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## THE EFFECTS OF JOB DEMANDS ON MENTAL AND PHYSICAL HEALTH IN THE GROUP OF POLICE OFFICERS. TESTING THE MEDIATING ROLE OF JOB BURNOUT

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*Abstract:* The Job Demands-Resources (JD-R) model postulates that job demands and job resources constitute two processes: the health impairment process, leading to negative outcomes, and the motivational process, leading to positive outcomes. The aim of the study was to verify the health impairment process. Specifically, the study investigated the direct and the indirect (mediated via job burnout) effects of job demands on mental and physical health. Three kinds of job demands were considered, i.e. interpersonal conflicts at work, organizational constraints and workload. Data was collected among 625 police officers. The regression analysis – using the PROCESS macros of Hayes – was applied. Two of the three job demands were associated with mental and physical health directly or indirectly. The results partially support the Job Demands-Resources model.

*Key words:* job demands, job burnout, health, job demands-resources model, police officers

### Introduction

The dynamic changes that occur in the world of work have posed new challenges for occupational health research (Kompier, 2006). Several researchers have argued that the popular models of job stress (e.g., Job Demands-Control model or Effort-Reward Imbalance model) may have limitations in capturing the new, complex, and often distinctive determinants of job stress and occupational well-being (Hellgren, Sverke, & Naswall, 2008; Ballducci, Schaufeli, & Fraccaroli, 2011). For that reason, more context-specific models of job stress have recently been developed. One of them is the Job Demands-Resources model (JD-R) (Demerouti, Bakker, Nachreiner, & Schaufeli,

2001). This model assumes that each work environment has its own set of job characteristics that determine employees' health and well-being. Job characteristics can be divided into job demands and job resources. According to the JD-R model job demands are connected with poor health, whereas job resources are related to positive work attitudes. In addition to researching direct relationships between job demands and health problems, the JD-R model tries to identify potential mediators which indirectly affect the relationship. One of the most frequently studied mediators in the context of the JD-R model is job burnout.

Several studies done on various occupational groups have confirmed that high job demands result in job burnout and this in turn leads to health problems (the so-called

energetic process) (e.g., Hakanen, Bakker, & Schaufeli, 2006; Schaufeli & Bakker, 2004). However, most of these studies were conducted in Western (not Eastern) parts of Europe (e.g., Finland, Holland) and have not included police officers. Based on previous investigations, it can be assumed that this group is particularly exposed to high job demands and therefore is also at a great risk of suffering from physical and mental health problems related to high job demands (Colwell, 2009). Police officers are also particularly susceptible to job burnout (Kop, Euwema, & Schaufeli, 1999). Mental health problems among police officers have been observed in numerous studies conducted in various countries, including the USA (Pendleton, Stotland, Spiers, & Kirsch, 1989), Germany (Schmidtke, Fricke, & Lester, 1999), the United Kingdom (Collwell, 2009), Turkey (Gul & Delice, 2011), and also Poland (Dudek, Waszkowska, & Hanke, 1999).

Moreover, in previous studies on JD-R mainly mental, not physical aspects of health were taken into consideration. The present research aims to verify the JD-R model and attempts to seek further insights into the processes that lead to poor health through job burnout. It tests how job burnout mediates the negative impact of job demands on mental health (as measured by rates of depression) and physical health (as measured by self-reported physical health complaints) in a group of Polish police officers.

#### **The JD-R Model as Theoretical Framework of Research**

The JD-R model is an attempt to develop earlier occupational stress concepts, including the Job Demands-Control model (JD-C, Karasek & Theorell, 1990), the Job Demands-

Control-Support model (DCS, Johnson & Hall, 1988), the Effort-Reward Imbalance model (ERI, Siegrist, Starke, Chandola, Godin, Marmot, Niedhammer, & Peter, 2004) and the Conservation of Resources theory (COR, Hobfoll, 1989). The JD-R model assumes that each occupation involves specific job demands which, in conditions of poor job resources, may lead to poor health (Bakker et al., 2003). Job demands refer to those “physical, social or organizational job aspects that require sustained physical and/or psychological effort and are associated with certain physiological and/or psychological costs” (Demerouti et al., 2001, p. 501). They include role stress, bad working conditions, job monotony, a demanding workload, interpersonal conflicts and organizational constraints. Job resources are related to “physical, social and organizational aspects of the job that: may be functional in achieving work-related goals; reduce job demands and the associated physiological and psychological costs, and stimulate personal growth and development” (Demerouti et al., 2001, p. 501).

In accordance with the JD-R model, job demands trigger the energetic process, that through high job burnout results in health problems. It can be clarified using the compensatory regulatory-control model (Hockey, 1997). This model assumes that employees under stress face a trade-off between the protection of their primary performance goals (benefits) and the mental effort that has to be invested in the job (costs). When job demands increase, a compensatory effort has to be mobilized in order to deal with the excessive demands and maintain performance levels. However, this effort is associated with physiological and psychological costs (e.g., increased sympathetic

activity, fatigue, loss of motivation) that, over time, result in the depletion of employees' energy and might therefore lead to burnout and, in the long run, to various psychosomatic disorders, including depression and physical health complaints. Numerous studies have confirmed that high job demands are directly and indirectly related to poor health (Hakanen et al., 2008; Schaufeli & Bakker, 2004).

### **Job Demands and Poor Health**

The number of research studies on occupational stress has increased in recent years because of a growing awareness of the need to improve the quality of working conditions and thereby the well-being of employees (Eurofound, 2012). Although it has been suggested that job demands sometimes might be the source of challenges rather than stress at work (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), job demands may become stressors, especially when they require a lot of effort to sustain the expected performance level, consequently eliciting negative responses, including job burnout and depression (Schaufeli & Bakker, 2004).

In police work two major categories of job demands may be distinguished (Brown & Campbell, 1990; Kop et al., 1999). Firstly, we can consider inherent police stressors, which refer to critical incidents in police work, that have the potential to be psychologically or physically harmful, e.g., physical threat, violence, exposure to danger, crime and facing the unknown. A second group of police stressors consists of organizational stressors, which are the result of the organizational structure and functioning of the police force. These can include such stressors as supervisors' management style, poor communica-

tion within the force, poor equipment, demanding paperwork, poor training, exhausting work shifts and inadequate salaries. Most of the previous studies on police stress indicated that organizational job demands take a greater toll on police officers' health than operational job demands (Brown & Campbell, 1990; Gul & Devise, 2011; Kop et al., 1999). The present study considers three general organizational job demands, such as interpersonal conflicts at work, organizational constraints and a demanding workload. Each of them is identified as a serious source of psychological strain (Keenan & Newton, 1985; Spector & Jex, 1998).

Interpersonal conflict at work is defined as a negative interpersonal encounter characterized by a contentious exchange, hostility or aggression. It may be an isolated incident or recurring and enduring acts which can be a manifestation of bullying. Interpersonal conflict at work may range from minor disagreements between co-workers to physical violence against others (Spector & Jex, 1998). The conflict may be overt (e.g., being rude to co-workers) or may be covert (e.g., spreading rumors about co-workers). The Stress Incident Report (SIR), an open-ended method used by Keenan and Newton (1985) to collect stressful incidents that occur at work, shows that seventy-four percent of reported incidents were caused by social interactions with superiors, subordinates, or colleagues. Previous research showed that interpersonal conflicts at work are positively associated with employees' frustration, anxiety, anger, emotional exhaustion, job burnout and depression (Liu, Nauta, Li, & Fan, 2012). Organizational constraints are related to situations or things that prevent employees from translating ability and effort into high levels of job performance. These con-

straints may include faulty equipment, incomplete or inadequate information, as well as interruptions by others. It has been found that organizational constraints are associated with employees' frustration, work anxiety, mental fatigue, job dissatisfaction, job burnout, and physical health complaints (Baka & Cieślak, 2010; Spector, Fox, & Domagalski, 2005; Spector & Jex, 1998). Workload is listed as one of the most common sources of stress (Bruk-Lee & Spector, 2012). It can be measured by workload rates, the level of production, or even the mental demands of the job-related task which one is currently performing. In the current study, quantitative workload is provided, which is measured by the volume of work that employees are required to perform during a given time period (Keenan & Newton, 1985). Numerous studies have pointed out the correlation between demanding workload rates and poor physical and mental health (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Maslach, Schaufeli, & Leiter, 2001).

### **The Mediating Role of Job Burnout**

Job burnout syndrome has been mentioned in research literature for over forty years (Şek, 2014). It has also been diagnosed by physicians and included in the ICD-10 Classification of Mental and Behavioral Disorders. In the classic approach, job burnout is defined as a psychological syndrome consisting of three symptoms – emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach et al., 2001; Schaufeli & Bakker, 2004). The authors of the JD-R model proposed a new outlook on the phenomenon of job burnout. Namely, they define it as the long-term effect of chronic work-related stress caused by diffi-

cult to meet job demands and poor job resources. In this theoretical framework, job burnout consists of two components – exhaustion and disengagement from work. In contrast to the classic approach to exhaustion, the JD-R model emphasizes not only its emotional aspect, but also the physical and cognitive aspects. Instead of depersonalization – keeping an emotional distance from the recipient – Demerouti and co-authors use it to mean disengagement from work, which is defined as a distanced attitude to recipients, co-workers, and the whole work-related context such as one's duties, job values, and the organizational culture. Thus, disengagement is a broader notion, which comprises of both depersonalization and lack of personal achievement (Demerouti et al., 2001).

Several studies conducted in the context of JD-R model found that job burnout mediates the relationships between different types of job demands and poor health. For example, in Hakanen and co-workers' research, job burnout mediated the negative impact of disruptive pupils' behavior, a demanding workload and poor physical working conditions on self-rated mental problems in a group of Finnish teachers (Hakanen et al., 2006). The mediating function of job burnout was supported also in a cross-lagged study, in which emotional demands, quantitative workload and poor physical work conditions lead to depression through increased rates of job burnout in a group of dentists (Hakanen et al., 2008).

As far as I know only two investigations have tested the role of job burnout as a mediator in the relationship between job demands and physical health. They yielded inconsistent results. A Dutch study done on service organizations' workers by Schaufeli and Bakker (2004) found that high rates of

qualitative and quantitative workload lead—through high rates of job burnout – to psychosomatic symptoms, including headaches, and cardiovascular and gastric problems. The other study however did not confirm the mediating role of job burnout in the relationship between job demands and poor physical health in a group of Austrian blue- and white-collar workers (Korunka, Kubicek, Schaufeli, & Hoonakker, 2009). Two Israeli studies pointed out strong direct connections between job burnout and physical ailments such as musculoskeletal pain (Armon et al., 2014) and coronary heart disease (Toker et al., 2012). Based on the results of the studies cited above, it seems likely that job demands affect both mental and physical health, directly and indirectly leading to health problems, through job burnout. The research hypotheses are presented below.

*H1:* Job demands are positively related to poor mental health directly and indirectly – through increase of job burnout.

*H2:* Job demands are positively related to poor physical health directly and indirectly – through increase of job burnout.

## Methods

### Participants

The participants of the study were Polish police officers ( $N = 625$ ). The study was conducted in 2012. Participation in the study was voluntary. Questionnaires were distributed at randomly-selected police stations in three regions of Poland – Silesia, Łódzkie and Świętokrzyskie. Potential respondents received a hard copy of the questionnaires along with a letter explaining the purpose of the study. Full confidentiality of data and anonymity were guaranteed. Participants

filled in the questionnaires and then put them into envelopes I provided. Research assistants (i.e., three undergraduate students) then collected all the envelopes. All participants were treated in accordance with the ethical guidelines of the Helsinki Declaration. Out of the 700 distributed questionnaires, 625 (83%) were handed back to me and 607 (79% of the original pool) were at least 85% complete and subsequently used for data analysis. The group of participants consisted of 124 (20%) women and 483 (80%) men, aged between 21 and 61 years ( $M = 36.64$ ;  $SD = 7.81$ ). Work experience among the participants ranged from 1 to 36 years ( $M = 12.83$ ;  $SD = 7.78$ ).

### Measures

In the present investigation, six variables were taken into account, and measured with six standard research tools – questionnaires. Three of them were used to measure job demands, namely interpersonal conflicts, organizational constraints, and quantitative workload. Single questionnaires were used to measure job burnout, depression and physical health.

*Job demands.* In order to measure this variable three Polish version of appropriate scales were used – 4 items of the Interpersonal Conflicts at Work Scale (ICAWS), 11 items of the Organizational Constraints Scale (OCS), and 5 items of the Quantitative Workload Inventory (QWI). The scales were developed by Spector and Jex (1998). Satisfactory statistical measures of the scales were obtained in the original study. In the current study, the respective reliability coefficients – Cronbach's  $\alpha$  – for the scales were 0.83 for ICAWS, 0.88 for OCS, and 0.85 for QWI.

*Job burnout.* Job burnout was measured with the Polish version of Oldenburg Burnout Inventory (OLBI) by Demerouti and her co-workers (Demerouti, Bakker, Vardakou, & Kantas, 2003). It consisted of two subscales – exhaustion and disengagement from work, which combined, make up the general burnout coefficient. The reliability coefficient for general job burnout was satisfying in the original study. The theoretical validity was evidenced by a strong correlation with three symptoms of job burnout, as measured with the MBI-GS questionnaire (Demerouti et al., 2003). In the current study, the reliability coefficient for general job burnout was  $\alpha = 0.83$ .

*Poor Health.* The indicator of poor mental health was depression measured with the Polish version of the *Center for Epidemiologic Studies Depression Scale* (CES-D, Radloff, 1977). CES-D includes 20 items related to cognitive, affective and somatic symptoms of depression. The reliability coefficient for the scale was  $\alpha = 0.88$  in the current study. Poor physical health was measured with the Polish version of Physical Symptoms Inventory (PSI) by Spector and Jex (1998). It includes 18 items related to physical symptoms such as headaches, backaches, eyes strain, stomach cramps, trouble sleeping, infections, skin rashes, constipation. Participants' task is to indicate which of these symptoms they have suffered from during the past month and which ones, if any, have required them to consult a health professional (0 – No; 1 – Yes, but I didn't see a doctor; 2 – Yes and I saw a doctor). The total sum of all points makes up the general indicator of physical health. Satisfactory statistical measures were obtained both in the original study (Spector & Jex, 1998) as well as in the current study (Cronbach's  $\alpha$  coefficient = 0.89).

## Statistical Analysis

The missing data pattern was analyzed using Little's MCAR test which confirmed that data was missing completely at random,  $\chi^2(64) = 57.34, p = .709$ . The research model was tested by means of a regression analysis, using the PROCESS macros (Hayes, 2013). In comparison to Baron and Kenny's (1986) classic mediation analysis, PROCESS allows to test direct and indirect effects in one model. Model 4 was applied to verify the research hypotheses (simple mediation). PROCESS calculates direct, indirect and global effects as well as their confidence intervals. The direct effect concerns the link between independent and dependent variables and is estimated as path  $c'$ . The indirect effect concerns the effect of the independent variable on the dependent variable through the mediator and is estimated as paths  $a$  and  $b$ . Path  $a$  relates to the effect of the independent variable on the mediator and path  $b$  concerns the effect of the mediator on the dependent variable while controlling for the independent variable. The direct and indirect effects are summed up to make up the total effect. It is safe to assume the existence of mediation when the statistical significance of value  $B$  in the indirect effect is fulfilled. Mediation was additionally confirmed with the Sobel test (value  $Z$ ).

## Results

### Preliminary Analyses

Means, standard deviations and Pearson's correlations are displayed in Table 1. No demographic variable correlated with the analyzed job demands and job burnout. The

Table 1 Descriptive statistics and correlation coefficients between variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	36.64	7.81	-							
2. Gender	-	-	-0.05	-						
3. Job seniority	12.79	7.76	0.89***	-0.01	-					
4. Interpersonal conflicts	1.29	0.45	0.02	0.02	0.05	-				
5. Organizational constraints	1.67	0.59	0.05	0.01	0.09*	0.56***	-			
6. Workload	3.31	1.00	-0.08	0.05	-0.05	0.26***	0.44***	-		
7. Job burnout	2.57	0.56	0.03	-0.05	0.08	0.31***	0.43***	0.14***	-	
8. Depression	1.14	0.45	0.14	-0.13**	0.03	0.36**	0.45***	0.12**	0.68***	-
9. Physical symptoms	0.42	0.34	0.23***	-0.07	0.24***	0.31***	0.36***	0.25***	0.32***	0.36***

Note. Women were coded as 1 and men were coded as 2

Table 2 Total, direct and indirect effects of job demands on depression

	Depression as dependent variable								
	Interpersonal conflict at work			Organizational constraints			Quantitative workload		
	B	SE	95% CI	B	SE	95% CI	B	SE	95% CI
Total effect	0.22***	0.02	[0.15, 0.24]	0.27***	0.02	[0.2, 0.31]	0.06**	0.02	[0.09, 0.27]
Direct effect	0.09***	0.02	[0.06, 0.12]	0.11***	0.02	[0.07, 0.15]	0.01	0.01	[-0.02, 0.03]
Indirect effect	0.13***	0.02	[0.07, 0.16]	0.16***	0.02	[0.12, 0.19]	0.04**	0.01	[0.02, 0.07]

For the model with interpersonal conflict as an independent variable:  $F(1, 616) = 96.24$ ;  $p = 0.001$ ;  $R^2 = 0.13$ .

For the model with organizational constraints as an independent variable:  $F(1, 618) = 155.11$ ;  $p = 0.001$ ;  $R^2 = 0.21$ .

For the model with quantitative workload as an independent variable:  $F(1, 618) = 13.04$ ;  $p = 0.001$ ;  $R^2 = 0.02$ .

B – unstandardized coefficient; SE – standard errors; CI = confidence interval; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Table 3 Total, direct and indirect effects of job demands on physical symptoms

	Physical symptoms as dependent variable								
	Interpersonal conflict at work			Organizational constraints			Quantitative workload		
	B	SE	95% CI	B	SE	95% CI	B	SE	95% CI
Total effect	0.14***	0.02	[0.09, 0.16]	0.16***	0.02	[0.12, 0.19]	0.09***	0.02	[0.06, 0.11]
Direct effect	0.09***	0.02	[0.06, 0.12]	0.12***	0.02	[0.08, 0.15]	0.07***	0.01	[0.04, 0.09]
Indirect effect	0.05**	0.02	[0.02, 0.05]	0.04**	0.02	[0.02, 0.06]	0.02*	0.01	[0.007, 0.02]

For the model with interpersonal conflict as an independent variable:  $F(1, 616) = 65.83$ ;  $p = 0.001$ ;  $R^2 = 0.1$ .

For the model with organizational constraints as an independent variable:  $F(1, 618) = 93.27$ ;  $p = 0.001$ ;  $R^2 = 0.13$ .

For the model with quantitative workload as an independent variable:  $F(1, 618) = 41.13$ ;  $p = 0.01$ ;  $R^2 = 0.06$ .

B – unstandardized coefficient; SE – standard errors; CI = confidence interval; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

number of physical health complaints increased along with age and job seniority. Depression was connected with gender – higher rates of depression were noted among women [ $t(618) = 3.31; p < 0.01$ ]. Two variables related to health problems – depression and physical symptoms – were distinctly connected.

### Testing the Mediation Model (H1, H2)

Tables 2 and 3 include values of the  $B$ -coefficient and the confidence interval for direct, indirect and total effects for depression (Table 2) and physical symptoms (Table 3). The direct effect of job demands on poor health was estimated with  $c'$ , the indirect effects were estimated with  $a$  (the effect of job

demands on job burnout) and  $b$  (the effect of job burnout on poor health). The total effects consisted of the direct and indirect effects. Figures 1, 2 and 3 show the values of  $B$ -coefficients for  $a$ ,  $b$  and  $c'$  paths in the analyzed links. Each figure refers to one type of job demand.

Mediation analysis found that high levels of interpersonal conflict at work, organizational constraints (but not workload) were directly related to high rates of depression (Table 2, direct effect). This effect is shown in Figure 2 (upper line, path  $c'$ ). Regarding the indirect effects, data showed that three of the analyzed job demands are predictors of high job burnout, and that in turn job burnout is a predictor of high levels of depression (Table 2, indirect effect). Figures 1, 2

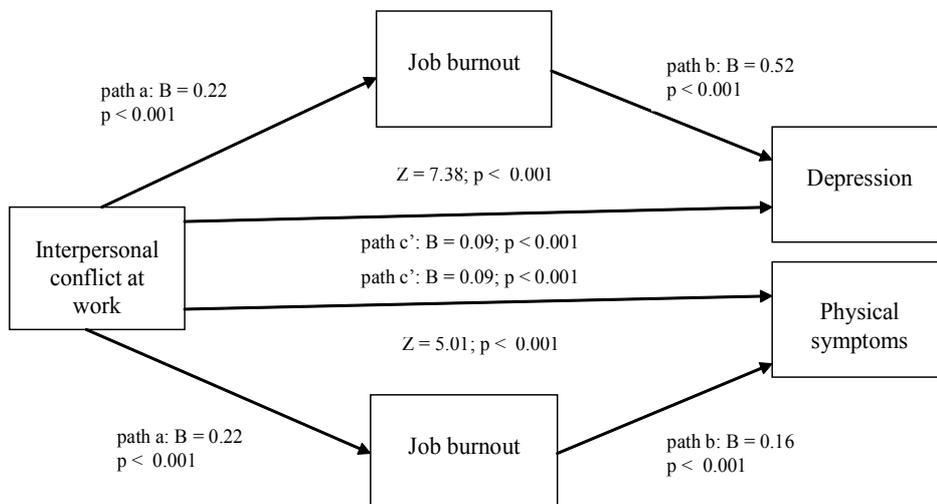
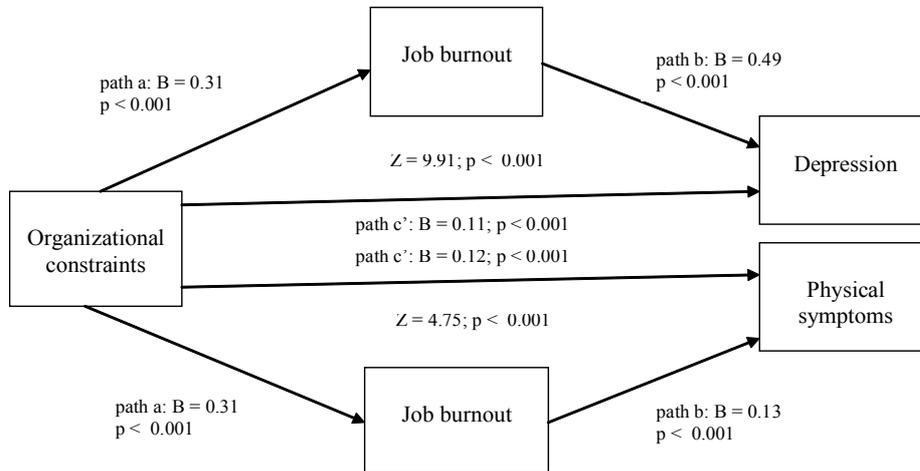
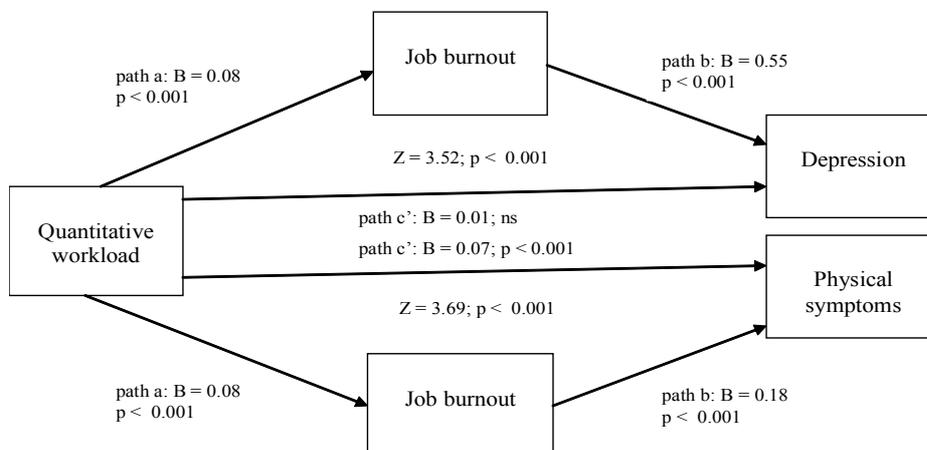


Figure 1 Mediating effect of job burnout in link between interpersonal conflict and ill health



*Figure 2* Mediating effect of job burnout in link between organizational constraints and ill health



*Figure 3* Mediating effect of job burnout in link between quantitative workload and ill health

and 3 (upper lines, paths *a* and *b*) show that interpersonal conflict (Figure 1), organizational constraints (Figure 2) and a demanding workload (Figure 3) result in depression by increasing rates of job burnout. Additionally, the mediating effects were confirmed by Sobel's *Z* test. These results partially confirm H1.

The analysis showed that the three analyzed job demands (interpersonal conflict at work, organizational constraints and workload) are directly (Table 3) and indirectly (Table 2) related to physical health complaints. It is clear that high job demands are a predictor of high job burnout, and the latter is in turn a predictor of frequently occurring physical health complaints (Figures 1, 2 and 3, bottom lines, path *a* and *b*). The Sobel *Z* test confirmed these mediating effects. Thereby, Hypothesis 2 was confirmed.

### Discussion

In the present research study, direct and indirect (mediated through job burnout) effects of job demands on health problems were tested. The theoretical framework for the study was the JD-R model (Demerouti et al., 2001). According to the energetic process, described by the authors of the model, job burnout mediates the negative effects of high job demands on health problems. The authors acknowledge that the direct impact of job demands on health problems has been observed but they also highlight the mediating role of job burnout (Hakanen et al., 2008).

The obtained results largely confirmed the direct effects and fully confirmed the indirect effects of job demands on poor health. Three of the analyzed job demands were related to poor physical health and two of them were related to poor mental health. Job burn-

out mediated the negative effects of job demands on physical and mental health. It should be emphasized that the direct effects of job demands on physical health were greater than the indirect effects. Job burnout slightly mediated the link between job demands and poor physical health. In contrast, in the case of mental health, the mediating role of job burnout was more distinct. The results are consistent with the JD-R model (Demerouti et al., 2001) and suggest the need to further explore the regulating role of job burnout in the context of mental and physical health. It may be that the size of the direct and indirect effects of job demands depends not only on the kind of health indicator taken into consideration but also on the vocational group which is being investigated. Case in point, in a similar study done on a group of Polish teachers, the direct effect of job demands on physical and mental health was not observed (Baka, 2015). What was really strongly confirmed, however, was the indirect effect of job demands on poor physical health – with job burnout as a mediator.

The results indicate that interpersonal conflict at work and organizational constraints were more strongly connected with job burnout and health than a demanding workload. The data are consistent with the results of Keenan and Newton's report (1985), which showed that these two job demands were assessed by employees as especially onerous. When investigating the sources of variability in the negative impact of different job demands on health problems, it is worth referring to a well-known distinction between two groups of job stressors – challenge stressors and hindrance stressors (Cavanaugh, et al., 2000). Challenge stressors are those job demands which may be perceived by

employees as factors which facilitate personal development, allowing employees to gain experience and expand their knowledge. In contrast, hindrance stressors are connected with those job demands which interfere with other job-related tasks, demand a lot of energy and hinder personal growth. Workers almost always react to hindrance stressors with negative emotions, which consequently impairs their well-being. On the other hand, employees react to challenge stressors with either negative or positive emotions. It was confirmed by a meta-analysis that hindrance stressors (e.g., role conflicts, organizational constraints) are negatively correlated with job satisfaction, whereas challenge stressors (e.g., a variety of job tasks, non-demanding quantitative workload) have been found to be positively correlated with job satisfaction (Rodell & Judge, 2009). Perhaps a demanding workload was perceived as a challenge by some participants in my study and this is why its connections with poor health were relatively weaker.

Moreover, it is worth considering the differences in the sizes of the general effects. The proportion of variance explained by the six models varies from 2% (workload as a predictor of depression) to 21% (organizational constraints as a predictor of depression). Such data can be especially useful in police managerial practice. It can be assumed intuitively that organizational constraints can be more effectively controlled by an organization and can be more easily modified with appropriate procedures than interpersonal relations or a demanding workload. Poor equipment, organizational rules and procedures, inadequate training and incorrect instructions can be highly controlled by the management of an organization.

As far as we know, all previous researchers have only taken into account general job burnout as a mediator. It is interesting to see the way in which the separate components of job burnout – exhaustion and disengagement from work – mediate the relationship between job demands and mental and physical health complaints, respectively. One study showed that whereas exhaustion – the so-called root cause of job burnout – is associated with high job demands, disengagement from work is related to low levels of job resources (Demerouti et al., 2001). Moreover, in accordance with several studies, exhaustion is a predictor of mental (e.g., depression, anxiety) and physical (e.g., coronary heart disease, gastric problems) health problems (Armon et al., 2012; Toker et al., 2014). It seems more likely that exhaustion mediates the link between job demands and health problems to a greater degree than disengagement from work.

If we analyze the obtained results in the context of the JD-R model, it becomes clear that job resources are of paramount importance. Job resources were not taken into account in the presented study but their beneficial role was strongly emphasized by the authors of the JD-R model (Schaufeli & Bakker, 2004). The authors emphasized that health problems are not an immediate result of job demands but that they are modified by some of the personal and organizational job resources at the disposal of the employees. Numerous studies have concluded that job resources, such as social support, job autonomy, feedback on job performance, opportunities for growth, and coaching can buffer the negative impact of job demands on poor health (Bakker et al., 2003; Bakker, Demerouti, & Sanz-Vergel, 2014; Schaufeli & Bakker, 2004). The beneficial effect of job re-

sources is especially clear in the case of emotional demands. This is of great significance in the case of police officers. Based on previous studies (e.g., Collwell, 2009), we can safely assume that this occupational group is particularly exposed to high job demands and thereby is at great risk of job burnout and mental health problems. Therefore, they are in great need of appropriate coaching and training – both personal and group training – to help them build personal resources to cope better with the particularly straining job demands of their occupation. They would also greatly benefit from better developed and more readily available organizational resources designed to help them cope with job-related stress they encounter on a regular basis in this line of work.

The present research has several limitations, which weaken its external validity and call for caution in the interpretation of the results. One of these limitations is the unequal sex ratio in the sample with an 80% rate of male participants. The results may therefore apply to women to a lesser extent than they apply to men. Moreover, the research study investigated only one (and quite distinct) occupational group – police officers. Therefore, generalization of these results to other professional groups should be done very cautiously.

The next limitation is related to measures used in the study. All the tools were self-descriptive, which may have distorted the results. For example, high rates of self-reported depression can affect the way employees perceive their occupational environment. The employees in a depressive mood probably describe their job conditions and job demands as more troublesome and hazardous than employees boasting a positive mood. They probably also experience higher

levels of job burnout. Therefore, it would be desirable to include some objective measures of job demands in a follow-up study. Seeing or not seeing a doctor to discuss a health complaint is not necessarily an indication of smaller or greater number of health complaints. The differences in visiting physicians are also substantially influenced by other factors not related to health. Moreover, clinical depression is also related to overall passivity, which may also manifest itself in a smaller likelihood of visiting one's general physician when dealing with a health complaint. This can be a further source of bias and may have therefore distorted the relationships examined in this study.

Another issue worth commenting on is the high correlation between job burnout and depression ( $r = 0.68$ ). It may be caused by a substantial conceptual overlap between the two variables. In some aspects, the dividing line between these two concepts may be quite blurry. For example, Bianchi, Schonfeld, and Laurent (2014) found that about 90% of burned out employees met the diagnostic criteria for depression, suggesting that burnout may be a syndrome from the spectrum of depressive disorders rather than a distinct entity. Taris (2006) also questioned the extent to which job burnout differs from depression. However, a study by Hakanen et al. (2008), also addressed this issue, arguing in favor of seeing job burnout and clinical depression as two distinct entities, whereby the former contributes to the development of the latter. The authors demonstrated, in a cross lagged study, that job burnout predicted depression but not vice versa. Furthermore, some additional analyses performed by Hakanen et al. (2008) showed that a model consisting of two second-order factors ("job burnout" and "depression" factors) had an acceptable fit

both times, whereas a one-factor model (“general wellbeing”) had a very poor fit on both occasions. The data suggest a lack of any item overlap between burnout and depression. In general, taking into account the highly chronic nature of both psychological states, it can be considered that job burnout may in fact lead to depression rather than vice versa or that the development may occur “in tandem” (McKnight & Glass, 1995). Nevertheless, some further studies are needed to give the findings of Hakanen et al. (2008) more credibility.

Yet another limitation results from the fact that mediation analyses were based on the results of a cross-sectional study instead of cross lagged study or those obtained from experimental research. Both job burnout and health problems are usually dynamic processes, which evolve while being subjected to the long-term impact of stressors and resources. Therefore, it is crucial to reflect on their gradual development and – as Hobfoll (2006) has stated – it is “a spiral of reciprocal relationships”. This can only be achieved through longitudinal research with a several month break between test and retest. Thus, this type of study is specifically worth conducting as a follow-up to this one – it would allow us to further examine the relationships between the phenomena analyzed in the present study.

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VPLYV PRACOVNÝCH NÁROKOV  
NA DUŠEVNÉ A TELESNÉ ZDRAVIE POLICAJTOV.  
TESTOVANIE MEDIAČNEJ ÚLOHY PRACOVNÉHO VYHOVENIA

L. B a k a

*Súhrn:* Model pracovných nárokov-zdrojov (JD-R) predpokladá, že pracovné nároky a pracovné zdroje tvoria dva procesy: proces zhoršenia zdravia, ktorý má negatívny dopad a motivačný proces, ktorý má pozitívny dopad. Cieľom štúdie bolo overenie procesu zhoršenia zdravia. Štúdia konkrétne skúmala priamy a nepriamy (sprostredkovaný prostredníctvom pracovného vyhorenia) vplyv pracovných nárokov na duševné a telesné zdravie. Použili sme tri druhy pracovných nárokov, t.j. medziľudské konflikty v práci, organizačné obmedzenia a pracovné zaťaženie. Výskumnú vzorku tvorilo 625 policajtov. Použili sme regresnú analýzu - Hayesove makrá PRO-CESS. Dva z troch pracovných nárokov sa priamo alebo nepriamo spájali s duševným a telesným zdravím. Výsledky čiastočne potvrdzujú model pracovných nárokov-zdrojov.