Work-Family Conflict among Female and Male Physicians in Hungary: Prevalence, Stressor Predictors and Potential Consequences on Physicians' Well-Being

by

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Background

Physicians are more likely to experience difficulties in balancing work and home life as a result of high physical and emotional demands[1]. In addition to these demands, female physicians in Hungary may be particularly affected by work-home interference due to current socio-economic changes such as growing participation of women in the medical profession (30% in 1970 to 51% in 2002), the typically long working hours, and the traditional nature of the society where the family continues to be an important institution and women are expected to prioritise their family roles[2] [3] [4]. Thus, female physicians in Hungary often find themselves compelled to fulfil a number of roles (mother, spouse, doctor) at home and at work to the highest standards concurrently. Different roles give rise to certain sets of role expectations and simultaneous occurrence of two or more sets of role expectations may necessitate responses and tasks that may be competing or antagonistic so that compliance with one would make compliance with the other more difficult, the concept called role conflict[5]. Work-family conflict is a form of role conflict in which the behavioural requirements associated with the role performed in the work and family domains are mutually incompatible. According to the scarcity theory of roles, the resources (i.e., time, energy) of the individual is limited and multiple roles inevitably reduce the resources available to meet all role demands, thus leading to role

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[2] Poelmans, S. (2001). *Individual and organizational issues in work-family conflict*. Research Paper No. 445, IESE, Barcelona.
[3] Pongrácz, T. & S. Molnár, E. (1994). Kisgyermekes apák és anyák szülői, családi attitűdjei négy európai országban [Parental and family attitudes of fathers and mothers with small children, in four European countries]. *KSH NKI Kutatási Jelentései* [*HCSO DRI Research Reports*], vol. 52, 1994/3. Budapest: KSH Népességtudományi Kutatóintézet [HCSO Demography Research Institute].
[4] Tóth, O. (2006). Modern Behaviour, Traditional Values - Changes in the Family since 1990. *The Hungarian Quarterly*, **47**(184), 85-92.
[5] Rizzo, J.R., House, R.J., & Lirtzman, S.I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly,* **15**, 150-163.

conflict, which subsequently may cause strain and may increase the prevalence of psychological and physical morbidities[6]. This rationale is in line with the basic concept of stress theories, which propose a causal link between stressors and strain[7]. Role conflict has been identified as a key component of the stress response. Stress outcomes include physical ill-health such as cardiovascular diseases, peptic ulcer[8], gynaecological disorders[9], and psychological disorders such as perceived stress, anxiety[10], or burnout, a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment[11].

In Hungary, the recent socioeconomic changes described above and the current state of healthcare may enhance the level of work-family conflict (i.e., distress) experienced by physicians and may contribute to the development of stress-related somatic and psychological diseases including burnout, which negatively impacts on physicians' well-being. Physician burnout is of particular concern in the medical as well as public health settings in Hungary because potential negative consequences of burnout may include depression, substance abuse, absenteeism and sick-leave; hence it may not only adversely affect physicians' well-being but also the quality of patient care[12] [13].

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Aims and hypotheses

The primary aim of this study was to explore the prevalence, direction, and type of work-family conflict among female physicians in Hungary. A further aim of this research was to investigate the prevalence and psychosocial characteristics of parental, spousal, peer, and organizational support and their relations to work-family conflict among female physicians. The final aim of this research was to assess the prevalence of organizational and individual distress outcomes (i.e., job satisfaction, somatic and psychological morbidity, in particular burnout), and to explore associations between these distress outcomes and perceived work-family conflict among female physicians the Hungarian context. Using the scarcity theory of roles as a conceptual framework, the following hypotheses were tested:

H1. Female physicians experience significantly higher work-family conflict compared to their male counterparts.

H2. Female physician report family-to-work rather than work-to-family conflict more frequently due to the more central role of the family in the society.

H3. The lack of social (i.e., parental, peer, spousal, and organizational) support is more prevalent among female physicians compared to men.

H4. Work-family conflict experienced by female physicians is associated with lack of social support.

H5. More female than male physicians report stress-related somatic as well as psychological morbidity in particular burnout.

H6. Job dissatisfaction is more prevalent among female physicians.

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H7. Work-family conflict is associated with psychological morbidity, in particular burnout, somatic complaints as well as with job dissatisfaction among female physicians.

Subjects and Methods

Design

We used quantitative (questionnaires) and qualitative (interviews) techniques at two time points (Time 0 and Time 1). Socio-demographic variables, work characteristics, and work-family conflict have been examined by means of questionnaires. In-depth interviews were conducted at Time 0 to explore the direction and type of work-family conflict (i.e., work-to-family and family-to-work conflict, time/strain/behaviour-based conflict) and to assess the prevalence and nature of social support (i.e., parental, spousal, peer, and organisational support). Interviews were repeated within maximum 7 days and work-family conflict was reassessed in order to explore any changes in the reported intensity of work-family conflict among physicians who had reported at least moderate degree of work-family conflict at Time 0. This data collection approach and test-retest method allowed for more accurate and reliable assessment of the level of work-family conflict, the central variable of our study, and its sustainability over a period of time, which may lend important information as to the chronic nature of stress perceived by physicians.

Sample

Based on the number of physicians listed in the national register of healthcare professionals (i.e., the normative population of ca. 37,000 physicians) and the distribution of the normative population in the strata of gender, age, specialty, and domicile, a quota sampling method was employed, and 289 female and 265 male physicians were selected for participation. Of the potential respondents, 219 female and 201 male physicians (a response rate of ca. 76% in both groups) agreed to participation. Due to the approximately 25% reduction in the intended sample size because of non-responders, we have performed a series of chi-square goodness-of-fit tests to assess the distributional adequacy of our sample [14]. The results of the goodness-of-fit tests confirmed that the distribution of our sample was comparable to that of the normative population in terms of gender, age, domicile, and two major specialties (internists and paediatricians) suggesting that our results might be applicable to all physicians in Hungary. Interviews were conducted with 86 female and 75 male physicians. The normative, experimental and interviewed sample showed similar socio-demographic characteristics. The samples of female and male physicains were comparable on socio-demographic variables and work characteristics.

Measuring instruments

Perceived work-family conflict was assessed by three well-established instruments[15] [16] [17]. Job demands, job control, and support in the workplace

[14] Snedecor, G.W. & Cochran, W.G. (1989). *Statistical Methods.* Ames, IA: Iowa State University Press.
[15] Rice, R.W., Frone, M.R., & McFarlin, D.B. (1992). Work-nonwork conflict and the perceived quality of life. *Journal of Organizational Behavior*, **13**(2), 155-168.
[16] Firth, L., Mellor, D.J, Moore, K.A., & Loquet, C. (2004). How can managers reduce employee intention to quit? *Journal of Managerial Psychology*, **19**(2), 170-187.

were assessed by a scale adapted from the short version of Karasek's demand-control-support questionnaire developed by Theorell[18]. To define job strain, a ratio of job demands to job control was calculated[19]. Psychological and somatic morbidity was assessed by a list of 26 psychological as well as somatic morbidities and symptoms. Burnout was measured using the Maslach Burnout Inventory-Human Services Survey (MBI). Job satisfaction was assessed by using a Likert-scale[20] [21]. The reliability coefficients (Cronbach's alpha) of all the instruments were adequate.

Data analyses

Data from the interviews of 72 female physicians and 51 male physicians were analysed using content analysis[22]. Frequency counts have then been performed to explore a particular theme that emerged in the data. Gender differences in the direction and type of perceived work-family conflict as well as in the prevalence of parental, spousal, peer, and organizational support were assessed using a series of chi-squared tests. Descriptive statistics (mean, SD, frequency counts) were performed to identify the proportion of physicians experiencing certain psychological and somatic morbidities, high level of work-family conflict, job satisfaction and burnout (on each subscale) as well as the level of perceived work-family conflict,

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[17] Warde, C., Allen, W., & Gelberg, L. (1996). Physician role conflict and resulting career changes. Gender and generational differences. *Journal of General Internal Medicine,* **11**(12), 729-735.
[18] Theorell, T. (2000). Working conditions and health. In: L. Berkman & I. Kawachi (Eds.), *Social epidemiology* (pp. 95-118). New York, NY: Oxford University Press.
[19] Theorell, T., Perski, A., Akerstedt, T., Sigala, F., Ahlberg-Hulten, G., Svensson, J. & Eneroth, P. (1988). Changes in job strain in relation to changes in physiological state. A longitudinal study. *Scandinavian Journal of Work Environment and Health*, **14**(3), 189-196.
[20] Scarpello, V. & Campbell, J.P. (1983). Job satisfaction: are all the parts there? *Personnel Psychology,* **36**, 577-600.
[21] Wanous, J.P., Reichers, A.E., & Hudy, M.J. (1997). Overall job satisfaction: how good are single-item measures? *Journal of Applied Psychology,* **82**, 247-252.
[22] Weber, R.P. (1990). *Basic content analysis (2nd edition). Quantitative applications in the Social Sciences Series,* Vol. 49. Newbury Park, CA: Sage.

job satisfaction and burnout. Differences in the level of perceived work-family conflict between female and male physicians and between those with or without high levels of burnout or job satisfaction were explored by independent samples *t*-tests. Gender differences in the number of physicians experiencing high levels of burnout on each of the MBI dimensions, job dissatisfaction, or certain psychological and somatic diseases were assessed using a series of chi-square tests.

To identify whether variables associated with socio-demographic and work characteristics predict work-family conflict experienced by physicians, stepwise linear regression analyses were performed. To explore associations between work-family conflict and social (i.e., familial, spousal, peer, and organizational) support, a series of independent sample *t*-tests were performed. To identify stressors that are associated with job dissatisfaction, burnout and certain psychological as well as somatic morbidities among female and male physicians, stepwise linear regression analyses or binomial logistic regression analyses were performed. A *p* value of <.05 was considered as statistically significant for all tests. The statistical software used for all analyses was SPSS, version 13.0 (SPSS Inc., Chicago, Illinois, USA).

Results

High prevalence of work-family conflict among female physicians

As hypothesized, female physicians reported significantly higher level of work-family conflict compared to male physician (3.0 (SD 0.9) vs. 2.6 (SD 0.9); *t*(df): -3.8 (418); *p*< .001). Furthermore, significantly more female

than male physicians experienced work-family conflict often or extremely often (56.2% vs. 41.3%, respectively; χ^2(df)= 9.3 (1); $p< .01$). Almost all physicians (99%) reported some degree of work-family conflict.

Gender disparity in the direction and type of work-family conflict

In line with our second hypothesis, significantly more female than male physicians reported family-to-work conflict (39% vs. 18%, respectively; χ^2(df)=6.40(1), $p< .05$). However, comparably high proportions of female and male physicians experienced work-to-family conflict (79% vs. 88%, respectively; χ^2(df)=1.73(1), NS). Female physicians reported significantly more strain-based work-family conflict compared to men (68% vs. 20%, respectively; χ^2(df)=28.07(1), $p< .001$) whereas male physicians experienced significantly more time-based work-family conflict than women (82% vs. 50%, respectively; χ^2(df)=13.46(1), $p< .001$). The prevalence of behaviour-based work-family conflict was relatively low among the physicians (around 10%).

Gender differences in perceived social (i.e., parental, spousal, peer, and organizational) support among physicians

In agreement with our third hypothesis, with the exception of organizational support, significantly less female physicians experienced social support (parental support in career selection, peer support such as access to same sex mentors or role models and lack of gender discrimination, and spousal support with household duties) compared to men. Lack of organizational support including family-friendly policies such as crèche and kindergarten

facilities, flexible working hours, counselling, or part-time work has been identified by around half of both female and male physicians.

Associations between work-family conflict and lack of social (i.e., parental, spousal, peer, and organizational) support among physicians: lack of support in the workplace as a significant predictor

In regression analyses, high job demands, job strain, high workload and number of children, younger age, and lack of support in the workplace predicted work-family conflict best (adjusted R^2 0.59).

High prevalence of somatic and psychological morbidity among physicians

The most prevalent chronic diseases reported by female physicians were anxiety (53.9%), tiredness due to sleep deprivation (39.3%), sleep disturbance (38.8%), and burnout (low level of personal accomplishment (34.7%). Among male physicians, anxiety (55.7%), hypertension (42.8%), sleep disturbance (38.8%), and burnout (low level of personal accomplishment) (35.8%) were reported most frequently.

Gender differences in the prevalence and level of psychological and somatic morbidity among physicians

Contrary to our hypothesis, significant gender disparity could only be observed in the prevalence of certain somatic as well as psychological diseases. Namely, significantly more male physicians suffered from hypertension and myocardial infarction compared to female physicians

(42.8% vs. 21.5%, respectively; χ^2(df)=22.0 (1); p< .001 for hypertension; and 7.5% vs. 1.4%, respectively; χ^2(df)=9.5 (1); p< .01 for myocardial infarction). In addition, significantly more female physicians experienced high levels of emotional exhaustion and allergy compared to male physicians (30.6% vs. 19.4%, respectively; χ^2(df) 7.0(1); p< .01 for emotional exhaustion; and 20.1% vs. 11.4%, respectively; χ^2(df)=5.8 (1); p< .05 for allergy). Female physicians scored significantly higher on the emotional exhaustion subscale compared to male physicians (20.8 (SD 10.8) vs. 16.6 (SD 11.3), respectively; t(df): -3.9(418); p< .001). Furthermore, as hypothesized, physicians suffering from certain somatic (e.g., cardiovascular diseases, malignant diseases, gastrointestinal diseases, and neurological diseases) and psychiatric/psychological diseases (e.g., depression, anxiety, and high level of burnout) reported significantly higher level of work-family conflict.

Stressors associated with somatic and psychological morbidity: work-family conflict as a significant predictor

Work-family conflict was the strongest stressor of other psychiatric/psychological diseases (e.g., suicidal ideation), neurological diseases, depression, urological diseases, hypertension, gastrointestinal diseases, neoplasms, other cardiovascular diseases (e.g., atherosclerosis), anxiety, and gynaecological diseases. Work-family conflict also emerged as a significant predictor of all three dimensions of burnout. In addition, job demands, and lack of job control predicted emotional exhaustion best. Job demands, male gender, and not working in inpatient/outpatient services or general practice emerged as best predictors of depersonalization. Low

personal accomplishment was best predicted by lack of job control and not working in inpatient/outpatient services or general practice. These predictors explained around 62%, 19%, and 5% of the variance in emotional exhaustion, depersonalization and low personal accomplishment, respectively.

Gender differences in the prevalence of job satisfaction among female and male physicians

Although we identified no significant gender difference in the mean of job satisfaction, as hypothesized, significantly less women (55%) than men (66%) reported high levels of job satisfaction (a score of 4 and 5 on the job satisfaction scale) (χ^2(df)= 4.8 (1), p< .05).

Work-family conflict as a significant predictor of job dissatisfaction among female physicians

Physicians experiencing high levels of job satisfaction (a score of 4 and 5 on the job satisfaction scale) reported significantly lower work-family conflict compared to those with moderate or low levels of job satisfaction (a score of 1, 2, or 3 on the job satisfaction scale). In linear regression analyses, low personal accomplishment, high number of children, lack of support in the workplace, and work-family conflict emerged as best predictors of job dissatisfaction among female physicians.

Discussion

Manifestation of work-family conflict among physicians

As hypothesized, our results demonstrate significantly higher levels of work-family conflict among female physicians compared to their male counterparts. These findings support those by Duxbury and Higgins who showed higher levels of work-family conflict among women compared to men[23]. It has been suggested that this may be due to different gender-specific responses to stress[24]. Based on our qualitative findings, however, we argue that the observed gender differences in the prevalence of work-family conflict among female and men physicians are attributable to differences in socialization processes, which expose women physicians to more demanding gender role expectations.

Furthermore, the majority (56%) of female physicians experienced high level of work-family conflict and almost all women (99%) experienced some degree of work-family conflict. The prevalence of work-family conflict among Hungarian female physicians appears to be one of the highest compared to that reported among female physicians over the past 25 years, which ranged from 58% to 87%[25] [26] [27] [28] [29]. The difference in the reported prevalence rates of work-family conflict among female physicians may in part be due to differences in study methodology (e.g. different instruments to measure work-family conflict, setting etc.), or due to the fact that the prevalence of work-family conflict may in fact have increased

[23] Duxbury, L.E. & Higgins, C.A. (1991). Gender differences in work-family conflict. *Journal of Applied Psychology*, **76**, 60–73.
[24] Robinson, G.E. (2003). Stresses on women physicians: consequences and coping techniques. *Depression and Anxiety*, **17**, 180-189.
[25] Nadelson, C.C., Notman, M.T., & Lowenstein, P. (1979). The practice patterns, life styles, and stresses of women and men entering medicine: a follow-up study of Harvard Medical School graduates from 1967-1977. *Journal of American Medical Women's Association*, **34**(11), 400-406.
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[27] O'Driscoll, M.P., Ilgen, D.R., & Hildreth, K. (1992). Time devoted to job and off-job activities, interrole conflict, and affective experiences. *Journal of Applied Psychology*, **77**, 272-279.
[28] Kinnunen, U. & Mauno, S. (1998). Antecedents and outcomes of work-family conflict among employed women and men in Finland. *Human Relations*, 51(2), 157-177.
[29] Warde, C.M., Moonesinghe, K., Allen, W., & Gelberg, L. (1999). Marital and parental satisfaction of married physicians with children. *Journal of General Internal Medicine*, **14**, 157–165.

during the past 25 years owing to progressively less resources, time and energy available for the family and to the more demanding nature of professional life (need for continued education, increasing bureaucratic burden etc.).

Our results also demonstrate important gender-specific differences regarding the direction and type of work-family interference. There are very few studies to date that have explored gender differences in work-family conflict and its potential psychosocial characteristics. Contrary to the results of these studies, our findings appear to confirm the notion that more women then men experience family-to-work conflict[30]. A plausible explanation could be potential cultural differences in societal expectations regarding the centrality of family. However, we found that both female and male physicians reported predominantly work-to-family conflict. These findings are in support of those by Frone, *et al.*, who showed that the influence of work-to-family conflict was generally greater than *vice versa*[31]. We also identified gender differences in the type of work-family conflict, which showed that female physicians experienced strain-based work-family conflict significantly more frequently whereas men reported mostly time-based work-family interference. These findings are interesting and require further research.

Lack of support as a predictor of work-family conflict experienced by physicians

[30] Pleck, J. (1977). The work-family role system. *Social Problems*, **24**(4), 417-427.
[31] Frone, M.R., Russell, M., & Cooper, M.L. (1992b). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, **77**, 65–78.

We identified work and non-work-related predictors of work-family conflict experienced by physicians, such as job demands, job strain, high workload, and high number of children. In addition, we found that support in the workplace, i.e., co-worker and supervisor support has shown a significant attenuating effect on work-family conflict among physicians. These findings suggest that the conceptualization of work-family conflict as proposed by Greenhaus and Beutell, and Frone, *et al.* is also applicable to physicians in a unique cultural setting[32] [33].

The psychosocial characteristics of social support

Our results show significant gender-specific differences in the provision of social support and its relations to work-family conflict among physicians. Whilst our findings suggest a role for spousal, peer, and organizational support in reducing work-family conflict among physicians as a whole, lack of parental support in career selection, lack of peer support (i.e., no access to same-sex professional role model or mentor and/or no gender equity), and lack of organizational support (i.e., family-friendly policies) appear to be associated with work-family conflict among female physicians. These findings call for the implementation of mechanisms and policies at work to alleviate strain and to prevent the development of work-family conflict. Such mechanisms should aim at enabling the female physician to increase sources of self-esteem, competency and personal enrichment through promoting social change, recognition, education and empowerment. The introduction of part time employment, retraining programmes or

[32] Greenhaus, J.H. & Beutell, N.J. (1985). Sources and conflict between work and family roles. *Academy of Management Review*, **10**, 76–88.
[33] Frone, M.R., Russell, M., & Cooper, M.L. (1992b). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, **77**, 65–78.

customised work-schedules with minimized odd-hour duty and enhanced flexibility for female physicians might offer affordable solutions to this problem.

Potential consequences of work-family conflict experienced by physicians: adverse impact on physicians' well-being

In line with our hypotheses, we found high prevalence of psychological morbidity including burnout among physicians in Hungary. There is a growing body of evidence about the increased prevalence of burnout among medical professionals[34] [35] [36]. 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). On the basis of our findings and those by Schaufeli and Janczur[37] 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

[34] Ramirez, A.J., Graham, J., Richards, M.A., Cull, A. & Gregory, W.M. (1996). Mental health of hospital consultants: the effects of stress and satisfaction at work. *Lancet,* **347**, 724-728.
[35] Grassi, L. & Magnani, K. (2000). Psychiatric morbidity and burnout in the medical profession: an Italian study of general practitioners and hospital physicians. *Psychotherapy and Psychosomatics*, **69**, 329–334.
[36] Visser, M.R., Smets, E.M., Oort, F.J., & de Haes, H.C. (2003). Stress, satisfaction and burnout among Dutch medical specialists. *Canadian Medical Association Journal*, **168**(3), 271-275.
[37] Schaufeli, W. & Janczur, B. (1994). Burnout among nurses: A Polish-Dutch comparison. *Journal of Cross-Cultural Psychology*, **25**, 95-113.

physicians in certain societies, like the Hungarian, where participation of women in the work force 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[38]. Similarly, this research also revealed gender differences in physician burnout in 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[39]. Similarly, the proportion of female physicians working part-time in other Western countries is around 20% to 50%[40]. Conversely, our data show that only around 3% of female physicians in Hungary worked part-time. Part-time employment in Hungary among female workers is less than 6% and is the lowest in the European Union. Based upon our results and those mentioned above, 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

[38] Linzer, M., McMurray, J.E., Visser, M.R., Oort, F.J., Smets, E., & de Haes, H.C. (2002). Sex differences in physician burnout in the United States and The Netherlands. *Journal of the American Medical Women's Association*, **57**(4), 191-193.
[39] Heiligers, P.J.M. & Hingstman, L. (2000). Career preferences and work family balance in medicine: Gender differences among medical specialists. *Social Science & Medicine*, **50**, 1235-1246.
[40] McMurray, J.E., Cohen, M., Angus, G., Harding, J., Gavel, P., Horvath, J., Paice, E., Schmittdiel, J, & Grumbach, K. (2002). Women in medicine: a four-nation comparison. *Journal of American Medical Women's Association*, **57**(4), 185-190.

compared to men in Hungary. Our results regarding the high prevalence of somatic morbidity among physicians are in line with other findings that show significantly higher prevalence of hypertension among male physicians compared to women[41]. However, the prevalence of hypertension among Hungarian male and female physicians appears to be around three times higher than that in Finnish physicians[42].

Increased somatic and psychological morbidity may lead to excess mortality[43]. Indeed, the mortality rate of Hungarian female physicians in the age cohort of 40-59 is around 50% higher compared with that of the age-matched general female population, whose mortality is one of the highest in Europe[44]. Based upon our findings about the high combined prevalence of psychological and somatic morbidity among female physicians, it is not unreasonable to assign a causal role for high morbidity in the development of high mortality among female physicians in Hungary. In particular, the potential role of completed suicide or suicidal ideation as well as the augmentative interactions between somatic and psychological morbidity might be attributed for the excess mortality among female physicians in Hungary. In our study, around 40% of physicians reported job dissatisfaction, which is comparable to data in the literature[45]. Our results about the high prevalence of strain-based work-family conflict among female physicians (68%) and the predictive relationship between work-family conflict and job dissatisfaction underscore the importance of

[41] Töyry, S., Räsänen, K., Kujala, S., Äärimaa, M., Juntunen, J., Kalimo, R., *et al*. (2000). Self-reported health, illness, and self-care among Finnish physicians: a national survey. *Archives of Family Medicine*, **9**(10), 1079-1085.See previous reference
[42] See previous reference.
[43] Kivimäki, M., Leino-Arjas, P., Luukkonen, R., Riihimäki, H., Vahtera, J., & Kirjonen, J. (2002). Work stress and risk of cardiovascular mortality: prospective cohort study of industrial employees. *British Medical Journal*, **325**, 857.
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[45] Bovier, P.A. & Perneger, T.V. (2003). Predictors of work satisfaction among physicians. *European Journal of Public Health*, **13**, 299–305.

considering both the direction and type of work-family conflict in the assessment of individual and organizational outcomes such as job satisfaction.

Associations between poor psychological as well as somatic health and work-family conflict

This study has explored the health-related consequences of work–family conflict within the context of stress models. According to the theory developed by Greenhaus and Parasuraman[46], we posited that work–family conflict is a significant stressor that negatively impacts on a variety of somatic and psychological health outcomes. Consistent with our hypotheses, our findings suggest significant associations between work-family conflict and somatic as well as psychological morbidity. In particular, the predictive role of work-family conflict in the pathomechanism of burnout, anxiety and depression, neurological and urological diseases, hypertension and cardiovascular diseases, gastrointestinal diseases, neoplasms, and gynaecological diseases should be noted.

Our results also highlight the predictive significance of 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 and in chronic shortage of resources. These changes have led to a sharp increase emotional and quantitative job demands (e.g., workload, time pressures and consequent distress), decrease in decision authority and

[46] Greenhaus, J.H. & Parasuraman, S. (1986). A work-nonwork interactive perspective of stress and its consequences. *Journal of OrganizationalBehavior Management,* **8**, 37–60.

lower social status for the vast majority of Hungarian physicians, which may further exacerbate work-family conflict and consequent psychological morbidities.

Some limitations of our research should be noted including the biases of self-reporting, which raise concerns regarding the possibility of common method variance. However, in order to minimize the risk of common method variance/self-report bias, we used triangulation techniques such as temporal as well as methodological separation of assessment of variables to reduce item ambiguity (i.e., mixture of questionnaire and interview items for the same variable and two rounds of interviews)[47].

Despite these limitations, our research has important strengths as it extends previous research on work-family conflict in several ways. Firstly, we draw on emerging theoretical models of the effects of culture on work–family conflict[48] [49]. To our knowledge, this is the first research to date to provide insight into the nature and prevalence of work-family conflict and to identify lack of parental, peer, and organizational support as gender-specific antecedents to work-family conflict among female physicians in Hungary. In addition, this is the first and only study to explore the manifestation of physician well-being and to investigate predictors of job satisfaction, and somatic as well as psychological morbidity including burnout among physicians in a unique cultural setting from Central and Eastern Europe with claimed centrality of family as an institution. Furthermore, our study

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provides a base for further explorations by virtue of generating hypotheses and developing research strategies. This research also provides some justification for advocating urgent preventive measures to minimize work-family conflict, which subsequently may improve the well-being of women in medicine. Our research also contributes to current efforts on establishing national norms for the MBI in cross-cultural burnout research.

This research was designed to test the predictive relationship between social support and work-family conflict, and the substantive relations of work-family conflict to organizational, somatic and psychological manifestations of physician well-being, while also addressing two limitations (i.e., lack of cross-cultural and qualitative research) that are frequently discussed in work-family literature. In conclusion, our results show that the level and prevalence of work-family conflict experienced by female physicians in Hungary is higher than that among male physicians. This gender-specific difference may be associated with aggravating factors such as more demanding female role expectations and with lack of attenuating factors such as social support of women, which may be attributable to gender-specific socialisation processes. Furthermore, our findings suggest that work-family conflict as a stressor may function as a predisposing condition for the development of job dissatisfaction and for a number of somatic as well as psychological diseases including burnout, and hence may adversely impact on the well-being of female and male physicians.

Publications arising from this research

Peer-reviewed publications

1. Ádám, S., Győrffy, Z., & Susánszky, É. (2008). Physician burnout in Hungary: a potential role for work-family conflict. *Journal of Health Psychology*, **13**(7), 839-.848.
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