

FACTORS INFLUENCING THE LEVELS OF WORK ENGAGEMENT IN PHYSICIANS FROM POLAND, SERBIA AND BULGARIA

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SUMMARY

Introduction: Lowered work engagement and burnout are a growing problem in recent years, especially among physicians. Cynicism, lack of energy and decreased efficacy may lead to the occurrence of severe depression. These phenomena influence almost every aspect of affected person's life, both professional and extraprofessional, and decrease its quality. The aim of our study was to evaluate the influence of family life and other factors on levels of work engagement and risk of depression.

Materials and methods: Our study was conducted on a group of 417 physicians from Poland, Serbia and Bulgaria using a paper questionnaire. The collected data was subjected to statistical analyses using Statsoft Statistica v. 10.0 software.

Results: There was no significant correlation between work engagement and sex or age. The highest score on work engagement was in Serbia ($m=4.41$; Mann-Whitney's U test with $p<0.05$). The highest score of BDI was in Bulgaria ($m=14.73$; Mann-Whitney's U test with $p<0.05$). There was no significant correlation exceeding $r=0.5$ between UWES and SWING scales. WHI+/WHI- ratio correlates significantly with a BDI scale (Spearman's $r=-0.49$; $p<0.05$).

Conclusions: Family life of physicians seem to have minor or even no influence on their work engagement and risk of burnout. The negative influence of work on family life may increase the risk of depression, and that effect is not susceptible to either positive or negative interactions of family life with work. The country with the lowest expenditure on a healthcare have also the lowest levels of work engagement.

Key words: burnout – work – engagement – depression – swing - UWES

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INTRODUCTION

The specificity of work as a physician is significant time spent in contacts with different people, usually patients and their families, burdened with a disease, lack of hope and sometimes sorrow. Such interactions, are almost always burdened with a heavy emotional load that inevitably affects the physician himself. The growing shortage of staff, and lack of proper funding that leads to the longer working hours with less time to relax, causes this burden to grow even more severe. In consequence, dealing with such prolonged mental stress, may lead to the depleting of physicians' emotional resources and afterwards to the occurrence of depression and burnout (Tucholska 2001, Maslach 1981, Aiken 2002).

Burnout, the growing problem in recent years, is a psychological phenomenon defined as an emotional exhaustion, cynicism and lowered professional efficacy. With propagating emotional drainage, physicians consider themselves no longer able to deal with other people's problems and therefore develop the negative, cynical attitude toward their patients. Work engagement seems to be an exact opposite of a same continuum as burnout. In contrary to the burned out workers, these persons are engaged, energetic and they consider themselves able to cope with occupational stress.

However it is considered to be an independent phenomenon. It consists of three aspects described as vigor, dedication and absorption. Vigor refer to energy, resilience and ability to face difficulties in work and also willingness to work harder for the sake of their duties. Dedication is a sense of "doing something important", enthusiasm and pride connected to the job and ability to identify with one's work. Finally absorption is an ability to focus on fulfilled duties, subjective feeling of quicker time passage in work and feeling of real engagement with what one is doing (Schaufeli 2001, 2003).

Obviously burnout is a term that is directly connected to the occupational stress and high emotional demands in the work of for example physicians. However it is important to remember that usually people are managing multiple roles, not only those imposed by the workplace, but also the roles of parent, spouse or children. These are also demanding and may drain the emotional resources in the first place, but also reduce leisure activities which are necessary to recover from occupational stress (Geurts 2005). Plenty of studies show that lack of a success in connecting duties in work and family life leads to the multiple problems. From lowered efficiency in performing duties consequent to both of the spheres, to equally mental and physical diseases (Breugh 2008, Nylén 2007).

The topic of staff shortage and problems with healthcare funding is especially visible in the countries of the former soviet union (and countries remaining under the soviet overseer such as Poland). Severe problems that they had to face during transmission from communism towards capitalism, caused social stratification and underdevelopment in comparison with western countries. In this study we have focused on three countries, Poland, Serbia and Bulgaria. Each of them walked different path, faced distantly related problems and even now struggle with the inheritance of the communism. Poland is the biggest (in terms of the total population) country with total population exceeding 38 millions, but the density of physicians in 2009 was only slightly higher than in Serbia in which the total population equals less than 10 millions people. Expenditure on healthcare (as the percent of the gross domestic product) is highest in Serbia and the lowest in Poland. Bulgaria has the highest density of doctors (3 per 1000 citizens) (Global Health Observatory Repository Data; access: 08.08.2015).

The aim of our study was to evaluate the work engagement and occurrence of depression in physicians in three different countries with diverse economics and to analyze the factors affecting the levels of work engagement, focusing on interactions between workplace and family life.

MATERIALS AND METHODS

The study was conducted in Poland, Serbia and Bulgaria, on 417 physicians of different specializations, using paper questionnaires in the corresponding languages. Respondents answered 34 questions including demographics. By permission of the authors, three scales were incorporated into our study. The first one was 9-items Utrecht Work Engagement Scale (UWES; Cronbach's $\alpha=0.84$) consisting of three subscales: absorption (UWES-A), vigor (UWES-V) and dedication (UWES-D) (Schaufeli 2003). The second one was Survey Work-home Interaction NijmeGen (SWING) based on four subscales: positive work-home interactions scale (WHI+; Cronbach's $\alpha=0.79$), negative work-home interactions scale (WHI-; Cronbach's $\alpha=0.87$), positive home-work interactions scale (HWI+; Cronbach's $\alpha=0.80$) and negative home-work interactions scale (HWI-; Cronbach's $\alpha=0.81$) (Geurts 2005, Mościcka-Teske 2012). Finally the third one was Beck's depression inventory (BDI; Cronbach's $\alpha=0.82$). The gathered data was implemented into Microsoft Office Excel Spreadsheet and subjected to statistical analysis. The study was conducted between September 2014 and June 2015. The average age of respondents equaled 43 years (max=75, min=29), approximately 51% of respondents were female (n=214). All statistical analyses were performed using StatSoft Statistica version 10, with statistical significance level set $\alpha=0.05$.

RESULTS

There was no statistically significant difference between female and male respondents in all of the studied issues. There was also no significant link between the age of respondents and outcomes of completed scales, except very weak positive correlation with WHI+ (Spearman's $r=0.11$). Contrary to the age and sex (Figure 1), country of origin turned out to have a significant impact on the responses. The highest average UWES outcome was in Serbia (Mann-Whitney's U test; $m=4.41$; Figure 2), however there was no significant difference between countries in dedication component of UWES (Mann-Whitney's U test). In BDI, there was no significant difference between Serbia and Poland (Mann-Whitney's U test; $mSer=6$; $mPol=6.89$) while Bulgaria scored significantly higher with average score of 14.73 (Mann Whitney's U test; Figure 3).

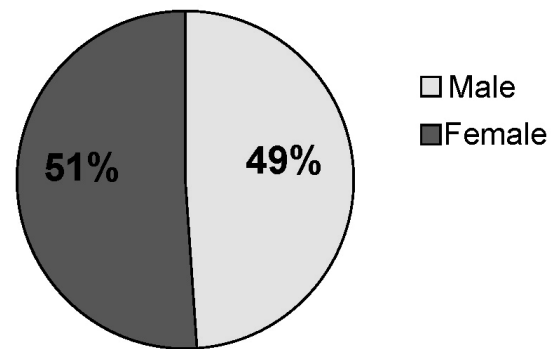


Figure 1. Spread of sex among respondents

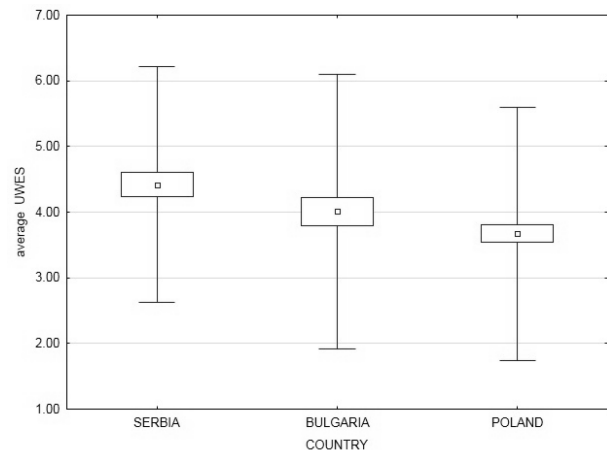


Figure 2. Comparison of average UWES scores between countries

If it comes to SWING's subscales, there was no significant differences in HWI+ where all countries scored between 7.5 and 7.7. In WHI+ Poland stepped out with average score of 8.46 ($mSer=6.5$; $mBg=6.89$), and in HWI- Serbia reached 4.29 points ($mPol=2.94$; $mBg=2.91$). In WHI- Serbia scored the lowest, while there was no significant difference between Bulgaria and Poland ($mSer=9$; $mPol=10.94$; $mBg=11.05$) (Mann-Whitney's U tests; Figure 4).

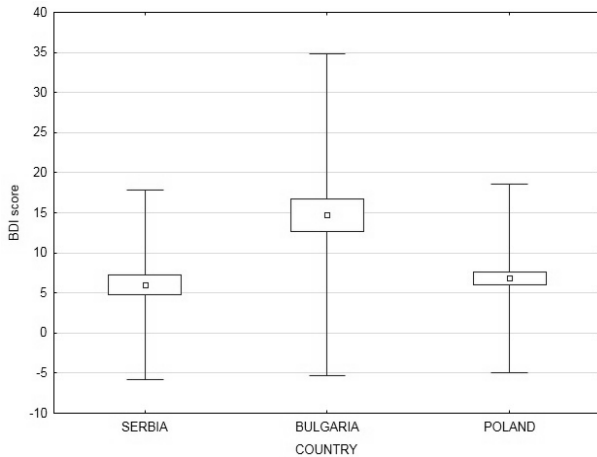


Figure 3. Comparison of BDI scores between countries

Table 1. Correlations between WHI- and UWES items. Spearman's r with $p < 0.05$; i/s – insignificant outcome ($p > 0.05$)

	UWES	UWES-A	UWES-D	UWES-V
WHI-	0.25	i/s (0.05)	0.17	0.35

There was no significant correlation between items of UWES and SWING's components that would exceed $r=0.5$. The lowest significant values were in WHI+ and HWI+ (Spearman's r -min=0.11; r -max=0.24), while HWI- does not correlate with SWING's components at all. Significant correlations with WHI- are presented in the table 1.

BDI scale also correlates poorly with the remaining two scales. Significant Spearman's r values that would exceed $r=0.3$, were found only in correlation with the UWES' items.

Table 2. Collation of selected features of studied countries based on a WHO Global Health Observatory Respository

	Number of citizens	Total expenditure on health*	Physicians per 1000 citizens	Psychiatrists per 100,000 citizens
Poland	38,217,000	6.7%	2.15 (2009)	5.13 (2011)
Serbia	9,511,000	10.6%	2.11 (2009)	9.61 (2011)
Bulgaria	7,223,000	7.6%	3.73 (2009)	6.75 (2011)

Data (access: 08/08/2015). *As a percent of GDP

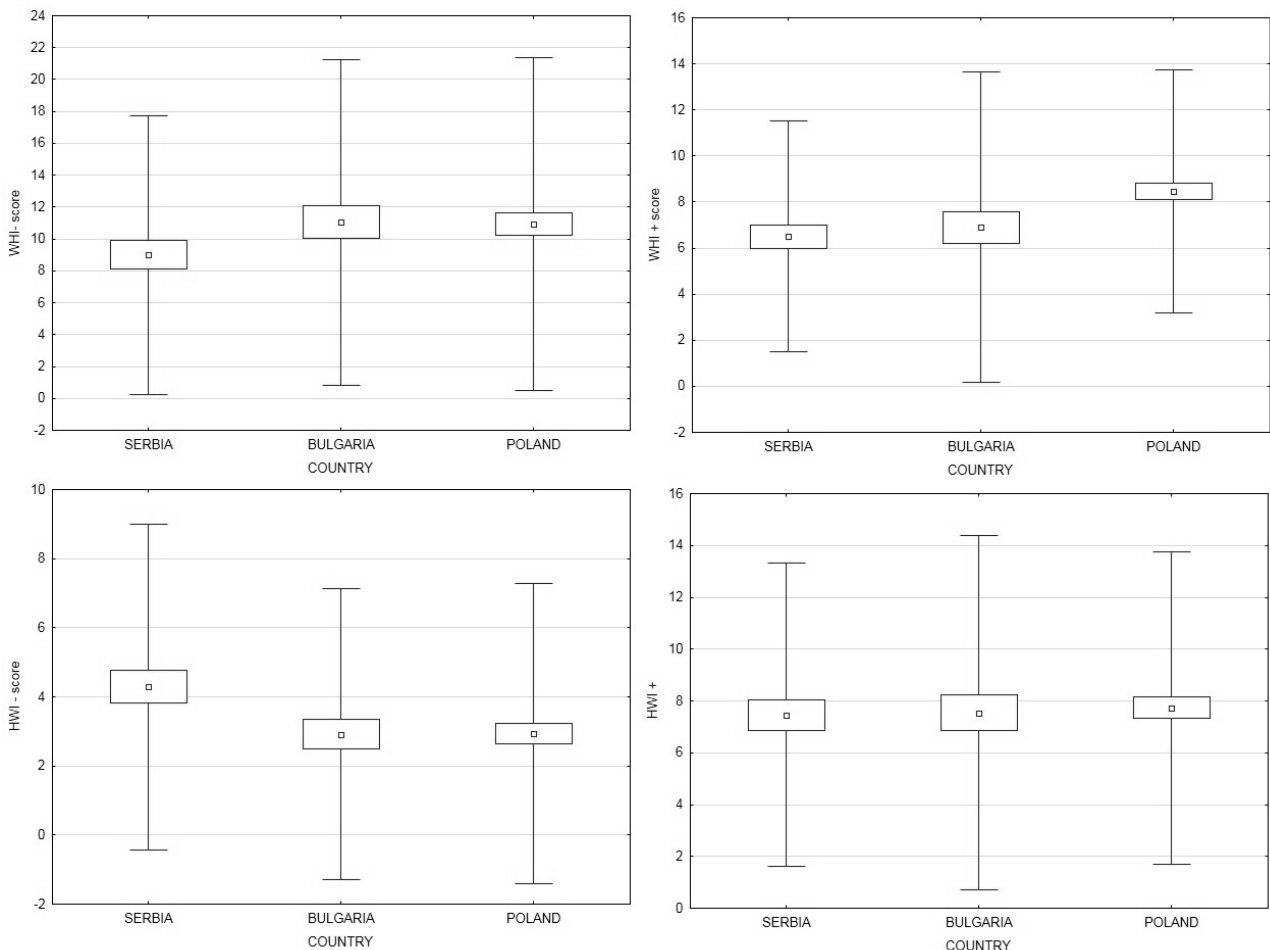


Figure 4. Comparison of outcomes of SWING components between countries

DISCUSSION

The most depressed country was Bulgaria with an average outcome of Beck's scale equaling 14.73. The least engaged physicians work in Poland, which may be a consequence of a lowest expenditure on healthcare and least doctors per 1000 citizens (Global Health Observatory Repository Data; access: 08.08.2015). In all three countries, the proportion of HWI+ to HWI- exceeded 1, which implies that family life has a positive overall influence on work. WHI+ to WHI- ratio was below 1 in Bulgaria and Serbia meaning that in these countries work has a rather negative effect on family life, in contrary to Poland where that proportion equaled 1.02. That may also explain the rather high outcome of BDI scale in Bulgaria. As it is visible on the figure 5, WHI+ to WHI- ratio has strong negative correlation with the BDI (Spearman's $r=-0.49$; $p<0.05$), and it's influence is not affected by the HWI+ to HWI- ratio.

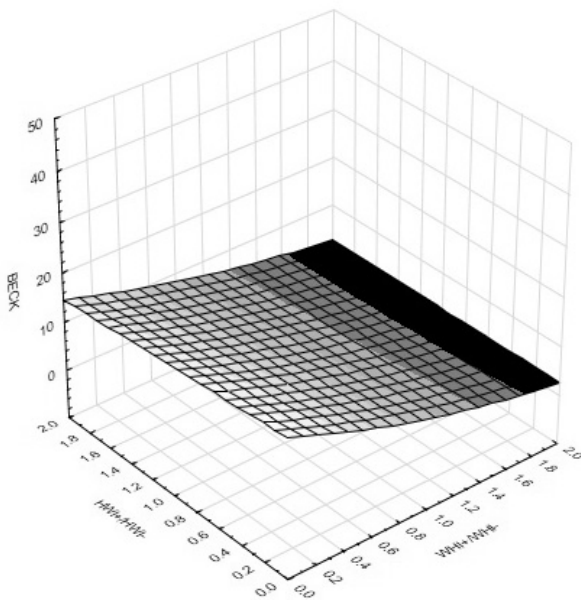


Figure 5. Influence of HWI+/HWI- and WHI+/WHI- ratios on a outcome of BDI scale

Contrary to what was expected by the authors in the beginning of the study, it was found that the relationship between the family life and workplace has a very poor effect on the level of work engagement. Weak positive correlations between the WHI+ and UWES (Spearman's $r=0.2$; $p>0.05$) seems to confirm that if the job is a place which positively affects one's life, it favors the presence of the feeling of loyalty towards the employer (Geurts 2005). However lack of a significant link between it and BDI, suggests that despite the slightly increased dedication and absorption, it does not affect the emotional side of a worker. Similar outcome in HWI+ (Spearman's $r=0.24$; $p<0.05$) and in the same time lack of any link between HWI- and UWES scores, may imply that family life may only act as a protective factor. What is

even more interesting is that those statistically insignificant correlations are positive. Contrary to the view that high job demands and lack of proper rest may cause the lowered engagement, it seems that if the family life forecloses effective leisure, and increases the demands, the worker may "escape" into one's duties, which is visible as a slight increase in work engagement. Although low, correlations presented in table 1, concerning links between WHI- and UWES scores, seems to support that explanation. The most depressing factors in home-work interactions were lack of time for a spouse (Spearman's $r=0.30$; $p<0.05$) or housework (Spearman's $r=0.43$; $p<0.05$).

The differences between the selected countries were similar to the authors' predictions. Selected information used in this paragraph are presented in the table 2. As was mentioned in the introduction, staff shortage, as well as underfunding of healthcare facilities which may both lead to the increased job demand, exhaustion and consecutively to the lowered work engagement (Tucholska 2001, Maslach 1981, Aiken 2002). Those factors are considerably varying in selected countries and that is why it was of interest if the respondent's score would differ in a similar manner. The highest scores in work engagement were found in Serbia, were there is also highest expenditure on healthcare³, and lowest in Poland. The differences are present mainly in the vigor and absorption components of UWES, which may imply that despite the fact that physicians in Poland are as dedicated and proud of their jobs as their colleagues from Serbia, they enjoy it less and therefore cannot engage in their duties as much. This may be a direct consequence of underfunding, which indisposes them from providing their patients with the best possible treatment, what may cause higher occupational stress (Tucholska 2001). Drawing conclusions about the influence of the understaffing on this phenomenon is impossible due to the lack of up to date data concerning the density of physicians.

In the end, it is worth noticing that contrary to some reports in the literature, there was no correlation between sex and the levels of work engagement (Maslach 1985).

The main limitation of our study is a relatively small group of respondents, caused by the paper form of a questionnaire and the time needed to fill it in.

CONCLUSIONS

Family life of a physician seems to have minor or even no influence on their work engagement and risk of burnout.

Negative influence of work on a family life may increase the risk of depression, and that effect is not susceptible to either positive or negative interactions of family life and work.

The country with the lowest expenditure on a healthcare has also the lowest levels of work engagement.

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Conflict of interest: None to declare.

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