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# Physician Burnout in Hungary

## A Potential Role for Work–Family Conflict

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### Abstract

In a study among Hungarian physicians ( $N = 420$ ), we tested the hypothesis that compared to men female physicians experience higher work–family conflict (WFC) and consequent burnout. As predicted, female physicians scored significantly higher on the emotional exhaustion subscale of the Maslach Burnout Inventory and significantly more female physicians experienced high levels of emotional exhaustion compared to male physicians. WFC emerged as a significant predictor of burnout (emotional exhaustion and depersonalization). These findings suggest a potential path from WFC to burnout in a scarcely researched population of physicians in a unique cultural setting and provide further data for cross-cultural burnout research.

### Keywords

- *gender differences*
- *Hungary*
- *physician burnout*
- *stressors*
- *work–family conflict*

## Introduction

BURNOUT, a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment, has been described among physicians in several countries and medical specialties (Linzer et al., 2002; Maslach, Jackson, & Leiter, 1996). Burnout among physicians may lead to depression, substance abuse, and absenteeism; hence it may not only adversely affect physicians' well-being but also the quality of patient care (Firth-Cozens & Greenhalgh, 1997; Shanafelt, Bradley, Wipf, & Back, 2002). Thus physician burnout is of particular concern in the medical as well as public health settings.

A large body of research has identified long-term job stress as an important antecedent to burnout (Maslach et al., 1996). There is a growing body of evidence that female physicians experience a higher degree of stress at work compared to men due to some sources of stress that are unique to or more prevalent among female doctors including discrimination at the workplace and lack of support (Gross, 1992; McMurray et al., 2000; Robinson, 2003; Stewart, Ahmad, Cheung, Bergman, & Dell, 2000). In recent years, occupational stress research has focused on the work–family interface as a unique source of stress among women (Burke & Greenglass, 2001) due to the increasing number of female professionals in the workforce with mounting responsibilities both at work and at home. In Hungary, the number of female physicians increased from 30 percent in 1970 to 51 percent in 2002. Nevertheless, the Hungarian society still remains largely traditional where the family continues to be an important institution and women are expected to prioritize their family roles. Thus, female physicians often find themselves compelled to fulfil a number of roles (mother, spouse, physician) to the highest standards concurrently, which may result in the development of work–family conflict defined as incompatible behavioural requirements associated with the roles performed in the work and family domains (Greenhaus & Beutell, 1985; Rizzo, House, & Lirtzman, 1970).

According to the scarcity theory of roles, which is currently the most frequently cited conceptual framework, the resources (i.e. time, energy) of the individual are limited and multiple roles inevitably reduce the resources available to meet all role demands, thus leading to role conflict, which subsequently causes strain and may lead to stress-related diseases, such as burnout (McMurray et al., 2000;

Rizzo et al., 1970). Despite the high likelihood of work–family conflict as a source of stress among female physicians, its relations to burnout have not been fully explored. Furthermore, while burnout has been extensively studied among various professional groups, no published research is available about burnout among Hungarian physicians.

Therefore, the objectives of this research were to assess the prevalence of burnout and to explore associations between burnout and perceived work–family conflict among female physicians in the Hungarian context. Using the scarcity theory of roles as a conceptual framework, we hypothesized that: (H1) female physicians experience significantly higher work–family conflict compared to their male counterparts; (H2) more female than male physicians report high degree of burnout; and (H3) work–family conflict is associated with burnout among female physicians.

## Subjects and methods

### Sample

A cross-sectional study was conducted and data were collected and analysed between 2005 and 2007. Using a sampling scheme stratified by gender, age, specialty and domicile, a total of 289 female and 265 male physicians were randomly selected. A letter to each of the physicians was then sent to inquire whether he/she wished to participate in the study. Of the potential respondents, 219 female and 201 male physicians (a response rate of ca. 76% in both groups) agreed to participation. Participants were assured in writing that all data collected during the study were kept confidential. The study has been subject to appropriate ethical review.

The characteristics of the sample are provided in Table 1. Both samples were comparable on socio-demographic variables and work characteristics. The mean (SD) age was 48.7 (9.8) and 50.1 (11.1) years for females and males, respectively. Around 40 percent of physicians lived in the capital. Most of the participants (around 80%) were partnered with a median of two children. Around 50 percent of physicians worked in inpatient services and around 16 percent in outpatient services, general practice, and other establishments including those for research and medical training, as well as governmental and public health institutions, respectively. The participants were distributed among nine main medical specialties. Mean (SD) work hours a day among

Table 1. Socio-demographic and work characteristics of female and male physicians

Variable	<i>Female physicians</i> N (%)	<i>Male physicians</i> N (%)
Total sample	219 (100.0)	201 (100.0)
Domicile		
Capital	82 (37.4)	81 (40.3)
County town	67 (30.6)	65 (32.3)
Rural town	56 (25.6)	41 (20.4)
Village	14 (6.4)	14 (7.0)
Partnered		
Yes	174 (79.4)	156 (77.6)
No	45 (20.6)	45 (22.4)
Children		
No	38 (17.4)	25 (12.4)
Yes	181 (82.6)	176 (87.6)
1	48 (26.6)	39 (22.2)
2	96 (53.0)	88 (50.0)
3	28 (15.5)	34 (19.3)
≥4	9 (4.9)	15 (8.5)
Type of employment		
Inpatient services	106 (48.4)	88 (43.8)
Outpatient services	36 (16.4)	36 (17.9)
General practice	40 (18.3)	51 (25.4)
Other	37 (16.9)	26 (12.9)

female and male physicians were 12.7 (3.2) and 12.8 (3.4), respectively. The two largest groups of respondents worked as general practitioners (ca. 22%) and internists (ca. 12%). Only five female physicians (2.4%) worked part-time (data not shown).

### Measuring instruments

Burnout was measured using the Maslach Burnout Inventory—Human Services Survey (MBI). The 22-item questionnaire measures each of the three components of burnout (emotional exhaustion or depersonalization, and lack of personal accomplishment) by a separate subscale. Responses are marked on a seven-point Likert scale (0 meaning ‘never’ and 6 meaning ‘every day’). A high degree of burnout among medical professionals is reflected by scores of  $\geq 27$  on the emotional exhaustion and  $\geq 10$  on the depersonalization subscales, and a score of  $\leq 33$  on the personal accomplishment subscale (Maslach et al., 1996). The reliability coefficients (Cronbach’s alpha) of the emotional exhaustion, depersonalization, and personal accomplishment scales for our total sample were 0.88, 0.71, and 0.80, respectively.

Similar reliability coefficients on all subscales have been obtained for female as well as male physicians.

Perceived work–family conflict was assessed by three well-established instruments developed for role conflict research among medical professionals (Firth, Mellor, Moore, & Loquet, 2004; Rice, Frone, & McFarlin, 1992; Warde, Allen, & Gelberg, 1996). Responses were made on a Likert-type scale of 1 to 5, 1 denoting ‘not at all’ and 5 ‘very much/extremely often’. The scores on the three scales were averaged to yield a summary score. The reliability coefficient of this instrument for our total sample was 0.69 (0.69 and 0.70 for female and male physicians, respectively).

Previous research has identified work-related factors including workload, job demands, and job control as important antecedents to burnout (Lee & Ashforth, 1996). Therefore, we have also assessed job strain, job control, and job demands by a scale adapted from the Swedish version of Karasek’s demand-control questionnaire (Theorell, 1996). Three items investigated job demands and six items focused on job control. Responses to each question

were given on a Likert-type frequency scale ranging from 1 ('never') to 4 ('always'). Item scores in each of the domains have been added to yield a summary score. The reliability coefficient was 0.67 for both job demands and job control. Similar reliability coefficients have been obtained for female and male physicians. To define job strain, a ratio of job demands to job control was calculated according to previous research by Theorell et al. (1988).

The questionnaire also sought information on age, domicile, marital status, number of children, average work hours a day, type of employment (inpatient, outpatient services, etc.), and specialty destination. Informed consent was obtained from each participant at the time of questionnaire completion.

After gaining approval from the owner where applicable, the instruments were translated from English into Hungarian and validated by back-translation to ensure that both versions were equivalent. The instruments were then provided to a small test group of female and male physicians ( $N = 16$ ) who were found to perceive the questions relating to the variables as we had intended.

## Data analyses

Mean and standard deviation (SD) of each of the MBI subscale scores were calculated for the whole sample as well as for female and male physicians separately. To assess differences in the mean scores on each burnout dimension between female and male physicians, independent samples *t*-tests have been performed. Based on MBI subscale scores, physicians were then categorized into two groups of experienced burnout, that is, high and low/moderate levels of burnout according to cut-off scores identified in a normative population (Maslach et al., 1996). Gender differences in the number of physicians experiencing high levels of burnout on each of the MBI dimensions were assessed using a series of chi-square tests. Descriptive statistics (mean, SD, frequency counts) were performed to identify the proportion of physicians experiencing work-family conflict and the level of perceived work-family conflict. Differences in the level of perceived work-family conflict between female and male physicians and between those with or without high levels of burnout were explored by independent samples *t*-tests.

To identify stressors that are associated with burnout among female and male physicians, step-

wise linear regression analyses were performed and the strength and direction of relationships between the continuous dependent variables (emotional exhaustion, depersonalization, personal accomplishment) and explanatory variables (age, job stress, job demands, job control, number of children, average daily work hours, and work-family conflict) were assessed by determining regression coefficients (adjusted  $\beta$ ), 95 percent confidence intervals (95% CI), and *t*-test statistics. Gender and type of employment (inpatient/outpatient services, general practice, and other establishments) have been controlled for in the analyses. In addition, the proportion of the variance in the dependent variable explained by the explanatory variables (adjusted  $R^2$ ) has also been determined.

A *p* value of  $< .05$  was considered as statistically significant for all tests. The statistical software used for all analyses was SPSS, version 11.0 (SPSS Inc, Chicago, Illinois, USA).

## Results

### *The prevalence of burnout and work-family conflict among physicians*

All respondents ( $N = 420$ ) answered all 22 items of the MBI. The mean score for the emotional exhaustion subscale was 20.8 (SD 10.8), 16.6 (SD 11.3), and 18.8 (SD 11.2) for female and male physicians as well as for the total sample, respectively. The mean score for the depersonalization subscale was 5.0 (SD 4.9) among female physicians, 5.3 (SD 5.1) for male physicians, and 5.1 (SD 5.0) for the whole sample. The mean score for the personal accomplishment subscale was 35.3 (SD 7.6) among women, 35.7 (SD 8.2) among men physicians, and 35.5 (SD 7.9) among the whole sample. Female physicians scored significantly higher on the emotional exhaustion subscale compared to male physicians ( $t$ (d.f.):  $-3.9$  (418);  $p < .001$ ) (Table 2).

Chi-square tests revealed that significantly more female physicians (30.6%) experienced high levels of emotional exhaustion compared to male physicians (19.4%) ( $\chi^2$ (d.f.): 7.0 (1);  $p < .01$ ). Female physicians reported a significantly higher level of work-family conflict (3.0 (SD 0.9) vs. 2.6 (SD 0.9);  $t$ (d.f.):  $-3.8$  (418);  $p < .001$ ) compared to male physician (Table 2). Furthermore, physicians experiencing high levels of burnout reported significantly higher work-family conflict compared to

Table 2. Gender differences in the level of burnout and work–family conflict as well as in the prevalence of high levels of burnout among female and male physicians

	<i>Female physicians</i>	<i>Male physicians</i>	<i>Difference test (d.f.)</i>
<i>Burnout</i>			
Emotional exhaustion Mean (SD)	20.8 (10.8)	16.6 (11.3)	$t = -3.9 (418)***$
Depersonalization Mean (SD)	5.0 (4.9)	5.3 (5.1)	NS <sup>a</sup>
Personal accomplishment Mean (SD)	35.3 (7.6)	35.7 (8.2)	NS <sup>a</sup>
<i>High burnout criteria</i>			
Emotional exhaustion $\geq 27$ <i>N (%)</i>	67 (30.6)	39 (19.4)	$\chi^2 = 7.0(1)**$
Depersonalization $\geq 10$ <i>N (%)</i>	37 (16.9)	34 (16.9)	NS <sup>a</sup>
Personal accomplishment $\leq 33$ <i>N (%)</i>	76 (34.7)	72 (35.8)	NS <sup>a</sup>
<i>Work–family conflict</i>			
Mean (SD)	3.0 (0.9)	2.6 (0.9)	$t = -3.8 (418)***$

<sup>a</sup> NS: Not significant  
 \*\* $p < .01$ ; \*\*\* $p < .001$

those with moderate or low levels of burnout (3.6 (SD 0.8) vs. 2.5 (SD 0.9);  $t(d.f.)$ :  $-12.3 (418)$ ;  $p < .001$  for high vs. low/moderate emotional exhaustion, respectively; 3.5 (SD 0.9) vs. 2.7 (SD 0.9);  $t(d.f.)$ :  $-7.4 (418)$ ;  $p < .001$  for high vs. low/moderate depersonalization, respectively; and 3.0 (SD 0.9) vs. 2.7 (SD 0.9);  $t(d.f.)$ :  $-3.0 (418)$ ;  $p < .01$  for low vs. moderate/high personal accomplishment, respectively).

***Stressors associated with burnout: work–family conflict as a significant predictor***

Three models for emotional exhaustion, four for depersonalization, and two for personal accomplishment have been examined. The models were significant for each step as determined by *F* statistics (data not shown). Of the variables examined (gender, age, job stress, job demands, job control, number of children, average daily work hours, type of employment, and work–family conflict), job demands ( $\beta$  0.62, 95% CI 2.43–3.20), work–family conflict ( $\beta$  0.16, 95% CI 0.87–2.98) and lack of job control ( $\beta$   $-0.09$ , 95% CI  $-0.39$  –  $-0.07$ ) predicted emotional exhaustion best. Job demands ( $\beta$  0.23,

95% CI 0.21–0.72), work–family conflict ( $\beta$  0.23, 95% CI 0.57–1.91), male gender ( $\beta$   $-0.13$ , 95% CI  $-2.21$  –  $-0.40$ ), and not working in inpatient/outpatient services or general practice ( $\beta$  0.10, 95% CI 0.21–2.65) emerged as best predictors of depersonalization. Low personal accomplishment was best predicted by lack of job control ( $\beta$  0.20, 95% CI 0.18–0.52) and working in inpatient/outpatient services or general practice ( $\beta$   $-0.10$ , 95% CI  $-4.46$  –  $-0.20$ ). These predictors explained around 61%, 19%, and 5% of the variance in emotional exhaustion, depersonalization, and low personal accomplishment, respectively (Table 3).

**Discussion**

This study explored the manifestation of self-reported burnout and its associations with work–family conflict among female and male physicians, a scarcely studied group of professionals in a unique cultural setting. Our findings demonstrate that female physicians experienced significantly higher mean levels of emotional exhaustion compared to male physicians. In addition, significantly more female than male physicians scored high on the

Table 3. Stressors associated with physician burnout (emotional exhaustion, depersonalization, and reduced personal accomplishment): stepwise linear regression analyses

Dependent variable	Independent variables	Standardized $\beta$	95% Confidence intervals	t	Adjusted R <sup>2</sup>
Emotional exhaustion	Job demands	0.62	2.43 – 3.20	14.27***	0.61
	Work–family conflict	0.16	0.87 – 2.98	3.59***	
	Job control	-0.09	-0.39 – -0.07	-2.93**	
Depersonalization	Job demands	0.23	0.21 – 0.72	3.61***	0.19
	Work–family conflict	0.23	0.57 – 1.91	3.61***	
	Gender (male)	-0.13	-2.21 – -0.40	-2.92**	
	Type of employment (other) <sup>a</sup>	0.10	0.21 – 2.65	2.30**	
Personal accomplishment	Job control	0.20	0.18 – 0.52	4.12***	0.05
	Type of employment (other) <sup>a</sup>	-0.10	-4.46 – -0.20	-2.16*	

<sup>a</sup> Other types of employment included establishments for research and medical training, as well as governmental and public health institutions

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

emotional exhaustion subscale of the MBI. These results are the first to show high psychological morbidity among Hungarian female physicians in terms of burnout.

There is a growing body of evidence about the increased prevalence of burnout among medical professionals (Grassi & Magnani, 2000; Ramirez, Graham, Richards, Cull, & Gregory, 1996; Shanafelt et al., 2002; Visser, Smets, Oort, & de Haes, 2003). The comparison of our results with those from studies conducted among medical doctors in different countries shows that the proportion of Hungarian physicians in general (irrespective of specialties and gender) who experience high levels of emotional exhaustion or depersonalization is similar to that of British surgeons but lower than that of Italian or American doctors. Hungarian physicians appear to report low personal accomplishment more frequently than their colleagues in other countries (35% vs. 13–31%, respectively) (Grassi & Magnani, 2000; Ramirez et al., 1996; Shanafelt et al., 2002) (Table 4). Although personal accomplishment appears to be less closely related in structural models to emotional exhaustion and depersonalization, which are thought to have a central but not exclusive role in the development of burnout, it may develop independently and in parallel with

exhaustion (Leiter, 1993). This may be observed in certain organizational environments characterized by role conflict or work overload that on the one hand intensify emotional exhaustion and on the other hand simultaneously reduce personal accomplishment through disabling participative decision making and social support, which serve as significant facilitators of personal accomplishment (Maslach et al., 1996). On the basis of our findings and those by Schaufeli and Janczur (1994) about the high prevalence of low personal accomplishment among medical professionals, it would seem plausible to assign a more central and independent role for the personal accomplishment dimension of the MBI opposite or in addition to the emotional exhaustion and/or depersonalization dimensions in defining burnout levels among physicians in certain societies, like the Hungarian, where participation of women in the workforce is significant and the family plays a more central role.

Our findings about significant gender differences in self-reported burnout experienced by physicians confirm those that have shown higher emotional exhaustion levels for women and higher levels of depersonalization for men (Maslach et al., 1996). Similarly, research by Linzer et al. (2002) also revealed gender differences in physician burnout in

Table 4. Cross-cultural comparison of the prevalence of high levels of burnout among medical professionals

	<i>High emotional exhaustion score (%)</i>	<i>High depersonalization score (%)</i>	<i>Low personal accomplishment score (%)</i>
Hungarian physicians (2005–2007) <i>N</i> = 420	25	17	35
Italian general practitioners (2000) <sup>a</sup> <i>N</i> = 182	32	27	13
British surgeons (1993–1994) <sup>b</sup> <i>N</i> = 161	27	19	32
American general internal medicine residents (2001) <sup>c</sup> <i>N</i> = 115	53	64	31

<sup>a</sup> Grassi and Magnani (2000)

<sup>b</sup> Ramirez et al. (1996)

<sup>c</sup> Shanafelt et al. (2002)

the United States and identified more work hours and less work control as potential predictors of higher levels of burnout among female physicians in the United States compared to men. Of note, the same research suggested that the lack of gender differences in physician burnout found in the Netherlands might be attributed to higher work control and less work hours among female physicians compared to men. Less work hours seen among Dutch female physicians may be explained by the high proportion of female physicians (75%) working part-time in the Netherlands (Heiligers & Hingstman, 2000). Similarly, the proportion of female physicians working part-time in other western countries is around 20 percent to 50 percent (McMurray et al., 2002). Conversely, our data show that only around 3 percent of female physicians in Hungary worked part-time. Part-time employment in Hungary among female workers is less than 6 percent and is the lowest in the European Union. Based upon our results and those of Linzer et al. (2002), it is not unreasonable to suggest that the lack of part-time employment and high number of work hours may have contributed to the higher levels of burnout among female physicians in Hungary.

As burnout has been considered to be a response to chronic exposures to stress, gender differences in stress should also play a role in its pathogenesis. Therefore, the present research has focused on exploring associations between burnout and stressors predominantly affecting female physicians.

One such stressor is work–family conflict arising from the difficulties of balancing a multitude of roles at home and at work simultaneously.

As hypothesized, our results indicate that female physicians experienced higher work–family conflict compared to male physicians. This finding is consistent with data in the literature showing that female physicians are more likely to experience role conflict than male physicians due to the societal expectation that women should spend more combined time on work and family activities (Warde et al., 1996).

In terms of our third hypothesis, evidence was found that work–family conflict is a strong predictor of the two central dimensions of burnout among female and male physicians, namely emotional exhaustion and depersonalization. The relationship between work–family conflict and burnout experienced by physicians has been explored in a number of studies. Research by Linzer et al. (2001) suggested that work–home interference had a direct as well as an indirect, mediating effect on burnout. In a study of Dutch medical residents, Geurts, Rutte, and Peeters (1999) identified work–family interference as a mediator between work characteristics and burnout (i.e. emotional exhaustion and depersonalization). Most recently, research by Montgomery, Panagopolou, and Benos (2006) showed that work–family conflict served as a mediator between job demands and job burnout among doctors in Greece where, similarly to that in Hungary, family as an institution is thought be central to society.

Our results indicate that physician burnout, in particular emotional exhaustion, is best predicted by work–family conflict together with other work stressors such as increased job demands and lack of job control. These work stressors are of particular importance in the Hungarian context. The ongoing restructuring of the Hungarian health care system has resulted in loss of job security, chronic shortage of resources and constant pressures from health care managers, purchasers, providers, and patients to increase the efficiency, quality, and profitability of health care services. These changes have led to a sharp increase in emotional and quantitative job demands (e.g. workload, time pressures, and consequent distress), decrease in decision authority, and lower social status for the vast majority of Hungarian physicians. These findings further add to a large body of evidence which identifies work demands and lack of control over one's work schedule and patient load as well as other individual and organizational factors (e.g. ineffective coping mechanisms, lack of adequate resources, dysfunctional patient–doctor relationship) as significant antecedents to burnout (Demerouti, Bakker, de Jonge, Janssen, & Schaufeli, 2001; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Firth-Cozens, 1997; Lee & Ashforth, 1996; Linzer et al., 2002; Maslach et al., 1996; Posig & Kickul, 2003; Ramirez et al., 1996; Schaufeli & Bakker, 2004; Schaufeli & Enzmann, 1998). The significance of different practice settings (e.g. working in educational or research establishments) in predicting depersonalization and lower personal accomplishment is an interesting finding in our study and merits further research.

The main limitation of our study is its cross-sectional nature, which includes biases of self-reporting and the inability to confer causality. In addition, the relationship between work–family conflict and burnout may have been influenced by negative affectivity defined by Watson and Clark (1984) as a stable tendency to express emotions across time and situations. Recent research, however, suggests that negative affectivity does not overly distort relationships between self-report measures of stressors and strains (e.g. de Jonge et al., 2001; Dollard & Winefield, 1998; Schonfield, 1996). Therefore, we have not assessed negative affectivity in our present study. These issues should be addressed using a longitudinal design. Despite these limitations, our study has important strengths. To our knowledge, this is the first and only study to explore the prevalence and

predictors of burnout among physicians in a unique cultural setting from Central and Eastern Europe with claimed centrality of family as an institution. In addition, our study provides a base for further explorations by virtue of generating hypotheses and developing research strategies. This study also contributes to current efforts on establishing national norms for the MBI in burnout research.

In conclusion, our findings suggest that work–family conflict as a stressor may function as a predisposing condition for the development of burnout among female and male physicians. In addition, this study provides some justification for advocating the introduction of urgent measures at work to enable physicians to balance their work and home lives more efficiently, which subsequently may reduce the level of burnout and may ultimately lead to improved well-being for women in medicine.

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