Burnout among Romanian Healthcare Professionals: The Role of Work-Home Interference

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Abstract: *In a healthcare system decayed by inconsistent legislative changes we propose an investigation into the role of occupational factors in burnout development among a sample of Romanian healthcare professionals. Moreover, we aim to test the role of the negative influence of work upon private life in burnout development. Cross-sectional data was collected during April 2012 from a sample of 327 physicians and nurses in one county emergency hospital from Transylvania. Participants filled out 1) the MBI-GS, 2) the Questionnaire on the Experience and Evaluation of Work, and 3) the corresponding negative work-home interference scale from the Survey Work-Home Interaction Nijmegen. All scales had good psychometric properties. Structural equation modeling with Bootstrapping analysis was used to test the hypothesised relations. Multigroup analyses were computed to test model's invariance. Results indicate that the model obtained an overall good fit: χ^2 (11) = 47.21, CFI = .95, NFI = .93, GFI = .96, and RMSEA = .10. Job demands predict both burnout (β=.59, p < .001) and work-home interference (β=.64, p < .001). Work-home interference partially mediates the job demands–burnout relation. Multigroup analyses confirmed that the model is invariant across age, medical speciality, and number of children under care. The present study brings evidence for the salient role of work-home interference in burnout development among healthcare professionals. Our results have implications in designing interventions focused on both reducing and preventing burnout in Romanian healthcare professionals.*

Cuvinte-cheie: sindromul burnout; solicitări ocupaţionale; interferenţa negativă muncă – viaţă personală; personal medical.
Keywords: burnout; job demands; negative work-home interference; healthcare professionals.

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Introduction

The Romanian healthcare system

The Romanian healthcare system is one of the most poorly financed and inefficient in the European Union, mostly due to a never-ending reform and an inconsistent management (Bara, van den Heuvel and Maarse, 2002; Băban et al., 2005). With a health expenditure seven times less than the European mean (353 dollars per capita, compared with 2,619) and one of the lowest densities of healthcare professionals in Europe (less than two physicians for 1,000 population and less than four nurses for 1,000 population), Romania struggles with alarming avoidable mortality rates (Karanikolos and McKee, 2011; Schafer et al., 2010; Vlădescu et al., 2008). Although studies document decreasing levels of deaths due to delayed and ineffective health care, Romania is confronted with one of the highest infant mortality, cervical cancer, or cardiovascular disease rates from the European Union (Mladovsky et al., 2010; Todorova et al., 2009).

The chronic underfinancing and inconsistent management led to a healthcare system riddled with disparities. There are large inequalities in geographical distribution of healthcare professionals, as 86% of physicians practice in the urban areas, while the only 14% working in the rural areas provide health care for 47% of the Romanian population (Rohova, 2011). Studies report inequalities in the access to healthcare as a consequence of the socio-economic differences (Iacobuță et al., 2013; Olaru, 2013; World Health Organization, 2009). The media also depicts the healthcare system in a disproportionate manner, giving voice mainly to central and local authorities, while ignoring the healthcare professionals' opinions (Popa, 2013).

In the context of a healthcare system decayed by inconsistent legislative changes, we propose an investigation into the role of occupational factors in burnout development among a sample of Romanian physicians and nurses.

Burnout among healthcare professionals

Burnout is a response to the chronic exposure to occupational stress which negatively impacts on the individual, the organisation, and the society (Maslach and Leiter, 1997; 2008). It endangers employees' health, as it is a salient risk factor for all-cause mortality among young employees across industries (Ahola et al., 2010) and an independent predictor of coronary heart diseases (Toker et al., 2012). Burnout affects organisational performance, predicting high turnover rates (Leiter and Maslach, 2009), low organisational commitment (Laschinger et al., 2009), or increased medical error rates (Shanafelt et al., 2010). It burdens the health care systems by increasing the financial costs associated with recruitment and retention of qualified healthcare professionals, sickness absence, or decayed quality of care (Maslach and Leiter, 1997; Wallace, Lemaire and Ghali, 2009). Healthcare professionals' burnout endangers not only the individual or the organisation, but also the healthcare service recipients. Studies found that burnout predicts suboptimal care behaviours and serious medical errors. Residents with burnout were two to three times more probable to report perceived suboptimal care provided at least monthly or weekly (Shanafelt et al., 2002). Physicians admit that their prescribing mistakes are the result of occupational and organisational factors, such as increased workload or inadequate training (Dean et al., 2002). Patients of physicians with high exhaustion and depersonalisation scores rated significantly lower satisfaction with medical care than patients

of physicians with low burnout profiles (Anagnostopoulos et al., 2012).

Burnout affects an estimated one third of physicians, residents, and nurses, with studies reporting higher rates among residents (Panagopoulou, Montgomery and Benos, 2006). Researches which compared burnout rates among physicians and general population found that medical professionals are more prone to burnout, with one in two American physicians having burnout symptoms (Shanafelt et al., 2012). Although burnout affects healthcare professionals regardless of medical speciality, studies report that those working in surgical (Ksiazek et al., 2011; Upton et al., 2012), oncology (Dorz et al., 2003), front line of care access, such as family and emergency medicine (Shanafelt et al., 2012; Soler et al., 2008), and obstetrics and gynaecology (Becker, Milad and Klock, 2006; Martini et al., 2004) share the highest burnout rates.

Burnout predictors

Although studies proposed along the years a heterogeneous list of burnout antecedents, they cluster in three broad categories: psychosocial (such as stress, personality variables), organisational (such as perceived employee – organisation incongruence, work team or organisation characteristics), and occupational (such as job demands, role stress). Meta-analytic studies (Lee and Ashforth, 1996) and systematic reviews (Bria, Băban and Dumitraşcu, 2012) conclude that occupational factors have the salient role in burnout development.

Occupational burnout risk factors are best captured by the Job Demands-Resources model (JD-R model) (Demerouti et al., 2001). The core assumption of the model is that regardless of the work domain, job characteristics can function either as demands or resources. Job demands are defined as occupational aspects which require energy consumption, leading, in the long run, to negative individual and organisational consequences. By contrast, job resources represent those occupational and organisational characteristics which are fulfilling and foster development. Thus, burnout is defined as a result of the perceived imbalance between job pressures (e.g., workload, emotional, and cognitive demands) and available resources (e.g., performance feedback, supervisory support, job control). The model received support both from cross-sectional studies among diverse professional roles (Bakker et al., 2003; Bakker et al., 2007) and longitudinal studies (Hakanen, Schaufeli and Ahola, 2008).

Studies have long established the role of perceived workload and emotional job demands as major proximal risk factors in burnout development among healthcare professionals (Linzer et al., 2001) or other professional roles (Hakanen, Bakker and Schaufeli, 2006). Perceived workload has been found to be one of the strongest burnout antecedents, especially for exhaustion (Alarcon, 2011; Lee and Ashforth, 1996). Cognitive demands have been mainly tested in relation with work engagement or work-home interference (Bakker, Demerouti and Schaufeli, 2005; Bakker, ten Brummelhuis, Prins and van der Heijden, 2011) and rarely with burnout.

Recent qualitative studies underscore that Romanian healthcare professionals report being overwhelmed on a daily basis by increasingly urgent tasks that require attention and precision. This adds to the staggering workload they have to deal with and to the financial shortcomings of the Romanian healthcare system (Spânu et al., 2012). Based on this data, our main objective was to investigate the role of perceived workload, emotional, and cognitive demands in burnout development.

Work-home interference and burnout

Work-home interference is defined as an inter-role conflict where job and domestic responsibilities interfere in either a positive or a negative way (Demerouti and Geurts, 2004), and has been mostly defined through two main approaches. Earlier studies defined work–home interference as a global, overall perceived balance/imbalance between professional and personal demands (e.g. Voydanoff, 2005). Latter researches described a multidimensional phenomenon, with both work and personal roles having either enrichment or deteriorating effects over the other (Rantanen et al., 2013). While earlier researches focused mainly on the negative spillover of work demands on home responsibilities, recent studies bring evidence for the cross-over relations from one partner to the other of either work-home interference or well-being (Kinnunen et al., 2010). The negative work-home interference (negative WHI) has been the most studied dimension, especially in relation with well-being.

Studies investigating the negative WHI–burnout relation can be grouped in three main approaches, based on the type of relation identified. First, the dominant approach is the traditional one, which conceptualises negative WHC as a burnout antecedent. The JD-R model subscribes to the traditional approach and incorporates negative WHC as a burnout antecedent. The vast majority of studies which found evidence to confirm this relation add important findings and specify that negative WHI mediates the relation between occupational stressors and burnout. Cross-sectional (Geurts, Rutte and Peeters, 1999; Peeters et al., 2005) and longitudinal (Kinnunen et al., 2010; Peeters et al., 2004) studies point out that job demands contribute to burnout indirectly, through negative WHI. Job schedule demands (Lingard and Francis, 2005) or business travels (Jensen, 2013) are other occupational variables studies have found to impact on burnout indirectly, through negative WHI.

According to the reversed causation approach (second approach), negative WHI was found to be an output for burnout. Longitudinal studies confirmed a significant direct relation between negative WHI and burnout (Westman, Etzion and Gortler, 2004). Recent longitudinal studies add to the existing literature evidence for a reciprocal relation between negative WHI and burnout (third approach) (Innstrand et al., 2008).

The present research subscribes to the first approach and aims to investigate the mediational role of negative WHI between occupational factors and burnout, among a sample of Romanian healthcare professionals. Although work-life balance is an EU priority, studies found considerable differences between countries, with Finland and Norway, for example, reporting lower work-home conflict rates than Britain, France, or Portugal (Crompton and Lyonette, 2006). Romania is characterised by a traditional culture and a less productive society, where a large proportion of employment is found in the agricultural sector, and men work on average 1.8 hours longer than women do in their main job (Voicu, 2006). Also, although studies report high work-home conflict rates among Romanian workers (Voicu, 2006), there are few studies which linked work-home interference with burnout.

The present study

Drawing on the JD-R model, we propose in the present study to investigate the effect of job demands and negative WHI on burnout development among a sample of physicians and nurses. Given this, we hypothesise that cognitive demands, together with workload and emotional de-

mands will have a negative impact and, thus, will predict burnout. Moreover, we hypothesise that negative WHI mediates the job demands – burnout relation. Our hypotheses are:

Hypothesis 1a: Job demands (workload, emotional, and cognitive) positively predict burnout.

Hypothesis 1b: Quantitative workload (self-reported number of attended patients and of weekly worked hours) positively predict burnout.

Hypothesis 2: Negative work-home interference mediates the relation between job demands (workload, emotional, and cognitive) and burnout.

Our study adds two major contributions to the existing literature. First, although conceptualised as job demands, previous studies tested the role of cognitive demands in relation with engagement. Rarely studies investigated the role of cognitive demands in burnout development or among healthcare professionals. Thus, we address this literature gap by testing the role of cognitive demands in burnout development among healthcare professionals. Second, we aim to test not only the mediational role of negative WHI between job demands and burnout relation, but also if this relation is sensitive to socio-demographic and organisational factors, such as age, number of children under care, and medical speciality. Preceding studies controlled for other psychosocial factors, such as age or negative affectivity (Montgomery, Panagopoulou and Benos, 2006), but not for specific work and family characteristics such as the number of children under care or medical speciality.

Method

Sample and procedure

The study was conducted in April 2012 in a large emergency county hospital from Transylvania. After receiving the management approval, five hundred questionnaires were distributed to healthcare professionals with the help of the nurse chief. All participants were assured about the anonymity and confidentiality of their responses, and encouraged to seal the envelope when returning their questionnaire. For those interested, we offered an individualised feedback via email about burnout and negative WHI score. We received 364 completed questionnaires. We retained for statistical analysis only the 327 questionnaires of professionals who have direct and constant contact with patients (physicians and nurses).

The respondents' age ranges between 23 and 64 years old (mean age = 42.13; SD = 10.24) and have between six months and 42 years of experience in the hospital (mean = 15.92 years; SD = 10.79). The majority of respondents are women (82%) and 73.5% stated that they are married. Table 1 offers details about sample characteristics.

Measures

Burnout was measured by the *Maslach Burnout Inventory – General Survey* (MBI-GS) (Schaufeli et al., 1996). The items of the questionnaire are grouped into three scales which describe work attitudes in general, with no emphasise on social relations. Exhaustion scale includes five items, such as "*I feel burned out from my work*". Cynicism consists of four items (e.g., "*I have become less interested in my work since I started this job*"), while the remaining six items compose the professional efficacy scale (e.g., "*I feel confident that I am effective at getting things done*"). All items are scored on a seven-point Likert scale ranging from zero ("*never*") to six ("*every day*").

Table 1: *Sample characteristics*

		Medical	*Surgical*
Professional role	Physicians	49	25
	Nurses	162	83
Gender	Male	26	24
	Female	182	82
Age (years)	23-35	66	30
	36-45	73	41
	Over 46	71	33
Total		211	108

Job demands (workload, emotional, and cognitive) were measured with the corresponding three scales from the *Questionnaire on the Experience and Evaluation of Work* (QEEW) (Van Veldhoven et al., 2002). The scales are framed as statements about work characteristics and responses are given on a four-point frequency scale. Workload scale consists of 11 items (e.g., "*Do you have to work very fast?*"), while both emotional demands scale (e.g., "*Do you have contact with difficult clients or patients in your work?*") and cognitive demands scale (e.g., *"Do you have to remember many things in your work?*") consist of seven items.

The negative interference of work upon private life was measured with the corresponding scale from the Survey Work Home Interaction Nijmegen (SWING) (Geurts et al., 2005). The eight items of the scale are measured on a 4-point frequency scale (e.g., "*You have to work so hard that you do not have time for any of your hobbies*").

Data analyses

Our hypotheses were tested through structural equation modeling (Byrne, 2010) with AMOS 18.0 software (Arbuckle, 2007). We used the maximum likelihood estimation procedure to confirm the hypothesised model. Burnout and job demands were identified in the model as second order factors, while work-home interference was a first order factor. Burnout was indicated by its three burnout dimensions (exhaustion, cynicism, and professional efficacy). Job demands were represented by workload, emotional, and cognitive demands. The fit of the model to the data was assessed based on the values of the following fit indices: root mean square error of approximation (*RMSEA*) (Steiger and Lind, 1980), the comparative fit index (*CFI*) (Bentler, 1990), Goodness-of-Fit Index (*GFI*), and Normed fit Index (*NFI*) (Bentler and Bonnet, 1980). For *CFI*, *GFI,* and *NFI,* values higher that 0.90 indicate a good fit of the data to the model and values higher than 0.95 are considered excellent fit. While the majority of researchers admit that *RMSEA* values up to 0.08 signal a reasonable fit (Byrne, 2010), others accept values up to 0.10 (MacCallum, Browne and Sugawara, 1996).

To test for the mediating effect in the model we used Bootstrapping analysis, as recommended by Kenny (2012). Bootstrapping was performed with a 95% bias-corrected interval confidence with 2,000 trials.

We also tested through multigroup analyses if the tested model is invariant across age, number of children under care, and medical speciality, in accordance with Byrne's recommendations (Byrne, 2010). The invariance procedure involves testing and comparing different models that imposed successive restrictions on model parameters. Five structural models with increasing constraints were subsequently

fitted to the data. First, all the parameters were freely estimated across all sub-samples, meaning that all parameters were allowed to differ in each sub-sample. Second, measurement weights (meaning factor loadings) were constrained to be equal across sub-samples. Third, structural weights (meaning the causal paths) were added to be constrained across sub-samples, and then, structural covariances and structural residuals were constrained to be equal across sub-samples. Multigroup invariance is evidenced through two indices: ΔCFI and $\Delta\chi^2$ (Δdf). The difference between the CFI of the unconstrained model and each of the following models should be less than .01, while $\Delta\chi^2$ (Δdf) should not be significant (Byrne, 2010). According to Cheung and Rensvold (2002) recommendations we used change in CFI to evaluate models' invariance. Change in CFI was chosen over change in χ^2 (df) because χ^2 is highly sensitive to sample size and number of constraints (Brannick, 1995; Kelloway, 1995).

Results

Descriptive statistics

Analysis of missing values indicated that all the items have between 0 and 4.4% of incomplete cases. According to Tabachnick and Fidell (2007), for large databases with few missing cases (as it is our case) almost any procedure for replacing missing data will offer the same results. We opted for the linear trend at point method. Descriptive statistics showed that professional efficacy (-2.16) and cognitive demands (-1.83) scales have slightly negative skewed distributions because of univariate outliers. We opted for logarithmic transformation of variables which produced near normal distributed variables. Table 2 displays the means, standard deviations, internal consistency, and correlation coefficients for all the scales included in the analysis after the transformation of variables. Negative work–home interference is significantly correlated with all burnout and job demands dimensions. Exhaustion is significantly correlated with all job demands dimensions, cynicism with perceived workload and emotional demands, and professional efficacy only with cognitive demands. We aimed to test also the relation of average weekly work hours and the estimated number of daily patients with burnout. As the two mentioned variables are not correlated with burnout, we excluded them from the structural equation analyses. Thus, our hypothesis 1.b. is not confirmed.

Table 2: *Means (M), standard deviations (SD), Pearson correlations, and α Cronbach for job demands (workload, emotional demands, and cognitive demands), burnout (exhaustion, cynicism, and professional efficacy), and negative WHI of the transformed data; N = 327*

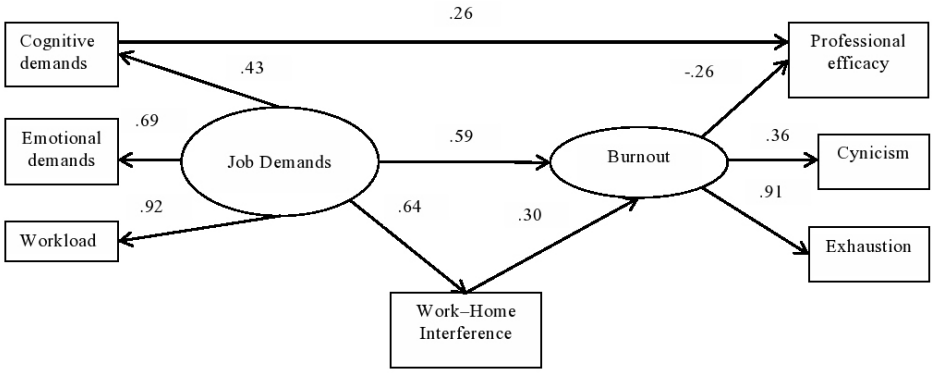
	M	SD	α	1	2	3	4	5	6	7	8
1. Exhaustion	0.48	0.23	.89								
2. Cynicism	0.26	0.23	.71	.33**							
3. P. efficacy	1.68	1.44	.63	-.14**	-.25**						
4. Av. work hours	1.65	0.18	--	.02	.01	.01					
5. Daily patients	1.19	0.29	--	.15**	.03	.06	-.03				
6. Workload	1.79	0.14	.83	.68**	.18**	-.02	-.03	.14**			
7. Emotional D.	1.69	0.22	.79	.50**	.13**	-.01	-.00	.11*	.63**		
8. Cognitive D.	2.27	0.53	.54	.26**	.00	.19**	.07	-.00	.41**	.32**	
9. Negative WHI	0.30	0.15	.91	.61**	.27**	-.23**	-.01	.04	.59**	.50**	17**

Note: P. efficacy, professional efficacy; Av. work hours, average work hours; Emotional D., emotional demands; Cognitive D., cognitive demands. **p < .01; *p < .05

Structural equation modeling results

The hypothesised model obtained an acceptable fit according to the fit indices: *CFI* = .91, *NFI* = .90, *GFI* = .93, *RMSEA* = .12, and χ^2 *(df)* = 70.79 (12). Analysis of modification indices indicated that there is a direct path from perceived cognitive demands to professional efficacy. We incorporated this modification in the model and according to the fit indices, the final model obtained an overall good fit: *CFI* = .95, *NFI* = .93, *GFI* = .96, *RMSEA* = .10, and χ^2 *(df)* = 47.21 (11). The standardised regression coefficients confirmed hypothesis 1.a. and indicated that job demands predict burnout (β=.59, p < .001). Cognitive demands proved to be both a protective and a risk factor for burnout. Results indicated there is a significant direct positive path from cognitive demands to professional efficacy (β=.26, p < .001) and also that cognitive demands load on job demands factor (β=.43, p < .001). Results indicated that work-home interference predict burnout (β=.30, p < .001) and job demands predict work-home interference (β=.64, p < .001). We found support for hypothesis 2, as mediation analyses results indicated that negative WHI partially mediates the relation between job demands and burnout. Squared multiple correlations indicated that 41.3% of the variance associated with negative WHI is explained by job demands, while 66% of the variance associated with burnout is explained by job demands and negative WHI together. Results of the final model are presented in figure 1.

In the next step multigroup analyses were computed to test if the final model is invariant across age, number of children under care, and medical speciality. The results of the multigroup analyses for all the tested subgroups (table 3) indicated an overall good fit of the data to the model. CFI values ranges between .93 and .96, GFI between .92, and .95, while RMSEA values ranges between .04 and .07, which all indicate a good fit of the data to the model. According to the differences in CFI which are all equal to or lower than .01, the factor loadings and paths coefficients of the final model are invariant across all three variables (age, number of children under care, and medical speciality).



Note: all regression coefficients are significant at p < .001

Figure 1: *The results of the final model*

Table 3: *Testing the equality of the factor loadings and the paths between the latent factors of the hypothesised model for age (up to 35 years, between 36 and 45 years, and over 46 years), number of children under care (no children versus having children), and medical speciality (medical versus surgical); N = 327*

		χ^2	*df*	*CFI*	*GFI*	*NFI*	*RMSEA*
Age	Free parameters	72.25	33	.94	.94	.90	.06
	Measurements weights	65.85	45	.96	.94	.91	.04
	Structural weights	88.43	49	.94	.92	.88	.05
	Structural covariances	91.99	51	.94	.92	.88	.05
Number of children under care	Free parameters	61.24	22	.94	.94	.92	.07
	Measurements weights	65.83	27	.94	.94	.91	.06
	Structural weights	72.80	30	.94	.94	.90	.06
	Structural covariances	73.98	31	.94	.93	.90	.06
Medical speciality	Free parameters	59.18	22	.94	.95	.92	.07
	Measurements weights	66.89	27	.94	.94	.91	.06
	Structural weights	70.16	30	.94	.94	.90	.06
	Structural covariances	74.42	31	.93	.94	.90	.06

Note: χ^2 = *c*hi-square; *df* = degrees of freedom; *CFI* = comparative fit index; *GFI* = goodness-of-fit index; *NFI* = normed fit index; *RMSEA* = root mean square error of approximation.

Discussion

The current research aims to identify burnout triggers among doctors and nurses in a healthcare system decayed by frequent legislative changes, financial declining, and human resources crisis.

First, congruent with the JD-R model of burnout (Demerouti et al., 2001) our study brings evidence to confirm the predictive role of perceived occupational characteristics, such as workload, emotional, and cognitive demands in burnout development. Embittered by the chronic underfinancing and the inconsistent management, many healthcare professionals opted to work abroad, after Romania joined the European Union (Spânu et al., 2012). In 2007, around 3% of all practicing physicians from Romania (1,421) left the country (Ognyanova et al., 2012; Wismar et al., 2011). The emigration epidemic of healthcare professionals which continued in the following years has overwhelmed an already burdened personnel. Thus, the current results underscore that burnout is mainly the result of an overwhelming work setting. Guided by previous studies which pointed out the role of quantitative demands as burnout antecedents (e.g., Martini, Arfken and Balon, 2006; Shirom, Nirel and Vinokur, 2010), we included in the analyses two self-reported measures: the number of patients attended daily and the weekly work hours. We found no significant association between quantitative demands and burnout, which underscore the salient role of perceived job demands in burnout development.

Second, results prove that work-home interference is a significant antecedent for burnout which adds to the job demands – burnout relation. Previous studies which confirmed the mediational role of work-home interference between job demands and burnout discussed the role of workload and emotional demands (e.g. Montgomery et al., 2006), while the present study discusses also the role of cognitive demands in burnout development. What our study adds new to the existing literature is specifying the role of cognitive demands in burnout development. Cognitive demands proved to be both a risk and a protective

factor for burnout among our sample of healthcare professionals, as they are positively associated with exhaustion and professional efficacy. Cognitive demands boost professional efficacy, as healthcare professionals perceive to be more professionally efficient the more cognitively challenging their job is. Those results offer support for the conceptualisation of professional efficacy as a distinct burnout dimension. More precisely, previous studies suggested that professional efficacy develops separately from the other two burnout dimensions (Bakker, Demerouti and Verbeke, 2004). Lee and Ashforth's (1996) meta-analysis concludes that exhaustion and depersonalisation are more strongly related to job stressors than diminished personal accomplishment. Other studies found that professional efficacy partially overlaps with personality constructs or self-efficacy (Swider and Zimmerman, 2010), which led researchers to the conclusion that professional efficacy is rather a personality than a burnout dimension, with exhaustion and cynicism as the core burnout dimensions.

The present results brought evidence for models' invariance across age, medical speciality, and number of children under care. Contrary to previous results which pointed out that parental status might favour work–family conflict especially among women (e.g., Grzywacz and Marks, 2000), we found no evidence for the moderating role of parental status in the relation between job demands and negative WHC. Previous studies suggested there is a gender bias in work–family interaction (Ádám, Györffy and Susánszky, 2008). As our sample is predominantly composed of female professional, we could not verify if the tested model is sensitive to gender differences.

The current results have implications in designing interventions focused on both reducing and preventing burnout in Romanian healthcare professionals. Decision makers at both local (hospital) and national (healthcare system) level might reduce the risk of burnout development and negative spillover of occupational role on healthcare professionals' private life through preventing job overload. One way is by developing healthcare services in the rural areas – by offering stimulating compensations and adequately equipped clinics – and, thus, taking the pressure off county hospitals. The large discrepancies in the geographical distribution of healthcare services, with the majority clustering in the large cities and few, if any, in the rural areas constrain rural patients' access to city hospitals.

To conclude, our study emphasizes that healthcare professionals' burnout develop when they are confronted with overwhelming job demands, but especially when professional role negatively spills over the personal life. The results highlight that there are two mechanisms through which the occupational context impacts on healthcare professionals' well-being. First, data confirmed that job demands are strong burnout antecedents, and second, we pointed out the impact job demands may have on burnout, by negatively influencing the personal life.

Although our research suggests a causal relation between the studied variables, further longitudinal studies should be conducted for a firm confirmation. Results should be viewed with caution due to self-report measures. Diary studies or objective measures might bring complementary information. Also, the focus of the present research was to investigate the role of occupational factors in burnout development, thus future studies might extend our results and investigate the role of other factors, such as job commitment. We did not investigate if the actual respondents differ from the ones that did not answered, but we estimate there are no significant differences. A large proportion of the unfilled questionnaires are due to sick leaves, holiday leaves or shift changes.

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