

# How Teaching and Research Nexus in Academic Attitudes, Behaviours and System of Promotion Influences Academic Satisfaction? Case Study of Croatia and Slovenia

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**Abstract.** The article contributes to research findings of the “peripheral” higher education systems and adds to the knowledge body on higher education landscape transformation of ex-socialist regions, which are still relatively poorly studied. It explores the teaching-research nexus and its effect on the satisfaction of academics in Croatia and Slovenia based on the data collected through large-scale international comparative survey on Academic profession APIKS<sup>1</sup>. Analysis was done on the academic satisfaction in regards to the academic behaviours (research and teaching time allocation), academic attitudes (teaching or research role orientation) and academic promotion (research and teaching role in faculty promotion and hiring). The paper begins by a short overview of higher education system in the region, reviewing key themes associated with teaching-research nexus and provides an analysis on the above-mentioned variables in regards to academic country, rank, discipline and gender. The findings showed that satisfaction is very dependent on the actual national and institutional internal and external factors of the academic environment, while current policy on promotion affects overall future of academic profession. It concludes with a discussion of the challenges to research teaching nexus in the studied countries.

**Keywords:** APIKS, teaching-research nexus, discipline, gender, junior, senior academics, promotion, satisfaction

## 1. Introduction

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The article contributes to research findings of the “peripheral” higher education systems, that are poorly studied (Altbach, 2003). Analyses of higher education systems in the global peripheries are typically developed by simply applying the logic of the global centres to them, however it is important to be attentive to the particularities and specific logic according to which these processes are taken up in the distinctive circumstances of a given country or region (Zgaga, 2015). The article adds to the knowledge body on higher education landscape transformation of small ex-communist regions, such as for example beside the post-Yugoslavia also the region of the Baltic states. It contributes to case studies of how states in Eastern and Central Europe emerged from the policies and ideologies of the former communist systems to established new education policies and institutions appropriate for democracy and market economies. First a brief history of the higher education system(s) in Croatia and Slovenia and overview of contemporary Slovenian and Croatian higher education systems is given, followed by reflection on research teaching nexus and job satisfaction in academic profession.

### *1.1. A brief history of the higher education system(s) in Croatia and Slovenia*

Yugoslavia ideologically and physically separated from the Soviet bloc by developing similar Iron Curtain as existed between Soviet bloc and Western Europe, but with open gates (visa free travelling) to the West. Whereas the ‘Soviet’ socialism is an element that is shared by the Baltic region, the ‘self-governmental’ and ‘autarchic’ elements were specific features of Yugoslavia that brought fundamental differences in political, economic and social life (Zgaga, 2015). The transition time after the fall of socialism was much more turbulent for the disintegrated Yugoslavia states, than was for the Baltic States and was also much different for Slovenia than for Croatia. The Baltic States as well as Slovenia entered the European integration easier and faster, whereas Croatia as a formerly quite well-developed education system was badly affected (Zgaga et al., 2013).

In Yugoslavia (before its disintegration in the 1990s), the model of the socialist self-managed society and economy was applied to the governance of higher education systems and higher education institutions in both studies countries, Croatia and Slovenia (Zgaga et al., 2013). In higher education terms, the Yugoslav legacy included significant fragmentation of universities with faculties as legal entities divided along traditional disciplinary lines, separation of teaching and research and relatively limited and later developed private sector (Vukasović & Elken, 2014). There was little competition between, or division of work among, Yugoslav universities due to the highly decentralised higher education system of socialist Yugoslavia, and the differences in culture and tradition (Zgaga, 1998). Higher education systems in both countries is based on Humboldt’s model, based on introducing synergy between teaching and research, thus highlighting the importance of originality in scientific work and of the dissemination of the knowledge stemming from it. These specific political culture and economic realities affected also academic perceptions, satisfaction and reality on interpreting the higher education reforms depending on variations in academic and political culture (Henkel, 2000;

Stensaker, 2004). In addition, Slovenia and Croatia had relatively weak or almost non-existent institutional legacies with regards to policies on Quality Assurance of Higher Education (Vukasović, 2014). A recent common point of reference in both countries has been the European Union and the Bologna Process concerning the establishment of the European Higher Education Area (EHEA), which led to policy convergence in some areas such as degree structures, quality assurance, recognition of qualifications, research and innovation and internationalization (Klemenčič, 2016; Vukasović, 2015). The common EHEA has provided the conceptual basis for the modernisation of higher education – the basis that had been lacking before in the countries of this region (Zgaga, 2017).

Due to the processes that are taken up in the distinctive circumstances, the paper explores the teaching-research nexus and its relation to academic satisfaction, behaviors and attitudes in an attempt to explain the main forces leading to such higher education and academic profession dynamics in studied countries. Croatian and Slovene higher education changed from an elite system with one flagship university towards a mass system with various institutions.

### *1.2. Contemporary Slovenian and Croatian higher education systems*

Currently, Croatia and Slovenia are small, mass higher education systems from Central and Eastern European (CEE) region. In numbers, Slovenia had in 2017/2018, in total 76,534<sup>2</sup> students enrolled in higher education (46.5% of 19-24 cohort). However, due to demographic decline, there has been gradual decrease in enrolments over past 5 years. In 2015, there were in total 8,588 academic staff employed at higher education institutions (or 5,822 in FTE<sup>3</sup>). Slovenian tertiary attainment among 25-34-year-olds doubled to 38% between 2000 and 2014. In Croatia in 2017/2018 there were in total of 159,638<sup>4</sup> students enrolled on institutions of higher education. In the period between 1990/91 until 2007/08 the number of student growth was 95.15% (Rončević & Rafajac, 2010), but now with a trend of decreasing (EC, 2018). According to The Croatian Bureau of Statistics in the 2017/2018 academic year, there were 17,004 members of academic staff working at institutions of higher education (12,189.2 in FTE). Although there are differences across countries, disciplines, and faculty ranks, faculty in many contexts are feeling increasing pressure to focus on research at the expense of teaching and service (Otten et al., 2015; van Dalen & Henkens, 2012). Slovenia and Croatia here are no examples. With massification, limited financial resources and in the last decade also austerity measures, academic need to spend more time on teaching to fulfil the teaching performance obligations, relating to the number of students and degrees awarded.

Generally accepted outputs of the higher education production process are the number of graduates of tertiary teaching as a proxy for teaching and the number of publications as a proxy for

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<sup>2</sup> Republic of Slovenia Statistical Office

<sup>3</sup> Full Time Equivalent

<sup>4</sup> Croatian Bureau of Statistics

research (Warning, 2004, p.396). The performance evaluation system in Croatia and Slovenia is highly quantitative for promotion purposes. Each academic is eligible to apply for a promotion in academic grade every five years. The entire research and teaching portfolio is bibliometric and used for promotion purposes. For every researcher, his or her entire research output (journal publications, monographs, other publications, conference presentations, etc.) and teaching output (textbooks, student supervisions, etc.) portfolio is being translated into points. A sufficient amount of points is necessary, but not sufficient condition for promotion. In Slovenia, a more stringent condition is also that a researcher has published a required number of works that are internationally relevant. Important for promotion, in both countries, are also internationally relevant publications, where the international relevance is interpreted as a publication in a journal included in the Web of Science Core Collection, irrespective of the journal impact factor (Čadež, 2013). Relevance and excellence of teaching quality in performance evaluation in Slovenia as well as in Croatia is marginal and not being valued enough (Ledić, 2016, Turk & Ledić, 2016, Rončević, Turk & Vignjević, 2016). Čadež et al. (2017) identified a positive relationship between research quality and teaching quality in a performance evaluation context that provides strong incentives for research productivity but few incentives for research quality and teaching quality. The habilitation is, however, no warranty that the successful candidate will actually land a position at a Slovenian or Croatian university. As mentioned, one of the most important selection criterion for promotion is time spent at institution (who first fulfil the five-years criteria) and the main problem is the availability of positions<sup>5</sup> that are under the jurisdiction of the university/faculty are available. Effectively it can happen that academics have the habilitation for a higher post but they continue to be stuck on a lower position (e.g. an Associate Professor working as an Assistant Professor) for long periods of time and have to go again through the re-election process for this position.

The Slovenian and Croatian higher education system also presents major traits of the Austrian and German ones in regards to job security. Once a candidate has been appointed for a permanent position, is basically for life. A classical pattern of employment and career development is, that it is still very common for a person to be educated and later employed at the same institution (“academic inbreeding”).

### *1.3. Research teaching nexus and job satisfaction in academic profession*

The origins of universities came from the transmission of knowledge, culture, and values (i.e., from a teaching role), and it was only much later that this transmission was enhanced by the pursuit of research. There are many ways in which the research activity and research culture permeate teaching and learning and it would be difficult to imagine today’s university teachers not being aware of recent

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<sup>5</sup> in Croatia this is ensured through so called coefficients

research. Research performance however does not provide a surrogate measure of teaching effectiveness, nor do measures of teaching effectiveness provide an indication of research productivity (Marsh & Hattie, 2002), but the commonly employed rationale in support of the teaching–research nexus at universities is that teaching and research are so mutually reinforcing that they must occur simultaneously (Braxton, 1996; Marsh & Hattie, 2002). However, discipline ethos and other characteristics of the seniority, gender and/or department may influence teaching, research, and their relation. While needs of the ‘knowledge society’ encourage a strong link between research and teaching, counter pressures in the form of globalization and marketization rather pull the two functions apart (Arimoto, 2015; Beerkens, 2013).

Altbach, Resiber and Rumbley (2009), based on the study conducted by Schimank and Winnes (2000), cite different modes of the teaching research nexus in the European university system. In this definition the countries of the former Soviet Bloc are included in the group, where systems has strict distinction between research and education institutions. This paper present, that countries of the former Yugoslav socialist system (Slovenia and Croatia) took their own path in regards to teaching research nexus in Slovenia and Croatia, and contrary to the most Eastern countries fit into the group of countries, where universities focused on both teaching and/or research (closer to the Humboldtian model).

In the first group are universities focused on teaching and/or research; (e.g. Germany and Italy), in the second the systems where the undergraduate education has been entrusted to lecturers, while professors and research staff can focus on research (e.g. Sweden, Great Britain, Norway and the Netherlands). The third group involves systems with a strict distinction between research and education institutions, whose funding is organised independently (e.g. France and countries of the former Soviet Bloc) (Altbach, Reisber & Rumbley, 2009).

Academics are a unique group of employees, with their primary tasks defined as teaching, research and community service although they also have administrative and management tasks. They have their personal and professional interests with regard to their universities, including pressure to pursue excellence, to make the right decisions regarding the research agenda and course load (Boerebach et al., 2014). The two-factor theory (Herzberg, 1959) states that there are certain factors in the workplace that cause job satisfaction while a separate set of factors cause dissatisfaction, all of which act independently of each other. He distinguishes between motivators and hygiene factors. Motivators are elements, such as challenging work, recognition for one's achievement, responsibility, opportunity to do something meaningful and they give positive satisfaction, arising from intrinsic conditions of the job itself, such as recognition, achievement, or personal growth. Hygiene factors are elements, such as status, job security, salary, work conditions, good pay, etc. They do not give positive satisfaction or lead to higher motivation, though dissatisfaction results from their absence (Hackman et al., 1976). Oshagbemi (1997, p.357) found that job dissatisfaction in higher education was caused among others by sharp increases in class size, badly thought out procedures for course

evaluation, little recognition of teaching skills, falling quality of intake and emphasis on research at the expense of teaching. Research related items that were for example found to cause job dissatisfaction included inadequate time for research, pressure to publish, erosion of time for research and personal development in specialist area, increasing difficulty with and time spent on obtaining research grants, research assessment exercises (Oshagbemi, 1997, p.358). Contrary to Herzberg's theory, there were examples of elements of the job itself responsible for both job satisfaction and job dissatisfaction.

According to Höhle and Teichler (2013), overall job satisfaction is addressed in most surveys on employment, but there are only few studies exploring the factors which determine the job satisfaction of the academic profession. To add to the existing body of knowledge, the focus of this paper is to analyse what are the factors that are influencing dynamics of teaching research nexus effect level of job satisfaction in academic profession in the two studies countries with an aim to contribute to the knowledge body of teaching research nexus in Slovenia and Croatia.

## **2. Methods**

### *2.1. Research questions*

The aim of this article is to understand some of the outcomes of modernisations of a two of post-socialist higher education systems in the last three decades in terms of teaching and research nexus, measured through academic attitudes, behaviours and system of promotion and its relation to job satisfaction. In order to accomplish the aim of study the following research questions were asked:

1. What are the academic attitudes towards teaching-research nexus in the two countries?
2. Are there any differences in academic behaviours between the countries?
3. What are the roles of teaching and research quality in academic promotion processes in both countries?
4. Are there any differences in job satisfaction, as well as in factors affecting job satisfaction between the countries?

If differences between countries exist, the external or internal factors that could influenced this differentiation in both countries are discussed in the findings and conclusions sections.

### *2.2. Data Collection*

The Academic Profession in the Knowledge Society (APIKS) international survey builds on previous several large-scale quantitative comparative surveys of the academic profession, the Changing

Academic Profession 2004-2012 (CAP) global project and the Academic Profession in Europe: Responses to Societal Challenges 2009-2012 (EUROAC) (Bentley et al., 2013; Cummings & Finkelstein, 2012; Teichler et al., 2013)<sup>6</sup>.

Previous similar surveys (EUROAC) were implemented in Croatia in 2009 (Rončević & Rafajac, 2010) and in 2013 in Slovenia (Klemenčič et al., 2014). APIKS online data collection in Croatia took place from November 2017 to February 2018 and in Slovenia in June and July 2018. Research population in Slovenia consisted from all academic population in the country with publicly accessible emails (7,859 academics) and in Croatia of all academics employed at eight Croatian public universities, working on an employment contract basis (9,777 academics). Response rate was similar in both countries: in Croatia it was 10.8% (1,038 responses) and in Slovenia 13.2% (1,035 responses). Given the highly complex and long questionnaire, the response rate is rather low. It is however comparable with response rates in similar online surveys, something already noted as a research challenge in the national higher education context (Rončević & Rafajac, 2010) and similar to responses rates of the same surveys conducted in other European countries (Teichler & Höhle, 2013; Kehm & Teichler, 2013; Teichler et al., 2013).

### 2.3. Sample characteristics

The Academic Profession in the Knowledge Society (APIKS) survey collected data on several aspects of academic profession, including on socio-demographic characteristics of Slovenian and Croatian academic. In Tables 1 and 2, characteristics of both samples of academics for both countries are presented there, as well as explaining how the predictors in our multivariate models were derived.

**Table 1. APIKS respondents by rank and gender in Slovenia and Croatia**

Respondents by Rank		Slovenia			Croatia		
		Total (% by Rank)	Male	Female	Total (% by Rank)	Male	Female
<b>Full Professor</b>	n	191	109	82	205	111	94
	%	20.0%	57.1%	42.9%	19.9%	54.1%	45.9%
<b>Associate Professor</b>	n	191	104	87	183	81	102
	%	20.0%	54.5%	45.5%	17.7%	44.3%	55.7%
<b>Assistant Professor</b>	n	240	113	127	302	116	186
	%	25.1%	47.1%	52.9%	29.3%	38.4%	61.6%
<b>Junior/Assistant Lecturer</b>	n	198	99	99	239	83	156
	%	20.7%	50.0%	50.0%	23.2%	34.7%	65.3%
<b>Other</b>	n	135	48	87	102	33	69
	%	14.1%	35.6%	64.4%	9.9%	32.4%	67.6%
<b>Total (% by Gender)</b>	n	955	473	482	1031	424	607
	%	100.0%	49.5%	50.5%	100.0%	41.1%	58.9%

<sup>6</sup> The predecessor of the CAP study is the Carnegie Foundation Survey of the Academic Profession implemented in 1992 and 1993 (Boyer, Altbach & Whitelaw, 1994) in 14 countries. About half of questions from Carnegie Survey were used also in CAP study to ensure cross-time comparisons.

The results in Table 1 show a fairly similar distributions of APIKS respondents in both countries by their academic ranks. There were slightly more Assistant Professors in Croatia (29.3%) than Slovenia (25.1%), while there were more academics with Other ranks in the APIKS sample from Slovenia (14.1%) compared to the Croatian APIKS sample (9.9%). The differences between gender distributions were more significant – while the Slovenian sample is very gender balanced, almost six out of ten Croatian academics were female, and the differences were even more apparent for particular ranks. The largest differences can be observed in the proportions of females among Associate Professors, Assistant Professors and Junior/Assistant lecturers – while there were more male Associate Professors in the Slovenian sample (54.5%), it was reversed in the Croatian sample (55.7% female). Among the Slovenian academics, there was gender balance among Assistant Professors and Junior/Assistant Lecturers, while about two out of three Croatian academics of those two ranks were female. For the purpose of further analysis, ranks are collapsed into two major categories, which are frequently used in the studies of academic profession; Full Professors and Associate Professors were combined into Senior Academics, and Assistant Professor and Junior/Assistant Lecturer were combined into Junior Academics; with Other category being too heterogeneous to be classified as either Senior or Junior Academics.

**Table 2. APIKS respondents by seniority/rank and major academic field/discipline in Slovenia and Croatia**

Respondents by Seniority (derived from academic ranks)		Slovenia			Croatia		
		Total (% by Rank)	STEM	BHASE	Total (% by Rank)	STEM	BHASE
<b>Senior Academics</b>	n	410	188	222	370	136	234
	%	46.4%	45.9%	54.1%	41.3%	36.8%	63.2%
<b>Junior Academics</b>	n	473	226	247	526	203	323
	%	53.6%	47.8%	52.2%	58.7%	38.6%	61.4%
<b>Total (% by Discipline)</b>	n	883	414	469	896	339	557
	%	100.0%	46.9%	53.1%	100.0%	37.8%	62.2%

The results in Table 2 confirm the findings from Table 1 that the proportion of Senior Academics is slightly higher in Slovenia (46.4%) than in Croatia (41.3%). For the classification of academic disciplines/fields, STEM-BHASE binary classification is used, where STEM stands for science, technology, engineering and mathematics and BHASE stands for business, humanities, health, arts, social science, and education (see Statistics Canada<sup>7</sup> for more information). While in the Slovenian sample, there were only slightly more BHASE (53.1%) than STEM (46.9%) academics, the Croatian APIKS sample consisted of significantly higher proportion of BHASE (62.2%) than STEM (37.8%) academics, fairly consistent by seniority as well.

<sup>7</sup> <http://www23.statcan.ca/imdb/p3VD.pl?Function=getVD&TVD=401856>



These differences in characteristics between Slovenian and Croatian academics, or more precisely differences in academic characteristics between the APIKS samples in both countries, might have a meaningful impact on the comparative results. Hence, a number of controlling factors in our further analyses are used.

#### 2.4. Variables

In all regression models, this paper focuses on four independent variables/predictors to explore four items of interest: *academic attitudes* (self-reported orientation and compatibility between teaching and research); *academic behaviours* (self-reported satisfaction with their employment situation, work and professional environments and weekly self-reported hours spent in teaching and those spent in research), *academic promotion* (self-reported research consideration in faculty hiring and promotion), and *job satisfaction*. The four independent variables that are selected, also as controls, are country, rank, discipline and gender (adopted after Kwiek, 2019).

#### 2.5. Data analysis

The article present results on the main elements regarding teaching, research and teaching-research nexus in Croatia and Slovenia. Univariate, bivariate and multivariate analyses were carried out. For each target variable, first are presented the unweighted descriptive distributions for Slovenia and Croatia, not controlling for any other factors of academic profession. To explore the differences in detail, three methods of multivariate analysis were carried out: multiple linear (OLS) regression, binary logistic regression and ordinal logistic regression. The selection of the multivariate method was based on the type of the analysed response variable, i.e. nominal, ordinal and numerical, and the other assumptions of particular statistical tests, such as linearity, normality or errors, homoscedasticity and no multicollinearity for OLS regression. The regression modelling was carried out to draw conclusions on the effects of independent variables, i.e. gender, country, ranks and discipline, on the selected response variables. Primarily aim was to observe any relevant differences between Slovenian and Croatian academics, controlling for the differences in the composition of both samples/populations in terms of their gender, rank and discipline (*ceteris paribus*). Aim was to identify any relevant characteristics of academics affecting different attitudinal dimensions of their academic profession. For data processing and analysis, the Statistical Package for the Social Sciences (IBM SPSS, 24.0.) and Stata 13 were used.

### 3. Results

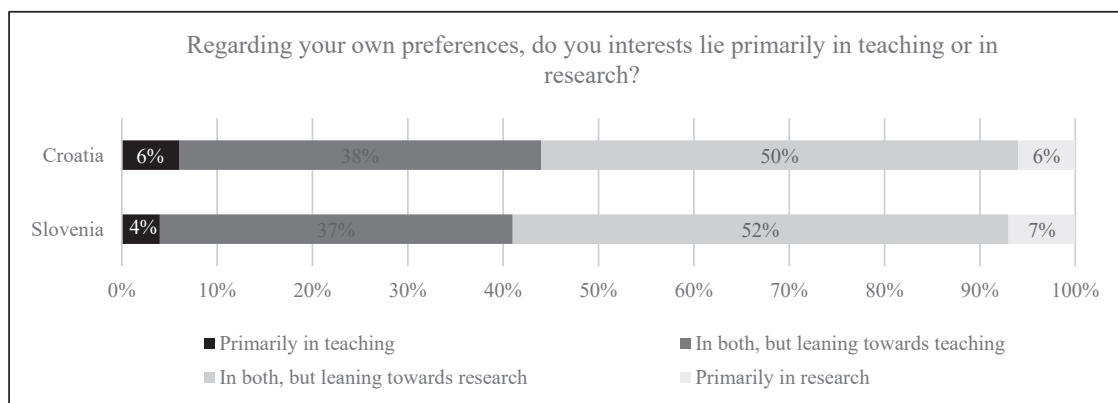
In this chapter, findings related to teaching and research nexus and its effect to academic attitudes, behaviours promotion and satisfaction in Croatia and Slovenia are presented.

#### 3.1. Academic attitudes

In order to answer to the first research question on whether there *are any differences in academic attitudes towards teaching-research nexus between the two countries*, comparative analyses on teaching and research role and orientation, compatibility of teaching and research as well as academic satisfaction were conducted.

##### 3.1.1 Teaching and research role orientation

Figure 1 shows, the unweighted descriptive distributions of *preferences of academics regarding teaching and research* in both countries, including all academic ranks and not controlling for any other factors of academic profession. The results show that there are very little or no differences between academics from both countries in their preferences – Slovenian academics seem to be slightly more oriented towards research than their Croatian colleagues.



**Figure 1. Preferences of academics regarding teaching and research (unweighted two-way frequency distribution, SVN<sup>8</sup> n=1,035, CRO<sup>9</sup> n=1,038)**

To extend the findings from Figure 1, ordinal logistic regression with *teaching-research preferences* as a response variable and country, seniority, major academic field, and gender as predictors/controls was carried out (Table 3).

<sup>8</sup> SVN = Slovenia

<sup>9</sup> CRO = Croatia

**Table 3. Predictors of preferences of academics regarding teaching and research (ordinal logistic regression)**

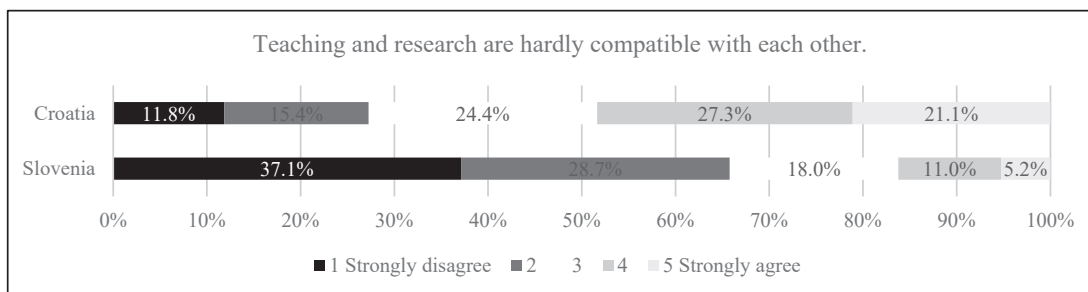
Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	0.01	-0.18	0.20	0.910
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	0.09	-0.10	0.27	0.370
<b>Major academic field</b>				
BHASE	0			
STEM	0.26	0.06	0.45	0.009**
<b>Gender</b>				
Female	0			
Male	0.21	0.02	0.41	0.029*
<b>Pseudo R-Squared</b>		0.010		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

The results in Table 3 confirm the findings on descriptive level that there are no statistically significant differences between Croatian and Slovenian academics in terms of their teaching-research preferences, especially after controlling for seniority, gender, and major academic field (Coef=0.01, p=0.910). On the other hand, it can be observed some minor differences between gender and major academic fields: males (Coef=0.21, p=0.029) and STEM academics (Coef=0.26, p=0.009) are leaning toward research more than their female and BHASE colleagues (*ceteris paribus*)<sup>10</sup>.

**3.1.2. Compatibility of teaching and research**

With Figure 2, the unweighted distributions of *views on compatibility of teaching and research* in Croatia and Slovenia are presented, all ranks included. The results show that, Croatian academics agree with incompatibility of teaching and research much more than their Slovenian colleagues (37.1% of Slovenian academics and only 11.8% Croatian academics strongly disagreed with the statement *Teaching and research are hardly compatible with each other*)



**Figure 2. Academic views on compatibility of teaching and research (unweighted two-way frequency distribution, SVN n=1,035, CRO n=1,038)**

<sup>10</sup> It should be noted that a very low Cox-Snell Pseudo R-Squared indicates that there might be other characteristics of academics and academic profession that would predict teaching-research preferences better than the ones used in this ordinal regression model.

To extend the findings from Figure 2, we carried out ordinal logistic regression with *views on compatibility of teaching and research* as a response variable and country, seniority, major academic field, and gender as predictors/controls. The results of the ordinal logistic regression (Table 4) show significant differences between Croatian and Slovenian academics in terms of their views on compatibility of teaching and research in relation to the four independent variables.

**Table 4. Predictors of views on compatibility of teaching and research (ordinal logistic regression)**

Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	-1.59	-1.77	-1.40	<0.001**
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	-0.79	-0.97	-0.62	<0.001**
<b>Major academic field</b>				
BHASE	0			
STEM	0.01	-0.17	0.19	0.897
<b>Gender</b>				
Female	0			
Male	-0.26	-0.43	-0.08	0.005**
<b>Pseudo R-Squared</b>		0.214		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

Slovenian academics agree much less with the statement on incompatibility of teaching and research (Coef=-1.59,  $p<0.001$ ) compared to their Croatian colleagues. There are additional differences between academics of different types. Senior Academics (Coef= -0.79,  $p<0.001$ , and males (Coef= -0.26,  $p=0.005$ ) tend to agree less than Junior Academics and females that these two distinctive elements of academic work are hardly compatible with each other. Interestingly, there is no difference between the two major academic fields (STEM compared to BHASE).

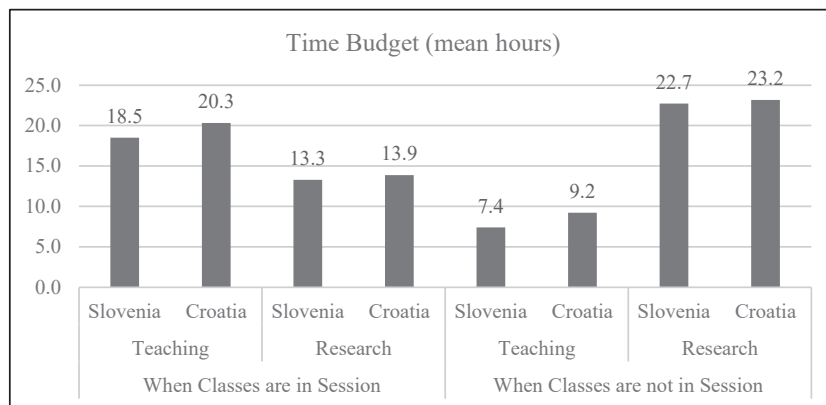
### 3.2. Academic behaviours

Academic contributions are strongly dependent on individual commitment and motivation. Highly satisfied faculty will generally be innovative and motivated to establish and maintain an environment conducive to learning' (Truell, Jr. Price & Joyner, 1998, p.120). Depending on their motivation, self-understanding and external factors is also, how much time they reserve for teaching and for research or other academic related tasks. The time budget is therefore strongly influenced by their academic self-understanding and can be viewed also as a response to their working environment (Höhle & Teichler, 2013).

In this section the question on whether there *are differences in academic behaviours, namely teaching time and research time between both countries* is explored.

### 3.2.1. Time spent on teaching and research

In Figure 3, the unweighted means for all ranks regarding the *time spent on teaching* in Croatia and Slovenia *when classes are in session* and *when classes are not in session* are presented.



**Figure 3. Time spent on teaching and research (unweighted two-way frequency distribution, SVN n=946, CRO n=986)**

The results indicate that Croatian academics on average spend more time, than their Slovenian counterparts, on teaching in both periods of academic semesters, but about the same number of hours on research. These results were however not yet controlled for the other characteristics of academics.

To extend the findings from Table 5, we carried out multiple linear regression to identify the predictors of the time academics spend on teaching and research in two different periods of academic semesters. The results are presented in Table 5. To make sure that no assumptions of linear regression would be violated, namely homoscedasticity, linearity, no multicollinearity, and normality of residuals, p-p plots, scatterplots of residuals, and conducted variance inflation factor tests were reviewed.

In regards the time spend on teaching, the results show that only when classes are not in session, Croatian academics spend more time on teaching than Slovenian colleagues (Coef=1.41, p=0.001). Females spend more time for teaching than their male colleagues in both cases: both when classes are in session (Coef=1.93, p=0.001) and when they are not in session (Coef=1.08, p=0.010). Junior academics spend more time than seniors when classes are in session (Coef=1.12, p=0.041), but less time for teaching when classes are not in session (Coef=-1.45, p<0.001).

In regards to the time spend on research, Croatian academics spend slightly more time on research than the Slovenian academics, but only when classes are in session (Coef=1.02, p=0.044). BHASE academics spend less time for research in both periods of academic year, when classes are in session (Coef=-1.22, p=0.019) and when they are not (Coef=-2.05, p=0.005)<sup>11</sup>.

<sup>11</sup> There are no other statistical differences between the analysed groups, and low Adjusted R-Squared values indicate that the OLS models explain very little variability of the four response variables with the selected independent variables – only between 0.5% and 2.3%.

**Table 5. Predictors of time spent on teaching and research (multiple linear regression)**

Time Budget When Classes are in Session: Teaching					Time Budget When Classes are in Session: Research			
Predictors	Coef	L 95% CI	U 95% CI	p value	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>								
Slovenia	0				0			
Croatia	0.92	-0.15	1.99	0.091	1.02	0.03	2.01	0.044*
<b>Seniority</b>								
Senior	0				0			
Junior	1.12	0.04	2.19	0.041*	-0.83	-1.82	0.17	0.103
<b>Major</b>								
STEM	0				0			
BHASE	-0.88	-1.98	0.22	0.119	-1.22	-2.24	-0.20	0.019*
<b>Gender</b>								
Male	0				0			
Female	1.93	0.83	3.02	0.001**	-0.28	-1.30	0.73	0.590
<b>Constant</b>	17.78	16.61			14.69	13.61	15.77	<0.001**
<b>Adjusted R-</b>		0.012				0.005		
Time Budget When Classes are NOT in Session: Teaching					Time Budget When Classes are NOT in Session: Research			
Predictors	Coef	L 95% CI	U 95% CI	p value	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>								
Slovenia	0				0			
Croatia	1.41	0.61	2.21	0.001**	0.73	-0.67	2.13	0.309
<b>Seniority</b>								
Senior	0				0			
Junior	-1.45	-2.25	-0.64	<0.001**	0.47	-0.94	1.87	0.516
<b>Major</b>								
STEM	0				0			
BHASE	0.66	-0.16	1.48	0.116	-2.05	-3.49	-0.61	0.005**
<b>Gender</b>								
Male	0				0			
Female	1.08	0.26	1.89	0.010*	1.04	-0.39	2.47	0.153
<b>Constant</b>	7.33	6.48	8.19	<0.001**	23.56	22.06	25.05	<0.001**
<b>Adjusted R-</b>		0.023				0.005		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

### 3.3. Academic promotion

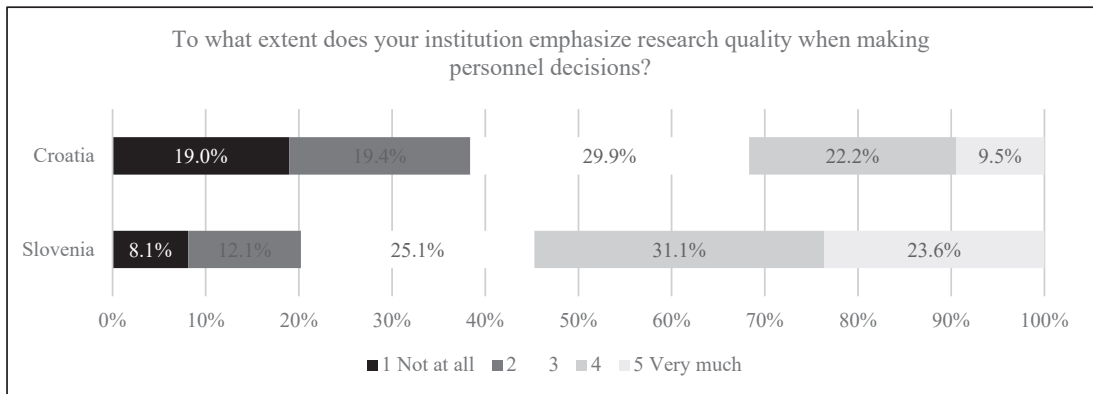
All academic candidates for tenure and promotion are judged based on their research and publications, teaching effectiveness, and service. Most faculty, across disciplines, assume that a strong research and publication record is necessary, and lack thereof cannot be compensated for by excellence in teaching and service (Green, 2008; Harley et al., 2010; Youn & Price, 2009). Expectations and practices for review, promotion and tenure have shifted significantly over the last few decades. National and institutional recruitment and promotion policies have an increasing significance: who gets recruited and who is retained in academia will define the future of the teaching/research nexus in Europe

(Kwiek, 2014). The analysis in this section were aimed to answer to third research question: *what are the roles of teaching and research quality in faculty promotion and hiring in both countries?*

**3.3.1 Consideration of the research quality in personnel decisions**

With Figure 4, the unweighted distributions for *consideration of the research quality in personnel decisions* for all ranks in Croatia and Slovenia are presented. The results based on academics' opinions indicate that Slovenian faculties emphasize the practice of considering the research quality when making personnel decision much more than in Croatia. For example, 23.6% of Slovenian academics answered with "Very much", while only 9.5% of Croatian academics chose the same answer.

The results of the ordinal regression analysis to identify the predictors of to what extend institutions emphasize considering the research quality when making personnel decisions are presented in Table 6.



**Figure 4. Consideration of the research quality in personnel decisions (faculty hiring and /or promotion) (unweighted two-way frequency distribution, SVN n=910, CRO n=1,013)**

**Table 6. Predictors of consideration of the research quality in personnel decisions (ordinal logistic regression)**

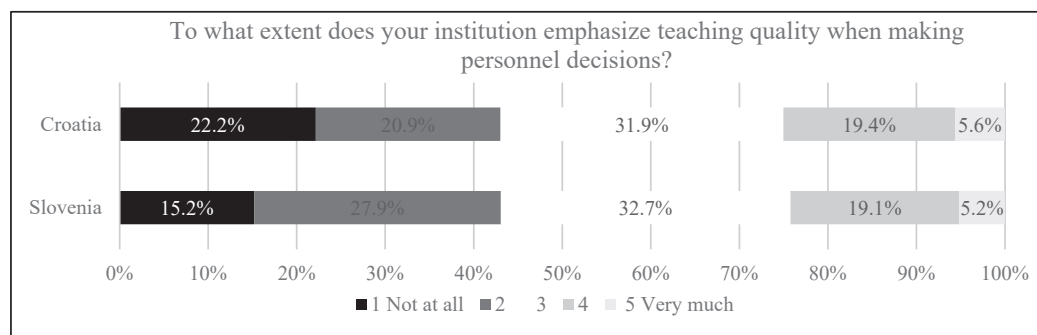
Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	0.98	0.80	1.16	<0.001**
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	0.41	0.23	0.59	<0.001**
<b>Major academic field</b>				
BHASE	0			
STEM	0.47	0.28	0.65	<0.001**
<b>Gender</b>				
Female	0			
Male	0.05	-0.13	0.23	.586
<b>Pseudo R-Squared</b>	0.105			

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

The results (Table 6) confirm that, in accordance to the opinions of academics, the research quality is more emphasised in Slovenia (Coef=0.98,  $p<0.001$ ) than in Croatia. The same conclusion can be made for Senior Academics (Coef=0.41,  $p<0.001$ ) and STEM academic field (Coef=0.47,  $p<0.001$ )

### 3.3.2. Consideration of the teaching quality in personnel decisions

The unweighted means for *consideration of the teaching quality in personnel decisions* in Croatia and Slovenia is presented in Figure 7. The results based on academics' opinions of all ranks indicate minor differences between the countries, especially in comparison to the results related to teaching (from Figure 5).



**Figure 5. Consideration of the teaching quality in personnel decisions (faculty hiring and /or promotion) (unweighted two-way frequency distribution, SVN n=908, CRO n=1,011)**

To extend the findings from Figure 5, ordinal regression analysis was carried out to identify the predictors of to what extent institutions emphasize considering the teaching quality when making personnel decisions. The results are presented in Table 7.

**Table 7. Predictors of consideration of the teaching quality in personnel decisions (ordinal logistic regression)**

Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	0.07	-0.11	0.24	0.440
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	0.36	0.18	0.54	<0.001**
<b>Major academic field</b>				
BHASE	0			
STEM	-0.01	-0.19	0.17	0.938
<b>Gender</b>				
Female	0			
Male	-0.01	-0.19	0.17	0.912
<b>Pseudo R-Squared</b>		0.010		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level



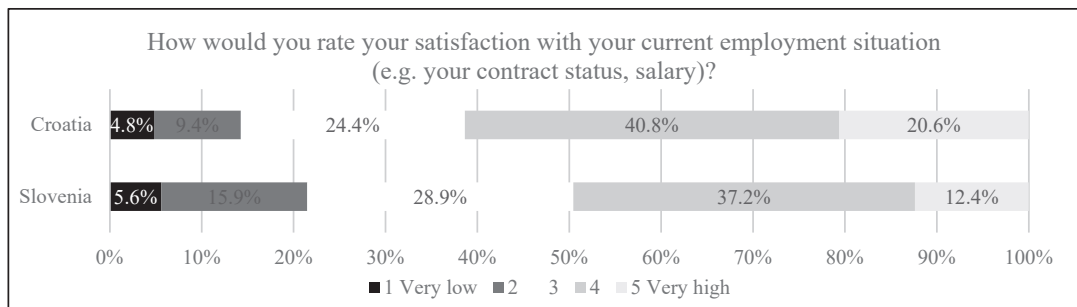
The results show (Table 7) show that, after controlling for seniority, major academic field and gender, any differences between Slovenia and Croatia are not statistically significant. Senior Academics (Coef=0.36,  $p<0.001$ ) however again believe more than their Junior counterparts that their institutions emphasize the teaching quality, not only the research quality, when making personnel decisions.

### 3.4. Job satisfaction

In order to answer the research question related to academic satisfaction, data on three elements of academic satisfaction were analysed: satisfaction with their current employment situation, with current work situation and with overall professional environment.

#### 3.4.1. Satisfaction with current employment situation

With Figure 6, the unweighted distributions of *satisfaction with current employment situation* in Croatia and Slovenia are presented, including all academic ranks. The results show that satisfaction seem to be higher in Croatia than Slovenia. For example, while 20.6% of Croatian academics reported very high satisfaction, the percentage was almost half of that in Slovenia (12.4%).



**Figure 6. Satisfaction with current employment situation (unweighted two-way frequency distribution, SVN n=1,033, CRO n=1,038)**

Results of the further statistical analysis using ordinal logistic regression are presented in Table 8. The results (Table 8) confirm assumptions that there are significant differences between Croatian and Slovenian academics in terms of their satisfaction with current employment situation, where Slovenian academics reported lower satisfaction (Coef=-0.56,  $p<0.001$ ). Moreover, the satisfaction of academics with their current employment is higher among Senior Academics (Coef = 0.79,  $p<0.001$ ) and slightly lower in STEM disciplines ( $b= -0.21, p=0.020$ ). There are no differences between the genders.

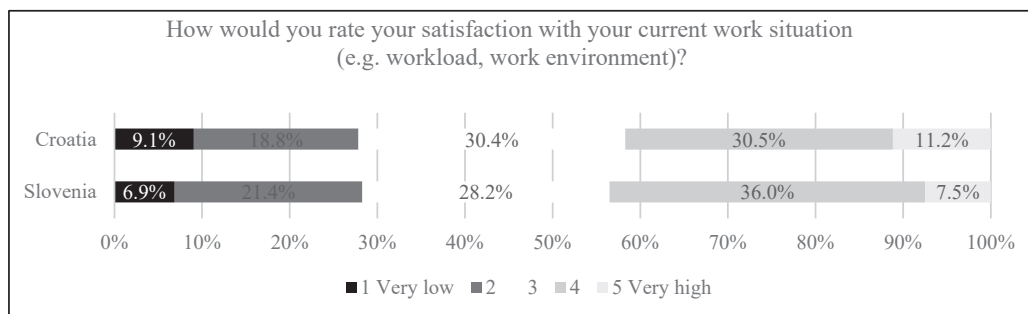
**Table 8. Predictors of satisfaction with current employment situation (ordinal logistic regression)**

Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	-0.56	-0.74	-0.39	<0.001**
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	0.79	0.62	0.97	<0.001**
<b>Major academic field</b>				
BHASE	0			
STEM	-0.21	-0.39	-0.03	0.020*
<b>Gender</b>				
Female	0			
Male	0.01	-0.17	0.19	0.914
<b>Pseudo R-Squared</b>		<b>0.068</b>		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

### 3.4.2. Satisfaction with current work situation

The unweighted distributions of *satisfaction with current work situation* in Croatia and Slovenia are presented in Figure 7. They are indicating, that there are no significant differences between the countries.



**Figure 7. Satisfaction with current work situation (unweighted two-way frequency distribution, SVN n=1,032, CRO n=1,038)**

The findings were confirmed by the ordinal logistic regression (Table 9), that there are no statistically significant differences between Croatian and Slovenian academics in terms of their satisfaction with current work situation. However, the satisfaction of academics with their current employment is slightly higher among Senior Academics (Coef = 0.27, p=0.002) and male academics (Coef=-0.21, p=0.022). There were no differences between the two groups of academic fields.

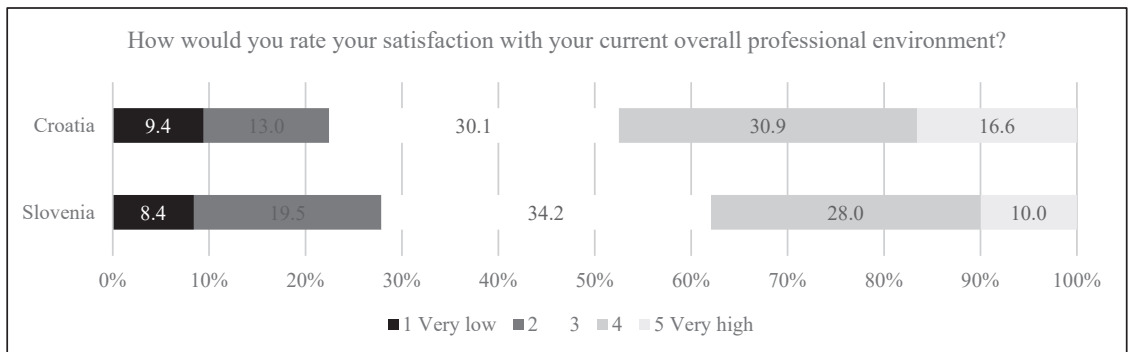
**Table 9. Predictors of satisfaction with current work situation (ordinal logistic regression)**

Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	-0.10	-0.27	0.08	0.268
<b>Seniority</b>				
Junior Academics				
Senior Academics	0.27	0.10	0.44	0.002**
<b>Major academic field</b>				
BHASE	0			
STEM	0.02	-0.16	0.20	0.827
<b>Gender</b>				
Female	0			
Male	0.21	0.03	0.38	0.022*
<b>Pseudo R-Squared</b>		0.010		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

**3.4.3. Satisfaction with overall professional environment**

The results of unweighted distributions of satisfaction with *overall professional environment* in Croatia and Slovenia (Figure 8) show that satisfaction seem to be higher in Croatia than Slovenia. For example, while 16.6% of Croatian academics reported very high satisfaction, the same proportion was lower in Slovenia (10.0%).



**Figure 8. Satisfaction with overall professional environment (unweighted two-way frequency distribution, SVN n=1,033, CRO n=1,038)**

To extend the findings from Figure 8, ordinal logistic regression was carried out.

The results in Table 10 confirm assumptions that Slovenian academics are less satisfied with the overall professional environment (Coef=-0.44, p<0.001) than Croatian academics. Statistically significant differences between the analysed groups can be also found for major academic fields with a slightly higher satisfaction being reported by STEM in comparison to BHASE academics (Coef=0.23, p=0.012). There are no differences between Senior and Junior Academics and genders (p > 0.05).

**Table 10. Predictors of satisfaction with overall professional environment (ordinal logistic regression)**

Predictors	Coef	L 95% CI	U 95% CI	p value
<b>Country</b>				
Croatia	0			
Slovenia	-0.44	-0.61	-0.26	<0.001**
<b>Seniority</b>				
Junior Academics	0			
Senior Academics	0.01	-0.16	0.18	0.925
<b>Major academic field</b>				
BHASE	0			
STEM	0.23	0.05	0.40	0.012*
<b>Gender</b>				
Female	0			
Male	0.16	-0.01	0.34	0.073
<b>Pseudo R-Squared</b>		0.019		

Notes: Coef = model regression coefficient, L 95% CI = lower limit of the 95% confidence interval, U 95% CI = upper limit of 95% confidence interval, \*significant at the 0.05 level, \*\*significant at the 0.01 level

### 3.5. Results on how teaching and research nexus in academic attitudes, behaviours and system of promotion influence the academic satisfaction

In this subsection the interrelation between the teaching and research nexus and academic attitudes, behaviours and promotion system and academics satisfactions are studied. In this regards the multiple linear (OLS) regression analysis was carried out with job satisfaction as the target variable. In subsection 3.4, three satisfaction variables from the APIKS questionnaire were analysed: satisfaction with current employment situation, satisfaction with current work situation and satisfaction with overall professional environment. Factor analysis and reliability testing was carried out in order to establish if all three variables could be combined in a job satisfaction index. The results showed that the reliability of this measure was moderate to high, since Cronbach alpha equalled to 0.734. The included predictors in the regression models were *country*, *major academic field*, *gender* and *seniority* (for distributions see Tables 1 and 2), as well as *consideration of the teaching quality in personnel decisions* and *consideration of the research quality in personnel decisions* (for distributions see Figures 6 and 7). Two additional predictors were derived out of the response variables analysed in subsection 3.2 – *percentage of all working hours dedicated to teaching* and *percentage of all working hours dedicated to research*, combining the working hours in teaching and non-teaching periods. With the inclusion of these two predictors the intention was to establish the association between the teaching-research preferences and the actual teaching-research involvement. The descriptive statistics are presented in Table 11.

The results show that, on average, academics reported overall job satisfaction of 3.290 on a 5-point scale. They spent slightly more time on research (39.6% of all working hours) than teaching (32.0% of all working hours), and the derived numeric variables are skewed (left-skewed: job satisfaction; right-skewed: working hours variables) and leptokurtic. It was concluded, that less than

one fifth of all working time of academics is dedicated to externally oriented activities, administrative and other academic activities.

**Table 11. Descriptive statistics for job satisfaction and percentages of all working hours dedicated to research/teaching (SVN and CRO combined)**

Variable	Mean	SD	Median	Skewness	Kurtosis	Min	Max
<b>Job satisfaction index</b>	3.290	0.890	3.333	-0.298	2.748	1	5
<b>Percentage of all working hours dedicated to research</b>	0.396	0.177	0.381	0.458	3.346	0	1
<b>Percentage of all working hours dedicated to teaching</b>	0.320	0.154	0.313	0.479	3.928	0	1

In order to explain job satisfaction on both sides of the teaching-research nexus, and because of small proportions of academics only interested in either teaching or research, we constructed two separate multiple linear regression models for two distinctive types of academics. One is the teaching-oriented academics (combining the left two categories in Figure 1), and the second the research-oriented academics (combining the right two categories in Figure 1). In accordance to the results of Mann-Whitney test, research-oriented academics were only slightly more satisfied with their jobs than their teaching-oriented colleagues were ( $z=-2.514$ ,  $p=0.012$ ). Two OLS regression models<sup>12</sup>, one for each type of academics based on their teaching-research preferences, are presented in Table 12.

The results from Table 12 show that there are notable differences between the two distinctive groups of academics, teaching-oriented ones and research-oriented ones, in the factors affecting their job satisfaction. While the job satisfaction of teaching-oriented academics does not depend on the proportion of their teaching and their research time ( $p>0.05$ ), the job satisfaction of research-oriented academics is affected by the teaching-research balance. The higher the percentage of all working hours dedicated to teaching, the lower the satisfaction (Coef=-0.52,  $p=0.028$ ), and the higher the percentage of all working hours dedicated to research, the higher the satisfaction (Coef=0.55,  $p=0.005$ ). In addition, while the total amount of time worked measured in hours does not affect the job satisfaction of primarily-teachers, it slightly negatively affects the satisfaction of primarily-researchers (Coef=-0.004,  $p=0.022$ ). The job satisfaction of both groups of academics is sensitive to how research and teaching quality are considered when making personnel decisions. Their satisfaction is, generally speaking, lower if research quality or teaching quality are not at all considered at their institution (compared to selecting the mid-point on the scale), and higher if they are more considered (compared to selecting the mid-point on the scale) in personnel decisions. To no surprise, the job satisfaction of the teaching-oriented academics is more sensitive to consideration of teaching quality, and the job satisfaction of research-oriented academics is more sensitive to consideration of research quality.

<sup>12</sup> To make sure that no assumptions of linear regression would be violated, namely homoscedasticity, linearity, no multicollinearity, and normality of residuals, p-p plots, scatterplots of residuals, and conducted variance inflation factor tests were reviewed.

Previous results showed that satisfaction with two out of three dimensions of job satisfaction was lower in Slovenia (see subsection 3.4), but the results from a more complex regression model show that only researchers-first are more satisfied in Croatia (Coef=0.38,  $p<0.001$ ), but not teachers-first. The opposite could be concluded for Junior Academics – compared to their more experienced counterparts, only teaching-oriented Junior Academics are slightly less satisfied with their jobs (Coef=-0.20,  $p=0.010$ ). We have not identified any differences between the major academic fields or genders. The Adjusted R-Squared coefficients indicate that the derived factors predict job satisfaction much better than previous models, since it explained more variability of the target variable, almost 20% in both cases.

**Table 12. Teaching-research-nexus-related factors affecting job satisfaction of academics (OLS regression)**

Variable	Teaching-oriented academics (n=478)				Research-oriented academics (n=728)				
	Coef	L 95% CI	U 95% CI	p value	Coef	L 95% CI	U 95% CI	p value	
Percentage of all working hours dedicated to <u>teaching</u>	0.02	-0.52	0.55	0.953	-0.52	-0.99	-0.06	0.028*	
Percentage of all working hours dedicated to <u>research</u>	0.19	-0.31	0.70	0.452	0.55	0.17	0.92	0.005**	
Total working hours (including external activities, administration, etc.)	-0.003	-0.007	0.001	0.110	-0.004	-0.008	-0.001	0.022*	
Considering the <u>research</u> quality when making personnel decisions	1 Not at all	-0.50	-0.84	-0.17	0.003**	-0.41	-0.65	-0.17	0.001**
	2	-0.06	-0.32	0.20	0.674	-0.11	-0.33	0.11	0.314
	3	0				0			
	4	0.07	-0.15	0.28	0.549	0.18	-0.01	0.37	0.068
	5 Very much	0.05	-0.21	0.30	0.720	0.25	0.03	0.48	0.029*
Considering the <u>teaching</u> quality when making personnel decisions	1 Not at all	-0.44	-0.70	-0.18	0.001**	-0.29	-0.52	-0.06	0.013*
	2	-0.33	-0.54	-0.12	0.002**	0.04	-0.14	0.22	0.671
	3	0				0			
	4	0.11	-0.12	0.34	0.358	0.26	0.06	0.46	0.010*
	5 Very much	0.51	0.11	0.92	0.014*	-0.04	-0.41	0.32	0.813
Country	Slovenia	0							
	Croatia	0.13	-0.02	0.28	0.095	0.38	0.25	0.50	<0.001**
Seniority	Senior Academics	0							
	Junior Academics	-0.20	-0.35	-0.05	0.010*	-0.10	-0.22	0.02	0.114
Major academic field	STEM	0				0			
	BHASE	0.01	-0.15	0.17	0.892	0.01	-0.11	0.13	0.853
Gender	Male	0				0			
	Female	-0.15	-0.30	0.00	0.055	0.11	-0.01	0.23	0.080
Constant	3.68	3.24	4.11	<0.001**	3.17	2.82	3.52	<0.001**	
Adjusted R-Squared	0.189				0.178				

#### 4. Conclusion

The aim of this article was to understand some of the outcomes of modernisations of a two of post-socialist higher education systems in the last three decades on the teaching-research nexus. This was analysed through the academic behaviours, attitudes, promotion and its effect to job satisfaction. In this section, the results are summarised and discussed.

The results on our research question *How teaching and research nexus in academic attitudes, behaviours and system of promotion influences academic satisfaction* indicate that there are a notable differences in the factors affecting their job satisfaction between teaching-oriented and research-oriented academics. While the job satisfaction of teaching-oriented academics does not depend on the proportion of their teaching and their research time, the job satisfaction of research-oriented academics is significantly affected by the teaching-research balance. On the other side, while the total amount of time worked measured in hours does not affect the job satisfaction of primarily-teachers, it slightly negatively affects the satisfaction of primarily-researchers. We can conclude that those two groups are quite different in terms of their research-teaching preferences and the effects of that daily work research-teaching balance on their satisfaction. While teaching-oriented academics do not seem to mind extra research work, the research-oriented ones are quite sensitive to how much teaching they have to be involved in on the expense of their research work, as well as to their overall workload. However, these two groups are quite similar in the other studied aspects. The job satisfaction of both groups of academics is sensitive to how research and teaching quality are considered when making personnel decisions. Their satisfaction is lower if research quality or teaching quality are not at all considered at their institutions personnel decisions and higher if they are taken into consideration in promotion. The analyses of Höle and Teichler (2013) revealed that in case of Germany, academics who put emphasis on teaching are less satisfied with their job than those giving a preference for research, which was also the case in this study, albeit a small difference between the analysed groups. However, Höle and Teichler (2013) also reported that those interested in both teaching and research with a stronger emphasis on research are equally satisfied on average as those who point out a clear preference for research.

Particularly delicate is a question of rank and its relation to job satisfaction. Compared to Seniors, teaching-oriented Junior Academics are slightly less satisfied with their jobs. In both countries majority of junior staff employed at higher education institutions has teaching and research tasks. However in periods when classes are in session they have heavy overload with teaching and practically no time available for research. There are a number of challenges and difficulties which Junior Academics face during the process of professional socialisation and acquisition and development of teacher and research competencies (Ćulum, Miočić & Rončević, 2017; Brajdić Vuković & Vignjević, 2017), proving that satisfaction is very dependent on the actual national and institutional internal and external factors of the academic environment.

Results from a more complex regression model show that, researcher oriented academics (and not other groups) are more satisfied in Croatia, compared to Slovene research oriented ones. The overall academic work and professional situation in Croatian higher education is however not actually better than in Slovenia, but is better, in relative terms regarding the position, salary and overall economic situation, compared to the average economic situation and job security of other professions, particularly those from private sector. Eurostat data on the difference in the share of low overall life satisfaction among population with different educational attainment show, that this difference is much bigger in Croatia than in Slovenia<sup>13</sup>. In addition, over half (52.9%) of Croatian citizens report to be unable to face unexpected financial expenses, compared to one third in Slovenia (33.01%) and there is a bigger gap between the mean income between those with tertiary and those with lower level of education in Croatia than Slovenia<sup>14</sup>.

For academic satisfaction in both countries it is shown, that the teaching-research nexus on the individual level of personal preferences of academic plays an important role. Teaching oriented academics seems to be more flexible, and their satisfaction less dependent on the amount of time devoted to teaching or research, compared to research-oriented academics. They are driven by their intrinsic curiosity and will to share their knowledge. Research being an intensely personal activity, result in a strong personal ownership of academics on their research. Being often also very individual, it allows a more accurate estimation on time requested. In both cases, neither teaching not research oriented academics enter the profession because of extrinsic conditions such as salary or prestige. While intrinsic forces may motivate them to become academics, extrinsic conditions (such as consideration of their teaching or research quality in the promotion) can influence their job satisfaction. Even though incentives for research productivity in Slovenian and Croatian higher education systems exist, as the main contemporary policy is increasing adoption of Western research standards and putting progressively more weight on research and its international relevance (Cadez, 2013) there are only few incentives for research quality and teaching quality. Teaching quality is practically not considered in promotion in both countries, resulting also in our findings that Croatian the teaching-oriented academics are in contrary to Croatian research-oriented academics, not more satisfied than Slovene ones. As the human resource theory indicate, the motivation factors (such as recognition and advancement) as well as the so called “hygiene” factors (such as job security, working benefits and conditions) are an important elements of academic satisfaction. Similar to the findings of Oshagbemi (1997), our results show that for teaching oriented academics little recognition of teaching skills and emphasis on research at the expense of teaching bring dissatisfaction and that for research-oriented

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<sup>13</sup> The share of low overall life satisfied total population in Croatia is 35.4%, whereas among those with tertiary education is only 17.8%. In Slovenia low overall life satisfaction among tertiary education holders is 10.2% (for all population this share is 24.4%).

<sup>14</sup> EUROSTAT Mean and median income by educational attainment level - EU-SILC survey [ilc\_di08] retrieved on 9.10.2019



academics the inadequate time for research, pressure to publish and research assessment exercises are the reason for dissatisfaction.

Current policy in promotion for Croatia and Slovenia have a great effect for future of academic profession, as it is a characteristic of a system(s) that are declining and deteriorating, not evolving, and it will continue to have a great negative impact on higher education system in both studied countries. Even though the universities in these two countries are committed to research as a central part of their missions, and less on teaching (Turk, Ledić & Miočić, 2017) the pressure of mass higher education and limited state funding force them to become increasingly more focused on teaching at the expense of research. The two systems do not keep pace with much needed changes due to the existing tension between the traditional academic roles and the competitive modern environment. Assessment in teaching as well as research achievements should be refined by incorporating more qualitative principles of measuring scientific achievements at universities. The path of an academic career should move from being much formalized with strong elements of “academic inbreeding” and to provide more support for the “motivators” of the academics taking into consideration also their personal preferences in regards to the teaching-research nexus.

Future routes to transition of the higher education systems in both countries should therefore not be a copy-paste of Western higher education systems, but should reflect the actual and often diverse reality of the given post-socialist systems and countries.

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