and psychiatry, were compared using the Kruskal Wallis test for multiple independent samples. The comparison showed that professionals working in psychiatry use the intuitive decision-making style more [Chi-Square = 7.503 df p < .02]. Furthermore, about BOS levels, they reported significantly higher levels of Psychophysical Exhaustion [Chi-Square = 14.18 df (2) p. < .001] and perceived more significant Relationship Deterioration [Chi-Square = 25.28 df (2) p. < .001] and Professional Ineffectiveness [Chi-Square = 6.72 df (2) p. < .03].

Finally, a qualitative analysis was conducted, in which the professionals were categorised into high and low BOS levels based on their scores on the Link Burnout Questionnaire. Table 1 shows the averages and standard deviations obtained in the observed sample.

Table 1. Descriptive statistics of the sample concerning BOS dimensions.

LBQ	Min	Max	M	SD	Std. Err.
Psychophysical exhaustion	6	35	18.68	6.925	.730
Deterioration of the relations	6	33	17.92	6.114	.644
Job ineffectiveness	6	30	15.40	5.772	.608
Disillusionment	6	34	17.41	9.933	.731

The frequency of BOS cases was 32 / 90, representing 35% of the total sample. In particular, 26% of physicians and 44% of nurses showed a BOS condition. Concerning departments, 46% of them were employed in the psychiatric area, 43% in the pediatric area and 16% of them worked in the intensive care unit.

H (1): differences in decision-making styles and coping strategies between HCWs with and without BOS

To test our first hypothesis, the subjects were classified according to their BOS level. According to this classification, 58 subjects presented a BOS-free condition, while 32 presented a BOS condition. Next, the two groups were compared on decision-making style and coping strategy by the Student's t-test for independent samples. Table 1 compares the averages obtained on the subscales of the GDMQ (General Decision-Making Questionnaire) and describes the differences in the groups with and without BOS concerning the scores obtained on the individual subscales measuring the various decision-making styles. Subjects affected by BOS showed a higher involvement of dependent, avoidant, intuitive, and spontaneous decision-making styles. In contrast, subjects without BOS had higher scores on the rational decision-making style.

Table 2. Comparison of practitioners with and without clinical Burnout risk in decision-making styles.

GDMQ	Burnout	M	SD	T	df	p	Diff.
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Dependent	H	10,41	3,449	-2,502	88	0,014	-1,899
	R	12,31	3,44	-2,504	64,183	0,015	-1,899
Rational	H	15,5	1,847	3,551	88	0,001	1,656
	R	13,84	2,541	3,244	49,423	0,002	1,656
Avoidant	H	8,03	2,636	-3,646	88	0,000	-2,216
	R	10,25	2,973	-3,521	57,801	0,001	-2,216
Intuitive	H	9,02	2,41	-3,7	88	0,000	-1,92
	R	10,94	2,257	-3,771	67,7	0,000	-1,92
Spontaneous	H	7,22	2,46	-4,7	88	0,000	-1,52
	R	8,74	2,277	-4,761	67,7	0,000	-1,52

Note: H= HCWs without BOS (n=58); R= HCWs with BOS (n=32)

Similarly, the two groups with and without clinical BOS were compared with the Student's t-test for independent samples. Table 3 shows differences in the coping styles. The higher-risk subjects differed from the lower-risk subjects in 4 of 5 coping types. In particular, the clinical BOS group received significantly higher mean scores in the following styles: emotion-oriented coping, avoidance-oriented, distraction, and social diversion (dysfunctional) coping styles; the problem-oriented coping was not statistically different between the two groups.

Table 3. Comparison of practitioners with and without clinical Burnout risk in coping styles.

CISS		Burnout M	SD	T	df	p	Diff.
Problem-oriented	H	55,24	10,173	0,918	88	0,361	2,273
	R	52,97	12,995	0,855	52,257	0,396	2,273
Emotion-oriented	H	40,45	12,588	-3,682	88	0,000	-9,583
	R	50,03	10,253	-3,907	75,574	0,000	-9,583
Avoidance-oriented	H	38,76	11,572	-3,161	88	0,002	-8,148
	R	46,91	11,942	-3,133	62,341	0,003	-8,148
Distraction	H	19,03	6,445	-2,82	88	0,006	-4,091
	R	23,13	6,838	-2,772	60,884	0,007	-4,091
Diversion	H	13,34	4,944	-2,244	88	0,027	-2,374
	R	15,72	4,538	-2,3	68,834	0,024	-2,374

Note: H= HCWs without BOS (n=58); R= HCWs with BOS (n=32)

H (2) detect possible decision-making and coping styles predisposing to BOS. The study's second aim was to understand whether decision-making and coping styles can be considered antecedent factors influencing BOS levels. Linear regression analysis was used to test this hypothesis. The subscales representing the different coping styles and BOS were considered independent variables or precursors and were entered in blocks for subscales related to the test. However, according to the hypothesis, the BOS level was entered as a dependent variable whose

variability could depend on the antecedents. Table 4 shows the results presented consecutively for clarity only. The analyses revealed that the independent variables that play a crucial role in the variability of BOS are rational decision-making and emotion-oriented coping.

Table 4. Linear Regression Analysis on coping and decision-making styles (precursors) of BOS.

	B	Std. Error	Beta	T	p
GDMQ - Dependent	-0,030	0,022	-0,22	-1,341	0,183
GDMQ - Rational	-0,065	0,021	-0,304	-3,131	0,002*
GDMQ - Avoidant	0,033	0,028	0,203	1,194	0,236
GDMQ - Spontaneous	0,062	0,033	0,327	1,894	0,062
GDMQ - Intuitive	0,210	0,026	0,279	1,535	0,076
CISS – Problem-oriented	-0,009	0,004	-0,208	-2,051	0,043
CISS – Emotion-oriented	0,012	0,004	0,312	2,921	0,004*
CISS – Avoidance-oriented	0,012	0,012	0,294	0,963	0,338
CISS – Distraction	-0,004	0,017	-0,058	-0,236	0,814
CISS – Social Diversion	0,000	0,016	0,004	0,026	0,979

Note: B= Unstandardized Coefficients Beta= Standardized Coefficients.

DISCUSSION AND CONCLUSION

The present study aimed to examine the role of coping and decision-making styles in the BOS experienced by HCWs, physicians and nurses. The existing literature to date has either focused on the relationship between BOS and coping styles or on the relationship between BOS and decision-making styles, usually studied separately. Other studies have tried to establish a causal relationship, pointing to BOS as a precursor and independent variable capable of influencing decision-making capacities or stress-coping skills. In this sense, coping and decision-making have been studied as BOS's consequences. Furthermore, it has been hypothesised that prolonged work stress, which reduces individual capacities, can negatively affect these cognitive processes. To our knowledge, this is one of the few studies that has considered both methods. Furthermore, the role of coping and decision-making as precursors of BOS has yet to be investigated in the literature.

In this sense, the results provided important theoretical and clinical insights, especially for prevention. In particular, the study had two objectives: to compare HCWs with and without BOS and to investigate which decision-making and coping styles may predict BOS levels.

The first hypothesis pointed out that the practitioners at higher risk of developing BOS are those who massively employ more dysfunctional coping strategies to manage stress by using decision-making modes characterised by procrastination and impulsivity. In other words, people with BOS aim to resolve stressful situations quickly to obtain an immediate benefit. This is even more evident from the fact that the rational style was found to be negatively associated with BOS levels. Therefore, low-risk subjects are those who employ the 'handbook' decision-making style, i.e., a classic decision-making process that involves (1) identifying the problem and situation, (2) generating possible viable trajectories, (3) evaluating the consequences of actions and decisions, and (4) implementing the decision with subsequent review of the result. Furthermore, BOS sufferers tend to approach stress by dealing not so much with the situation but with the resulting emotion. As we have seen, the emotion scale describes emotional reactions oriented towards the self and aimed at reducing emotional stress.

During the pandemic, a study was conducted by Di Monte et al. [36] on 102 general practitioners who filled out the MBI, Resilience Scale, Intolerance of Uncertainty Scale Short Form, and the Coping Inventory for Stressful Situations. The cluster analysis revealed four distinct BOS profiles: low BOS, medium, high and the highest BOS level. The high BOS group showed a lower resilience and CISS task-oriented coping strategy than the medium-risk group and a higher intolerance perspective than the low BOS group. Furthermore, the results of a linear regression analysis confirmed that CISS Emotion-oriented style positively predicted MBI emotional exhaustion, CISS Task-oriented and Emotion-oriented emerged as significant predictors (negatively and positively, respectively) of MBI depersonalisation, and resilience positively predicted MBI Personal Accomplishment.

This result is consistent with our study and shows that the mechanism was similar during the pandemic. This could indicate that the BOS mechanism had this precursor before COVID-19, but this worldwide event exacerbated its harmful effects on thousands of physicians' physical and mental health. The present study suggests that the pandemic factor can explain only a particular share of BOS. BOS syndrome is widespread in the target population and has a multi-causal aetiology. These reflections lead to the conclusion that the pandemic has not been the cause of BOS in healthcare workers, as has often been reported in the literature over the past two years. Instead, the pandemic has worsened a condition already worthy of clinical attention and intervention, exacerbating it and bringing it to critical levels. BOS depends largely on direct contact with situations of physical and human suffering that nurses and doctors sometimes fail to cope with, but also on organizational aspects, such as climate, well-being, the relationship with the boss and co-workers, the quality of communication, remuneration, working hours and quality of life in general. These factors are not directly related to the pandemic condition and were pre-existing.

Study limitations

The study also has some limitations relating to the possibility of increasing the sample and the number of observations to increase the generalizability of the data, sample adequacy and reliability of the subscales. Furthermore, anonymity was guaranteed, but how much social desirability could be affected was underestimated. There were no questionnaires to assess social desirability or the latent tendency to improve or worsen one's situation (lie). Furthermore, having used self-report instruments, measures were obtained of the professionals' perception of their choices or their way of reacting to problems, which, as we know, is affected by the self-enhancement mechanism (tendency to think of oneself in a more favourable light, to maintain self-esteem).

Implications for policymakers

Our results are significant from a clinical point of view because they indicate at the same time the focus on which it would be essential to insist on preventive interventions. In addition, cognitive science has added to the formulation of fairly accurate models concerning decision-making. Moreover, simple programs for learning decision-making skills have been developed in recent decades, starting as early as adolescence, such as the "GOFER Process for Decision-Making Tools and Techniques to make Better Choices" developed by Mann and colleagues [37].

Similarly, third-wave cognitive behavioural therapies such as "Dialectical Behavioral Therapy" (DBT) developed by Marsha Linehan [38] have provided ample empirical evidence of their effectiveness in motivational management through the learning of nuclear skills, such as mindfulness, walking the middle path, effectively managing interpersonal relationships and mindfulness of emotions. Both of these skills are considered by the WHO as life skills, i.e. enabling the empowerment and promotion of psychological health in people and should be part of individuals' basic skills and learning and personal growth paths. More recently, the application of the Emotional Freedom Technique (EFT) [39] has been shown effective in improving symptoms of anxiety, stress and BOS in nurses [40], even during the COVID-19 pandemic [41]. However, despite

preventing HCWs from the future risk of BOS is crucial, educational programs based on effective decision-making or emotional management are rarely included in university preparation for the profession of medical doctor or nurse.

The psychology of health organizations makes it possible to distinguish two levels of intervention, those aimed at the individual and those aimed at the organisation. Regarding interventions at the individual level, cognitive-behavioural techniques are of recognized effectiveness. These may concern interventions on the body (breathing and relaxation exercises), on the mind (practices for stopping negative thoughts, emotion control), or aimed at developing social skills (assertiveness, decision making, effective management of interpersonal relationships). Such exercises aim to increase self-awareness and emotional awareness and to improve the individual's ability to cope with work-related stress. Counselling and psychotherapy are also recovery strategies aimed at BOS-affected individuals. Rowe [42] proposed skill training for BOS and occupational stress, emphasizing that long-term treatment with follow-up and relapse prevention is often required to achieve behavioral changes in chronic stress management.

Interventions aimed at the organization focus on factors traditionally linked to the onset of stress, such as lightening the workload, reducing working hours, clearly defining roles and tasks, recognizing merits, rotating staff around particularly burdensome tasks, career development, and encouraging interpersonal conflict resolution. Often the organisation tends to interpret BOS as an individual problem because it thinks it is easier to identify the problem in an individual employee than recognize the organisation's role in maintaining the discomfort and questioning established habits. This is a grave mistake, as BOS can severely affect the economy of the entire organisation with substantial losses both financial and productive: more malpractice lawsuits, contributions to community health care costs (for mental health and substance abuse), absenteeism, sick leave, poor performance, high turnover, health care errors, user dissatisfaction, deterioration of service quality [43].

Change requires an organization-wide effort to structure a large-scale intervention, reducing people's negative perceptions of their work. The results obtained in this study suggest that preventive interventions are needed. BO is not only related to the pandemic caused by COVID-19 but was an already emerging problem that deserved clinical attention. The psychological intervention now is not only indicated but became urgent.

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Institutional Review Board Statement: The Declaration of Helsinki conducted the study for studies involving humans. Participation was voluntary, and subjects signed an informed consent explaining the purpose of the research and guaranteeing anonymity and privacy for sensitive data. The study followed the ethical research principles contained in the Declaration of Helsinki. The participation did not involve the manipulation of psychological variables nor an experimental treatment or condition that could cause any modification or harm to the participating subjects.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors Rizzo Amelia, Alfa Rossella, Carlotta Viviana, Sturniolo Giuseppe, Trazzi Luigi, and Viola Francesco declare that they have been speakers at a series of seminars on the subject of Psychology in Health Organisations, addressed to the students of the Degree Course in Clinical and Preventive Psychological Sciences and Techniques A.Y. 2021/2022 at the University of Messina.

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