Occupational Stress and Job Satisfaction among Professors in Russian Higher Education Institutions

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Abstract. Data from the international *Changing Academic Profession* survey, conducted uniformly in 20 countries (including Russia), were used to analyze factors affecting the level of occupational stress and job satisfaction among Russian professors. Based on the values of both parameters, all participating countries were divided into four groups. Russia belongs to the group with low levels of occupational stress and job satisfaction, these parameters being lower than in any other country participating in the project. We assess the correlation between these parameters and three sets of factors: requirements for professors, resources provided by higher educational institutions for professional activities, and individual professional qualities of professors such as their socio-demographic characteristics. In Russia, just as in other countries with low levels of occupational stress and job satisfaction, the parameters in question have proved to correlate with satisfaction with resources provided by higher educational institutions. However, unlike in other countries, professors in Russia attach special importance to nonmaterial resources: personal role in specific structural subdivisions, involvement in communication, team spirit in decision-making. In Russia, stress and job satisfaction are not correlated with position, salary, or years of experience, while German and Argentinean professors, for instance, are more satisfied with their jobs if they take higher positions.
Keywords: academic profession, stress, job satisfaction, organizational resources.

Received in July 2014

The study uses the results of the project "International comparative study of contractual relations ("institution-teacher-student") in Russian and foreign universities and schools" implemented in 2012 within the framework of the NRU-HSE Basic Research Program.

We are grateful to the staff of the Laboratory for Institutional Analysis of Economic Reforms for their attention, useful comments, and recommendations to this article.

Judging by international studies, high occupational stress is normally associated with low job satisfaction [Olsen, 1993]. However, low job satisfaction (JS) in the Russian academic community coexists with a low stress level (SL)[1]. In this paper, we make it our mission to find

[1] The issue has been investigated in Russia by sociology of labor [Kissel 1984;

out how unique this situation is and to compare factors affecting SL and JS in academic environments of various countries.

In order to identify these factors, we performed a review of studies on occupational stress and job satisfaction in secondary and higher education. Russian sociologists focus mostly on JS among school teachers, while there is little research on the occupational wellness of professors.

University teaching has some specific features (e.g., flexible schedules, autonomous planning of extracurricular work time) that may affect stress levels and job satisfaction [Bakker et al., 2007; Olsen, 1993; Idris, 2011]. Data obtained in earlier studies allowed us to divide the factors affecting SL and JS into three groups: context of educational institution, professors' personal competencies, and professors' socio-demographic characteristics.

The first group of factors includes job demands and job resources that universities provide for their professional activities. Administrations sets goals for their professors that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs [Robert, Hockey, 1997]. Administrations may determine norms and restrictions and monitor performance of the tasks set [Fisher, 1994; Idris, 2011]. One can assume that demands imposed by universities are influencing Russian professors' SL and JS more and more now, as the education policy has been experiencing a number of dramatic changes, from a new teacher pay system to higher scientific productivity standards.

By job resources, we mean "physical, psychological, social, or organizational aspects of the job which reduce psychological and physiological costs associated with job demands, help achieve work goals, or stimulate personal growth, learning, and development" [Demerouti et al., 2001]. High job demands and lack of job resources needed to perform professional activities escalate stress and reduce job satisfaction. At the same time, job resources may buffer the impact of job demands on job strain, including burnout [Bakker et al., 2007].

Any educational organization provides its employees with material (library stock and its quality, workplace and lab facilities, etc.) and nonmaterial job resources. The latter include opportunity for interpersonal communication (for example, with colleagues or the administration [Locke, Bennion, 2013]), power potential, which is determined by the position an employee holds and involvement in decision-making [Bakker et al. 2007], and the resource of time. Large time ex-

Naumova, Slyusaryanskiy, 1970]. Unlike Russian scientists, foreign researchers use the term "job satisfaction." The notions of "labor satisfaction" and "job satisfaction" are close in their nature, but we will use the latter here to provide a unified terminology as part of an international comparative study.

penses required to complete a task cause not only stress but also job burnout among professors, while the lack of time to keep up with new events and publications in their fields is mentioned most often as a source of stress [Gmelch, Lovrich, Wilke, 1984]. The effects of time management difficulties go far beyond professional activities; life satisfaction generally becomes lower due to the blurring of the line between work and home [Bell, Rajendran, Theiler, 2012].

The second group of factors affecting SL and JS include professors' individual professional characteristics: years of service, position, type of contract, salary [Olsen, 1993]. These are partly related to the university the professor works in, as they convey the formal status of the employee within the organization, but they are also individual and largely dependent on the professor's previous experience and skill level. For example, young teachers are more stressed than their senior colleagues, especially during their first three years at work [Ibid.]. It is not age disparity that is the primary reason for such a difference—rather, it is individual professional characteristics such as position, type of contract, or years of service that matter. Young specialists face many challenges: they must identify their role and status within the teaching community, apply their competencies, and allocate time for their main activities. Multitasking may provoke certain troubles that become sources of stress for young teachers [Ibid.]. Advancement in seniority goes along with career development, promotions, and pay rises, all of which result in lower stress levels and higher job satisfaction [Leung, Siu, Spector, 2000; Bentley et al., 2013].

The third group of factors affecting SL and JS includes socio-demographic characteristics of professors. Stress levels and job satisfaction depend on gender, age, level of education, social and family status, and other variables [Cummings, Arimoto, 2013].

In the following section, we will analyze how these groups of factors affect professor stress levels and job satisfaction in different countries.

Method of research

In order to analyze occupational stress and job satisfaction among employees of higher education institutions, we use data obtained from *Changing Academic Profession* (CAP*)*, an international survey that spanned 20 countries, including Russia. The survey was conducted in Russia in 2012 using the unified questionnaire developed by W. Cummings [Cummings, Bracht, 2006]. Samples in each country were determined with regard for specific features of national academic systems. The Russian sample consisted of certified state higher education institutions subordinated to the Ministry of Education and Science of the Russian Federation (except for branches) and located in regions with the highest university densities (Moscow, Saint Petersburg, Nizhny Novgorod Oblast, Novosibirsk Oblast, Samara Oblast, Sverdlovsk Oblast, Rostov Oblast, Tomsk Oblast, and Primorsky Krai).

The sample was restricted to state educational institutions because the academic profession implies that university employees can both teach and perform research. Research is not typical for most private universities and their branches. Experts employed in academies of sciences either do not teach at all or combine teaching at universities with research in academies. The sample included higher education institutions of two types: institutions with special status (national research universities and federal universities) and institutions with no particular status (classical state higher education institutions) (Table 1). Universities for the survey were sampled randomly from each group. Professors were also selected at random from the lists provided by educational institutions themselves. The CAP standards require that an effective sample size should be around 800 respondents. Taking into account the design effect (which is 2 for stratified and cluster sampling), we were required to survey at least 1,600 people. The resulting sample consisted of 1,623 respondents from 25 state universities.

Occupational stress level and job satisfaction were measured based on the answers respondents gave to the two questions contained in the questionnaire using a five-point scale.

1. 1. My job is a source of considerable stress (1—"totally agree", 5—"totally disagree").
2. 2. How would you assess the level of your overall job satisfaction? (1—"very high", 5—"very low").

Stress levels here are measured through self-evaluation and not as a physiological response of the body to tension experienced during professional activities.

Stress and job satisfaction: Russia in the international context

Levels of occupational stress and job satisfaction in the academic community vary from country to country (Figure 1). Russia showed the lowest results in both: professors almost never get stressed and are less satisfied with their jobs than their counterparts elsewhere in the world.

Using cluster analysis, we decided to divide all countries into 4 groups with differing levels of professor stress and job satisfaction (Figure 2): group I—low stress and high job satisfaction; group II—high stress and high job satisfaction; group III—low stress and low job satisfaction; group IV—high stress and low job satisfaction.

The best part of the countries is concentrated in the third group, which demonstrates the optimal combination: low professor stress levels and high job satisfaction.

Russia belongs to the group of countries where professors feel little occupational stress but also little job satisfaction. The group also includes Germany, South Africa, and Argentina. It is hard to find any macroeconomic indicators or specific features of education systems that would explain why these countries happen to be in the same

Table 1. **Representation of higher education institutions of different types in the survey sample**

	Institutions with special status		Institutions with no particular status		Number of full-time students (Rosstat, 2011)
	In the region	In the sample	In the region	In the sample	
Moscow	9	3	41	4	405,403
Saint Petersburg	3	2	20	2	198,470
Nizhny Novgorod Oblast	1	1	6	1	55,802
Novosibirsk Oblast	1	1	6	1	63,665
Primorsky Krai	1	1	1	1	41,020
Rostov Oblast	1	1	6	1	83,930
Samara Oblast	1	1	7	1	61,771
Sverdlovsk Oblast	1	1	8	1	68,441
Tomsk Oblast	2	1	3	1	38,502
Total	20	12	98	13	1,017,004

group. They differ dramatically by many criteria, including the overall level of education, expenses for education as a percentage of GDP, the level of teacher salaries, and professor population. We suggest that general factors associated with professors' assessment of material and nonmaterial job resources that actually came into play here.

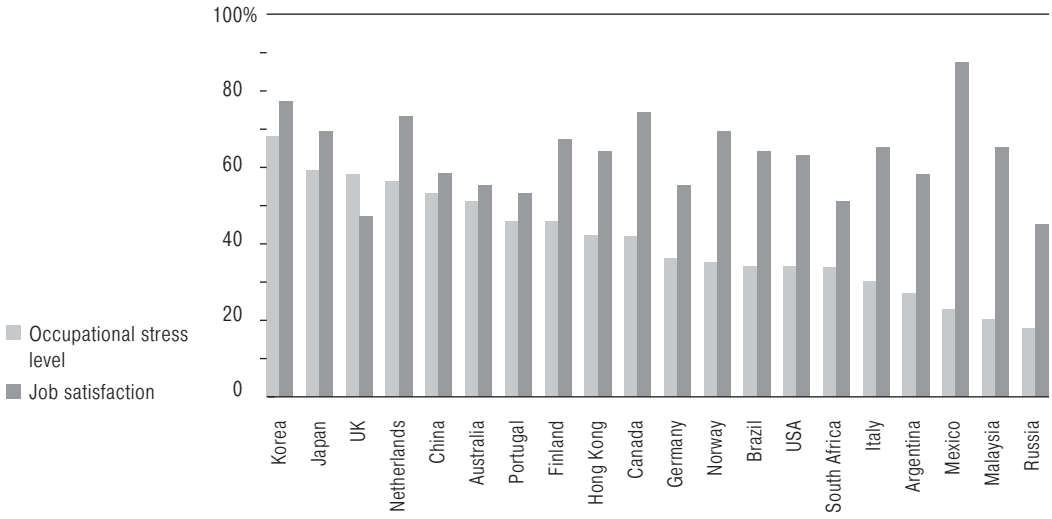
Countries with low levels of professor stress and job satisfaction

Researchers of the academic profession in countries with low levels of professor stress and job satisfaction point to the variety of job resources provided by universities and to their correlation with job satisfaction levels [Cummings, Arimoto, 2013]. In Germany, for instance, the subjective importance of specific job resources differs among professors holding different positions. We have discovered that professors holding senior positions appreciate more support resources (availability of staff required to perform work), while their colleagues in lower positions attribute a lot of significance to such job resources as workplace facilities, tools, and classrooms. Some foreign studies [Höhle, Teichler, 2013] confirm that job satisfaction is indeed affected by these factors.

In Russia, stress level and job satisfaction are correlated with a number of job resources, but not with the availability of libraries (Table 2).

Russia differs from other countries with low levels of professor SL and JS in that the stress and job satisfaction levels of Russian academics are correlated with their evaluation of nonmaterial job re-

Figure 1. **Stress level and job satisfaction**
(proportion of those who chose 1 or 2 points out of 5, where 1 is the highest level of stress or job satisfaction)



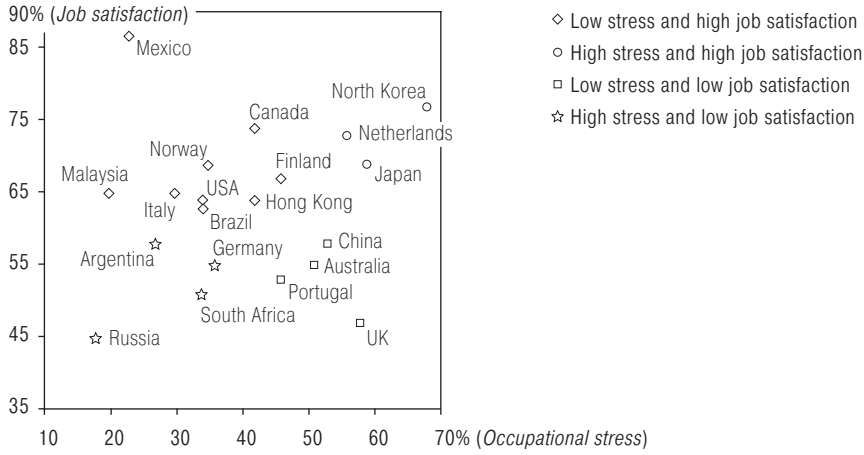
Source: data of the Changing Academic Profession survey; the data on Russia was obtained in a 2012 Russian professor survey using the CAP method.

sources. First, Russian professors attach importance to the subjective perception of their authority in structural subdivisions of the university. This effect is only noticeable at the chair level and is irrelevant for higher structural levels (those of the department and university), which resonates with the results obtained by foreign researchers [Wolhuter, 2013]. Second, communications resources play a big role. The respondents' answers reveal that involvement in communication, collective decision-making, and an adequate level of interaction between teaching professors and the university administration increase job satisfaction and reduce stress levels.

Thus, it is only in Russia that nonmaterial job resources like power potential and opportunity for interpersonal communication affect both stress levels and job satisfaction. In other countries, they are not associated with stress levels and are only sometimes correlated with job satisfaction.

Analysis of the second group of factors—individual professional characteristics—showed that they have very little or nothing to do with stress levels. In particular, SL and JS in Russia are not affected by position, salary, or years of service, while German and Argentinean professors, for example, associate their job satisfaction with the positions they hold [Höhle, Teichler, 2013; Marquina, Rebello, 2013].

Figure 2. **Groups of countries according to level of professor stress and job satisfaction**



Source: data of the Changing Academic Profession survey; the data on Russia was obtained in a 2012 Russian professor survey using the CAP method.

As for the third group of factors, some socio-demographic characteristics have an effect on occupational stress and job satisfaction. For instance, female professors in Russia experience higher occupational stress and less job satisfaction than male professors (Table 3). Married professors with children evaluate their SL higher and JS lower than single professors with no kids (Table 3). Perhaps these differences appear because married professors have less time to perform their job duties, while demands from above remain the same for everyone. Higher SL and lower JS are explained in this case by the lack of time.

Countries with high job satisfaction and low occupational stress among professors

The data obtained in the study demonstrating that Russian professors have a low level of occupational stress contradict the common belief that people are more stressed in changing conditions than in stable situations. The Russian education system has been experiencing dramatic changes lately, including joining the Bologna Process, introducing higher scientific productivity standards, and transferring to a new payment system, among other educational innovations. However, the study was performed in 2012, when global changes in education were still in the making. It is not impossible, therefore, that if we were to launch the same survey today, we would get different ratios of stress levels and job satisfaction among Russian professors.

Table 2. **Correlation of professor stress level and job satisfaction with professors' evaluation of material job resources provided by universities in the group of countries with low levels of stress and job satisfaction**

Satisfaction with material job resources	Argentina		Germany		South Africa		Russia	
	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction
Classrooms	–	+	–	+	–	+	–	+
Laboratories	0	+	–	+	–	0	–	+
Scientific equipment and tools	–	+	–	+	–	0	–	+
Computer equipment	–	+	0	+	0	+	–	+
Libraries and library services	0	+	–	+	0	+	0	0
Your office or workplace	–	+	–	+	+	+	–	+
Secretary services and paperwork support	–	+	–	+	–	+	–	+
Communications services (Internet, telephones)	–	+	0	+	0	+	–	+
Teaching support staff	–	+	–	+	–	+	–	+
Academic research support staff	–	+	–	+	–	+	–	+
Financing of science at the university	–	+	–	+	–	+	–	+

"+": positive correlation; "–": negative correlation, 0: correlation insignificant.

Source: data of the Changing Academic Profession survey; the data on Russia was obtained in a 2012 Russian professor survey using the CAP method.

Question: How would you evaluate the following working conditions, job resources, and staff required for your professional activities?

In any case, the results of the study prove the urgent need for measures to increase professor job satisfaction. The nature of these measures could probably be identified by analyzing the experience of countries with high job satisfaction and low occupational stress. This group includes Canada, Norway, the United States, Hong Kong, Italy, Malaysia, Brazil, and Finland (see Figure 2). The population of this group makes it harder to find the common factors providing for the typical SL and JS values. We have not succeeded in finding any factor that would have the same effect on stress level and job satisfaction in all eight of the countries. Moreover, the effects of each factor on SL and JS differ from country to country (Table 3).

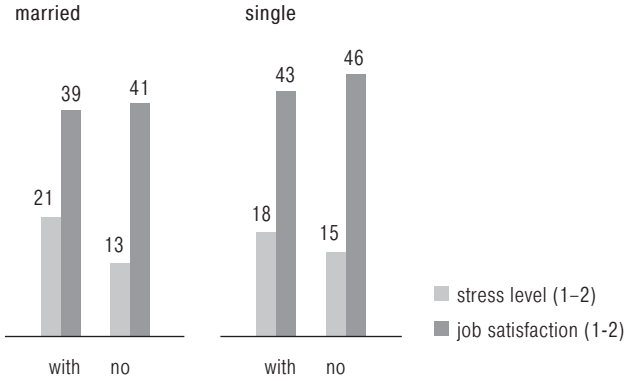
[2] Differences are statistically significant hereinafter at the confidence level of 0.05.

Table 3. **Levels of occupational stress and job satisfaction as a function of gender** (%)

	Male	Female
Stressed (1–2 points)	17	19
Not stressed (4–5 points)	59	61
Satisfied (1–2 points)	49	40
Unsatisfied (4–5 points)	19	20

Source: data obtained in a 2012 Russian professor survey using the CAP method.

Figure 3. **Levels of occupational stress and job satisfaction depending on whether professors have families and children** (proportion of those who chose 1 or 2 points out of 5, where 1 denotes the highest level of stress or job satisfaction)



Source: data obtained in a 2012 Russian professor survey using the CAP method.

In this group, SL and JS have been found to be linked with factors determining the way in which research and development is organized. First, professors are more satisfied with their jobs if they associate themselves with science as opposed to teaching. Second, stress level and job satisfaction are correlated with the financing of science: when the latter is assessed as high, stress levels are lower and job satisfaction is higher. Moreover, the highest job satisfaction rates were discovered in countries where research and development was predominantly financed by universities and national science foundations. Third, higher job satisfaction was reported by professors who did not think scientific productivity standards established by universities jeopardized the quality of R&D in any way. Fourth, an important role is played by support for science at universities: the higher professors assess the resources of tools and assisting staff provided

Table 3. **Correlation between professor stress level and job satisfaction and professors' evaluation of material job resources provided by universities in the group of countries with high job satisfaction and low stress level**

	Canada		Norway		USA		Hong Kong		Italy		Malaysia		Brazil		Finland	
Factors	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction	Stress level	Job satisfaction
Classrooms	–	+	–	+	–	+	–	0	–	+	–	–	0	+	–	+
Laboratories	+	0	–	+	+	0	–	+	–	+	–	+	–	+	–	–
Scientific equipment and tools	–	–	+	+	–	0	+	+	–	–	–	+	–	+	–	0
Computer equipment	0	+	–	0	–	+	–	+	0	+	–	–	+	–	–	0
Libraries and library services	–	+	+	+	–	+	–	–	–	+	0	+	–	+	–	+
Your office or workplace	–	–	–	+	–	0	–	+	–	+	–	+	–	+	+	–
Secretary services and paperwork support	+	+	0	–	+	+	–	0	–	+	–	–	–	+	+	+
Communications services (Internet, telephones)	–	+	0	+	–	+	–	+	+	+	–	+	0	+	0	+
Teaching support staff	–	+	–	+	–	+	–	+	–	+	+	+	–	+	–	0
Academic research support staff	–	+	–	+	–	+	0	+	–	+	–	+	–	+	–	+
Financing of science at the university	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	+
Classrooms	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	0

"+": positive correlation; "–": negative correlation, 0: correlation insignificant.

by universities for their scientific activities, the higher their job satisfaction and the lower their occupational stress.

We do not assert that improvements in only one aspect—organization of professors' scientific activities—will increase the level of job satisfaction among Russian academics, but they can certainly be a step in this direction.

Conclusion

The combination of low stress levels with low job satisfaction is not unique to Russian professors; the same is typical for professors in other countries such as Germany, Argentina, and South Africa. Fundamental differences in organization of the higher education system, in status of the academic profession, and in economic indicators between these countries prevent us from drawing decisive conclusions about the reasons for low levels of stress and low job satisfaction.

However, the factors affecting SL and JS in these countries, similar to those in Russia, are centered around the availability of material job resources required to perform professional activities (workplace, classroom, assistants, tools).

This study has identified the factors affecting SL and JS that are specific for Russia and that distinguish it from other countries. These include, first of all, nonmaterial resources, such as opportunity for interpersonal communication and power potential. Professors find it important to interact with their colleagues and administration, to be informed about the university's activities, and to have a certain authority within their structural subdivision. Apart from this, occupational stress and job satisfaction are also affected by factors external to professional activities, such as family and children.

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