

Burnout syndrome and job satisfaction in Greek residents: exploring differences between trainees inside and outside the country

Ilias I. Salpigktidis¹, Dimitrios Paliouras^{1,2}, Apostolos S. Gogakos², Thomas Rallis², Nikolaos C. Schizas², Fotios Chatzinikolaou³, Dimitrios Niakas¹, Pavlos Sarafis^{1,4}, Panagiotis Bamidis^{1,5}, Achilleas Lazopoulos², Sophia Triadafyllidou¹, Paul Zarogoulidis⁶, Nikolaos Barbetakis²

¹Faculty of Social Sciences, Hellenic Open University, Patras, Greece; ²Thoracic Surgery Department, Theagenio Cancer Hospital, Thessaloniki, Greece; ³Department of Forensic Medicine & Toxicology, Faculty of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁴Department of Nursing, School of Health Sciences, Cyprus University of Technology, Limassol, Cyprus; ⁵Department of Medical Physics, Faculty of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece; ⁶Pulmonary Department-Oncology Unit, "G. Papanikolaou" General Hospital, Aristotle University of Thessaloniki, Thessaloniki, Greece

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Correspondence to: Paul Zarogoulidis, MD, PhD. Pulmonary Department-Oncology Unit, "G. Papanikolaou" General Hospital, Aristotle University of Thessaloniki, Thessaloniki, Greece. Email: pzarog@hotmail.com.

Background: The purpose of this study is to investigate the levels of burnout among Greek residents, highlighting potential differences between those practicing at home and abroad, as well as to investigate correlations with demographic, individual and labor factors.

Methods: The research was conducted on a sample of 131 residents, using an anonymous questionnaire which included demographic, individual and labor characteristics, Maslach's Burnout Inventory, questions regarding job and life satisfaction levels, working conditions and the impacts of the economic recession.

Results: Fifty two point seven percent of the sample were training in the Greek National Health Service (N.H.S.), 27.5% in Germany and 19.8% in the United Kingdom. One out of three residents in the Greek system showed high levels of burnout in all three dimensions of the syndrome, while 51.1%, 72.2% and 30.8% of the Greek, British and German team, respectively, appeared burnt out simultaneously in two dimensions. Levels of job and life satisfactions ranged on average, while workload appeared heavy.

Conclusions: The occurrence of burnout was associated with gender, specialty, employment characteristics (working hours, autonomy, support etc.), proneness to accidents, country, job satisfaction and quality of life, but was not associated with age or marital status. No correlation was found with susceptibility to medical errors.

Keywords: Burnout syndrome; residents; brain-drain; job satisfaction; life satisfaction; job demands-resources model

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Introduction

Burnout syndrome has been described as a state of physical and mental exhaustion characterized by the triad of emotional exhaustion, depersonalization and reduced personal accomplishment. It appears as a result of reduced work efficacy, especially in high-stress work environments. Prevalent occurrence has been reported among healthcare professionals and especially medical residents (1,2). A plethora of risk and protective factors have been described to influence the occurrence and development of the syndrome. Among the latter, job satisfaction levels have been—negatively—correlated with one's degree of burnout, while many studies also reveal a mutual, two-way correlation between job satisfaction and quality of life (3-5). Recently in Greece, as a result of the ongoing economic uncertainty and the lack of professional opportunities, there is an increasing number of migrating scientific manpower, with reportedly up to 70.3% of medical residents seeking training abroad (6-8).

Methods

The study was carried out, between January and March 2016, on 138 randomly selected Greek residents, by means of an online questionnaire, the link for which was handed out via social media platforms, residents' associations forums and email. A final sample of 131 residents was selected (94.9% response rate), from Greece, Germany and the United Kingdom. The questionnaire consisted of seven parts, including questions about demographic and work characteristics, susceptibility to medical errors and work accidents, personal habits and effects of the economic crisis, as well as questionnaires recording burnout levels and job and life satisfaction scores. Burnout levels were investigated using the Greek translation of Maslach's Burnout Inventory—Human Services Survey by Anagnostopoulos and Papadatou (9). Residents were further graded on their level of burnout in each dimension, using the ranges of scores described by the previously mentioned researchers, as seen in *Table 1*. Job satisfaction was measured using Warr's Job Satisfaction Scale (10,11), while life satisfaction—as an indicator of quality of life—was investigated by using the Greek translation of the Life Satisfaction Inventory by Fountoulakis *et al.* (12,13). Four components of the Jobs-Demands Model were investigated—workload, home-work conflicts, autonomy and support by colleagues—as indicative of work conditions (14-16).

Due to both the irregularity and the small number of

responses in the groups of residents from the UK and Germany—and since the sample could not be classified as purely representative, as it was not selected after stratification or other systematic methods—nonparametric methods of analysis were selected (SPSS version 22) and significance was accepted where P value was less than 0.05. Mann-Whitney's tests were used to highlight possible correlations between burnout and dichotomous variables, while Spearman's correlation coefficient (Spearman's rho) was used for quantitative or ordinal independent variables, one or two-way when appropriate. In order to investigate differences between more than two groups, Kruskal-Wallis tests were conducted, further supported by performing Mann-Whitney controls in pairs. The integral reliability of the questionnaire was evaluated using Cronbach's alpha, which was found acceptable (>0.7) across all sections of the questionnaire—with the exception of that regarding autonomy levels for the Jobs-Demands Model.

An important limitation of this study is the small sample size, particularly for the group of residents from the United Kingdom (<30)—due to lack of officially established communicational networks—which inhibits safe generalization of the results for the whole of the population in reference. Furthermore, no normative values for the Greek medical residents—either at home or abroad—is yet available. Moreover, despite the extensive questionnaire, it was impossible to investigate all occupational factors influencing the appearance and development burnout in this group of health professionals. Another equally important limitation of this study is the absence of relative studies in the past, which were focused on exploring the incidence and etiology of the phenomenon of burnout in residents. Thus, references in studies among more generalized groups of health professionals were done when comparing results.

Results

The questionnaire was filled in by 69 trainees in the Greek system (52.7%), 26 in the British system (19.8%) and 36 in the German system (27.5%). The average age was found to be 30 years (standard deviation 3 years). Although males and females participated equally in the total sample, the Greek and German team, in the case of the United Kingdom male doctors excelled women by 23.2%. One in five participants was married (22.1%), mostly women rather than men (15.3% and 6.9%, respectively).

Participants were being trained mostly at specialties

Table 1 Definition of burnout level by dimension

Burnout dimension	Questions	Burnout level		
		Low	Medium	High
Depersonalization	5, 10, 11, 15, 22	≤5	6–10	≥11
Personal achievements	4, 7, 9, 12, 17, 18, 19, 21	≥42	41–36	≤35
Emotional exhaustion	1, 2, 3, 6, 8, 13, 14, 16, 20	≤20	21–30	≥31

Table 2 Job and life satisfaction mean scores by group of trainees

Satisfaction	Country			Range of possible scores
	Greece	United Kingdom	Germany	
Job satisfaction	50	79	65	15–105
Life satisfaction	39	44	42	13–65

of the pathology and surgical sector (55% and 40.5%, respectively), while just 4.6% of them were being trained in a laboratory specialty.

The majority of residents in the Greek National Health Service (N.H.S.) (66.7%), were found to be working longer than 65 hours per week, surpassing the 48-hour frame described in the 2003/88 European Directive. In contrast, 57.7% of those trained in the British N.H.S. complied with the aforementioned time frame and 55.6% of those trained in Germany were found to be working over 53-hours weekly.

Residents in the British N.H.S. were found to draw higher levels of job and life satisfaction in comparison with the other two groups, with those trained in the Greek system scored lowest (*Table 2*). The latter group was also found to have more frequently work-family conflicts and lower collegial support.

Residents of the Greek system were found to have a higher average of emotional exhaustion score from the other two groups, while those trained in the United Kingdom showed lower average score of depersonalization. Almost one in three (29%) of trainees in the Greek N.H.S. showed high levels of burnout in all dimensions, in contrast to a mere 5.6% and 3.8% of residents in the German and British N.H.S. respectively. Burned out in two dimensions were the 72.2% of residents in Germany, the 55.1% in Greece and 30.8% of those in the United Kingdom (*Table 3*).

About 8 in 10 residents of the Greek system, thought that the economic recession had negative repercussions

Table 3 Levels of burnout per dimension and per country of residency

Burnout dimension, grade	Country of residency (%)		
	Greece	United Kingdom	Germany
Depersonalization			
Low	0.0	0.0	0.0
Medium	7.2	26.9	8.3
High	92.8	73.1	91.7
Personal achievements			
Low	49.3	50.0	77.8
Medium	21.7	46.2	11.1
High	29.0	3.8	11.1
Emotional exhaustion			
Low	4.3	15.4	0.0
Medium	7.2	50.0	27.8
High	88.4	34.6	72.2

on their work environment (82.6%), their finances (84.1%) and psychological state (85.5%), thus expressing the intention to migrate abroad for professional reasons (78.2%).

Sex was significantly correlated with two burnout dimensions, with women recording higher levels of emotional burnout ($P=0.035$) and men more often lower sense of personal achievements ($P=0.035$), while depersonalization and emotional exhaustion levels were higher in trainees in medical specialties ($P=0.003$ and 0.000 respectively) and were further correlated with weekly working hours ($rs=0.117$ and 0.403 respectively). Emotional exhaustion was also correlated positively with the number of monthly on-calls ($rs=0.391$) and with susceptibility to work accidents ($rs=0.298$).

Levels of depersonalization, emotional exhaustion and personal achievements were strongly correlated ($P=0.000$)

Table 4 Average scores for depersonalization and emotional exhaustion in previous studies

Researcher	Year	Country	N	Depersonalization (%)	Emotional exhaustion (%)
Salpigktidis	2016	Greece	69	19.00	42.00
Panagopoulou (21)	2006	Greece	143 ^a	11.30	27.30
Dilintas	2007	Greece	218 ^b	8.10	22.80
Schulz <i>et al.</i> (26)	2009	Germany	389 ^c	9.36	24.05
Petropoulos	2009	Greece	58 ^a	8.55	25.17
Kousournas	2014	Greece	131 ^a	12.90	31.50
Stasinopoulos	2015	Greece	187 ^a	18.50	41.40
Pantenburg <i>et al.</i> (27)	2016	Germany	2,357 ^d	9.90	21.30

^a, residents; ^b, health professionals; ^c, nurses; ^d, doctors <40 years old.

with both job and life satisfaction levels ($r_s = -0.412, -0.717, 0.277$ and $-0.353, -0.571, 0.425$ respectively).

Depersonalization and emotional exhaustion were negatively correlated with collegial support ($r_s = 0.362$ and 0.645 respectively; $P = 0.000$) and positively with work-home conflicts ($r_s = 0.468$ and 0.326 respectively; $P = 0.000$) and workload ($r_s = 0.616$ and 0.479 respectively; $P = 0.000$). The sense of personal achievement was positively correlated with the support from colleagues ($r_s = 0.284$; $P = 0.001$) and autonomy in the workplace ($r_s = 0.386$; $P = 0.000$), while negative was the correlation with the occurrence of work-home conflicts ($r_s = 0.223$; $P = 0.005$).

Discussion

In coherence with previous studies (17-19), significant correlations were found between sex and increased levels of emotional exhaustion and personal achievements, with women more prone to emotional exhaustion and men burned out twice as often due to sense of low personal achievements. Furthermore, no correlation was found between burnout and age or marital status.

In contrast to previous studies (16,20), residents in medical specialties were found to be significantly more prone to depersonalization and emotional exhaustion from those training in surgical specialties. No correlation was found between burnout and tendency to medical errors, yet high levels of emotional exhaustion were correlated positively with more frequent work accidents.

The weekly working hours were positively associated with depersonalization and emotional exhaustion—which was also strongly correlated with the number of on-calls per

month, in accordance to previous findings (21). As stated by previous researchers, limiting the exhausting working hours of residents can have a positive impact on both their mental and physical health and their professional development and quality of health services provided (22,23).

In concurrence with previous studies (5,24,25), low job satisfaction was linked with the occurrence of burnout, while job and life satisfaction were further interactively correlated.

With regards to the different factors of the Jobs-Demands-Resources Model, positive correlations were found between workload and work-home conflicts and the occurrence of depersonalization and emotional exhaustion, while correlated negatively was the relation between the afore mentioned burnout parameters and collegial support. In a relevant research among Greek residents in 2015, similar correlations arose, yet only with levels of depersonalization. As in the previously mentioned study, levels of personal achievement were correlated positively with autonomy and support from colleagues and negatively with work-home conflicts.

Significant differentiation arose in levels of depersonalization and emotional exhaustion between the group from the U.K. and those from Greece and Germany, while also statistically significant was the difference in recorded levels of personal achievement between the two latter groups.

In comparison to previous studies conducted between 2006 and 2016 among health professionals in Greece and Germany, those being trained in Greece scored higher average levels of emotional exhaustion and depersonalization. There is an increasing trend of the recorded mean scores of depersonalization and emotional exhaustion of studies conducted among medical residents in the Greek N.H.S.

Table 5 Prevalence of high degree of burnout per component. Comparison to previous studies

Researcher	Year	Country	N	Depersonalization (%)	Emotional exhaustion (%)
Böhle <i>et al.</i> (28)	2001	Germany	75 ^a	37.00	40.00
Orton <i>et al.</i> (29)	2012	U.K.	564 ^b	42.00	46.00
Kousournas	2014	Greece	131 ^c	58.80	68.70
Salpigktidis	2016	Greece	69 ^c	92.80	88.40
		Germany	36 ^c	91.70	72.20
		U.K.	26 ^c	73.10	34.60

^a, urologists; ^b, general practitioners; ^c, Greek residents.

Table 6 Prevalence of high levels of burnout per number of dimensions. Comparison with previous studies

Researcher	Year	Country	N	One Dim. (%)	Two Dim. (%)	Three Dim. (%)
Zis (16)	2014	Greece	264 ^a	52.47	25.10	8.71
Pantenburg (27)	2016	Germany	2,357 ^b	34.00	21.00	11.00
Salpigktidis	2016	Greece	69 ^a	13.00	55.10	29.00
		Germany	36 ^a	13.90	72.20	5.60
		U.K.	26 ^a	38.50	30.80	3.80

^a, Greek residents; ^b, doctors <40 years old; Dim, dimensions.

from 2006 onwards (*Table 4*). Similarly, higher was the occurrence of high levels of burnout in each component for all three groups of trainees in comparison to studies conducted by Böhle *et al.* [2001] in Germany, Orton *et al.* [2012] in the United Kingdom and Kousournas [2014] in Greece (*Table 5*). In agreement to a study conducted by Richter *et al.* in 2014 (30), who estimated the prevalence of burnout among European doctors between 40% and 50%, the occurrence of the syndrome was high across all groups, especially though for those being trained in the Green N.H.S. (*Table 6*).

In conclusion, under light of the results from this study—as supported by previous researchers, and since, residency—as an often-overwhelming training period, which generates high levels of emotional and physical stress—can be regarded as predisposing for the development of burnout, it would be wise to develop adequate strategic plans in order to—if not reverse—halt the proliferation of burnout in this sensitive group of health professionals. That, in the case of the Greek N.H.S., could prove to be of crucial importance—especially under the pressure of the constantly growing numbers of

residents seeking training abroad.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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