

## THE RELATIONSHIP AMONG COLLABORATION-ORIENTED MANAGERIAL ENVIRONMENT, JOB SATISFACTION, AND WORKPLACE CREATIVITY

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### **Abstract**

*The objective of this study is to explore the relationship among collaboration-oriented managerial environment as the main condition for organizational innovation, employee job satisfaction and workplace creativity, using the microdata of the sixth (2015) European Working Conditions Survey. The analysis was carried out only for the private sector. The results of the canonical correlation analysis showed a positive moderate correlation between the scales of the collaboration-oriented managerial environment and job satisfaction for the Nordic and CEE country groups. The results indicated also a positive moderate correlation between workplace creativity and employee job satisfaction. A weak-moderate positive correlation has been found between the collaboration-oriented managerial environment and workplace creativity in both country groups. There was no considerable difference found in the strength of the intercorrelations among the study scales for Nordic and CEE countries. The study concludes that the managers need to realize the importance of creativity-supporting, inclusive and challenging working environment for enhancing the level of job satisfaction.*

### **Key words**

*collaboration-oriented managerial environment, job satisfaction, workplace creativity, canonical correlation analysis*

**JEL Classification:** J28, J53, M54

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### **1. Introduction**

The academia, research and industry discuss the term industry 4.0 or even the 4th industrial revolution controversially. The technologies of future production will cause far-reaching changes to the socio-technical production system. Theory related studies show that implementable concepts socio-technical production system is introduced as a reference where the man or employee represents one of the elements (Fischer, & Herrmann, 2011; Appelbaum, 1997; Rousseau, 1977) Based on this technology-driven changes on the job design and requirements on competency are identified which can lead to the regulation of job action (Rousseau, 1977)

Taking this into account in the last decades, organizational structures based on job enlargement, enrichment, and management practices aimed at functional flexibility largely contributed to enhancing the discretion and responsibility workers have in work. As a consequence of this approach, currently, 'Soft' HRM, characterised by a greater acceptance of collective representative forms of participation,

including unions, in partnership with direct forms of participation in the dominant managerial philosophy in the EU (Gollan and Markey, 2001). This paper calls for further development in this concept.

### **2. Literature overview**

#### *Collaboration-oriented managerial environment*

The proverbial creativeness begins with the activation of some person or persons to sense or seize a new opportunity. However, even if people are able to generate new ideas, they must also feel confident that their attempts at creativity will be well received. The signals they receive about the expectations for creativity play a role in activating or inhibiting creativeness. And once a worker has generated an idea, he or she has to engage in social activities to find friends, backers and sponsors surrounding an idea, or to build a coalition of supporters who provide the necessary power behind it (Galbraith, 1982; Kanter, 1988).

It's been proved that the leadership behaviour influence on the perceived work environment and demonstrated the impact of the perceived work

environment on creativity (e.g., Amabile et al., 1996; Mumford et al., 2002; Witt & Beorkrem, 1989). Each of the three most famous theories of organizational creativity: the componential theory of Amabile (1997), the interactionist theory of Woodman, Sawyer, and Griffin (1993), and the multiple social domains theory of Ford (1996) includes the work environment as an influence on employee creativity.

The collaboration-oriented managerial environment increases employee work autonomy, level of motivation and feelings of fairness, and also develops a sense of engagement among employees which ultimately increases organizational creative problem solving as well as reduces the prohibitive cost emerging as a result of dissatisfied employees. This environment playing a strong role in promoting the themes of a "soft" components that determine the quality of interaction creating a balance between the interests of the organization, represented by innovation, and, on the other hand, the interests of employees, represented by the degree of their satisfaction. According to Borisov & Vinogradov (2019), the collaboration-oriented managerial environment is defined as the 'environment that helps to motivate employees to engage in innovation through the active constructive elements of working interactions'. This leads to broader perspectives that help stimulate creativeness.

#### *Job satisfaction*

The quest to establish a single definition of job satisfaction is beset with difficulties. Although absolute standards (in relation to pay, for example) are important in establishing a floor of job satisfaction, they are inevitably limited in their application to comparative research. Similarly, debates over whether job quality should be defined in objective or subjective terms often lead to something of a dead end. Clark (1997) argue that if employees are not satisfied with the task assigned to them, they are not certain about factors such as their rights, working conditions are unsafe, co-workers are not cooperative, supervisor is not giving them respect and they are not considered in the decision-making process; resulting them to feel separate from the organization. Furthermore, he highlighted that in current times, firms cannot afford dissatisfied employees as they will not perform up to the standards or the expectations of

their supervisor, they will be fired, resulting firms to bear additional costs for recruiting new staff. So, it is beneficial for firms to provide a flexible working environment to employees where they feel their opinions are valued and they are a part of the organization. Employee morale should be high as it will be reflected in their performance because, with low morale, they will make lesser efforts to improve

Although the approach in our research does not operate explicitly from a shared definition of job satisfaction, they exhibit a significant consensus on the key dimensions of job satisfaction. To illustrate some of these key dimensions, satisfactory jobs allow individuals to develop and deploy their skills and offer some degree of challenge commensurate to the demands of the job and the capabilities of the individual.

In this study job job satisfaction is enriched by the second element - "job engagement". The scope of job engagement may vary immensely depending on the degree, form, level and range of subject matter (Marchington and Wilkinson, 2000). Job engagement can be direct or indirect, it can go from simple information sharing through consultative processes to participation in co-determination instances (Knudsen et al, 2011). While job engagement is shown to have a positive influence on the quality of work in Nordic countries and for certain self-managed teams, its impact on workers' well-being is non-existent or negative in other countries and for most types of teamwork (Kalleberg et al., 2009; Knudsen et al, 2011). The extent to which employees actually perform more innovatively in response to higher job demands is argued here to be contingent upon fairness perceptions of the ratio between effort spent and reward received at work (Janssen, 2000). Feeling valued and secure helps people relax enough to be creative, as Amabile's (1983) experiments on the conditions facilitating creative problem solving indicate.

#### *Workplace creativity*

Many of mechanisms underlying the hypothesized effect on creative behaviour derive from the intrinsic motivation principle of creativity: People will be most creative when they are primarily intrinsically motivated, by the interest, enjoyment, satisfaction, and challenge of the work itself; this intrinsic motivation can be undermined by extrinsic motivators that lead

people to feel externally controlled in their work (Amabile, 1993). For reasons, which are explained below further, speaking of creativity, we point out its two components - 'degree of autonomy' and 'inclusive and challenging working environment'.

It is largely consensual that the degree of autonomy workers has in their job and the extent to which they participate in relevant work-related decisions are key dimensions of job quality (Findlay et al, 2013; Heller, 2003). It may refer to the scope of the latitude to make decisions on the content, methods, scheduling and performance of work tasks (Breugh, 1985). The degree of the latitude is an outcome of the way in which work is organised and of the extent and forms in which it is controlled. It may range from being able to choose the ordering of one's tasks to be able to decide which tasks to do as well as how and when to do them, which would mean full self-determination at work and freedom from any type of control.

Scholars consider that it is beneficial for workers' self-esteem, and personal growth even when it is associated with work intensification and work pressure (Karasek and Theorell, 1990). On the same vein, shows that even the workers who do not desire to have high work autonomy - workers with 'low growth' need strength benefit from it in terms of skill development and learning opportunities (Gallie, 2013). Job environment demands are instigators of work actions. Some research has found that, although workload pressures that were considered extreme could undermine creativity, some degree of pressure could have a positive influence if it was perceived as arising from the urgent, intellectually challenging nature of the problem itself (Amabile, 1988; Amabile & Gryskiewicz, 1987). Similarly, Andrews and Farris (1972) found that time pressure was generally associated with high creativity in R&D scientists, except when that pressure reached an undesirably high level.

Perceived work-related problems, incongruities, discontinuities, and emerging trends are often instigators of the generation of novel ideas (Drucker, 1985). A bit higher job demands are precipitate employees to respond with higher levels of creative activities in order to cope with the intensified job requirements (Bunce & West, 1994). Responding creatively to higher job demands can be conceived as a particular

form of problem-focused coping in occupational settings. As such, creative work behaviour may help the individual to improve his or her fit with higher job demands by generating, promoting, and realizing ideas for modifying oneself or the work environment.

However, 'moderation in all things'. That's why people are more likely to tolerate stress when they request cooperation from others. Mutual respect makes teamwork easier. High cohesion of an inclusive working environment may cause liking for workmates as well as result from it (Staw, 1975). In an extension of the "Pygmalion Effect" to the corporation, supervisors who hold high expectations of subordinate's abilities may enhance that person's productivity (Wortman & Linsenmeier, 1977).

#### *Country groups*

Given that firms' decisions are influenced by their specific circumstances as well as by the institutional context in which they take place, it is relevant to investigate the influence of both individual-level and country-level factors. Macro-level traits may determine elements of working conditions directly or via their effect on managerial attitudes and choices. Furthermore, these characterizations are often underpinned by differences in geography, centred on individual countries or specific regions, or types of countries, for example, advanced or developing (Ghai, 2003).

Holman (2013) draws on institutional theory and successfully uses multi-level logistic regression analysis to explain differences among countries in the patterns of job types. He finds that social democratic institutional regimes (Denmark, Finland, Sweden) have the greatest proportion of high-quality jobs, Southern-European countries (such as Italy, Greece, Spain) have especially high proportions of passive-independent and insecure jobs, whereas transitional institutional regimes (Eastern European countries) have high proportions of high-strain jobs. He argues that these country variations in job quality are rooted primarily in differences among institutional regimes in their employment policies and the relative organizational capacity of labour.

Following this trend, in order to identify the main differences between EU countries, we made the distinction among five country groups on the

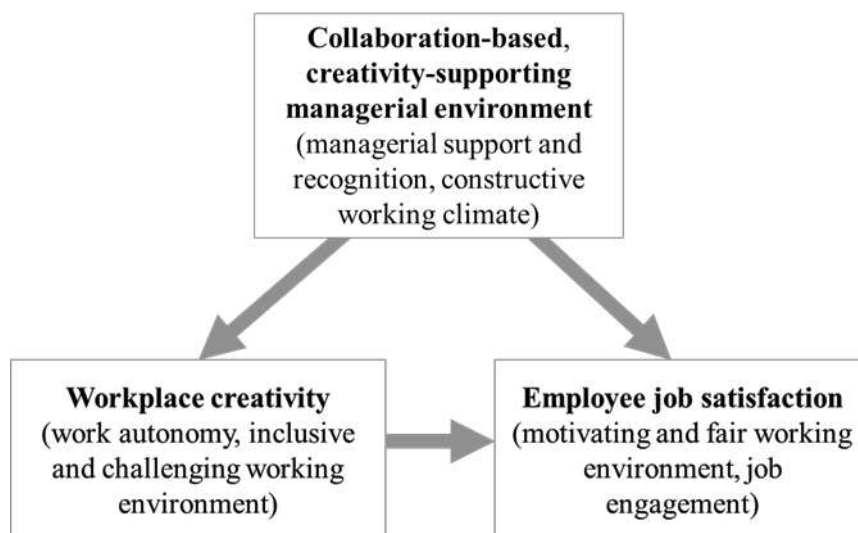
basis of their institutional conditions (i.e. social welfare system, labour culture issues etc.). Note that our typology is analogous to country grouping used in comprehensive institutional studies as well as organizational studies using the same database (Gallie & Zhou 2013, Makó et al. 2018).

### 3. Methodology

The main goal of this study is to investigate the relationship among the managerial environment, the workplace creativity and the

employee job satisfaction in European country groups. The authors assume a positive correlations among the study dimensions: the collaboration-oriented managerial environment has a positive effect on the workplace creativity, the job creativity in turn enhances the employee satisfaction. The authors assume that strength of relationships is different across European country groups: the relationship among the study dimensions is stronger in the countries with higher level of workplace creativity. The study covers only the private sector. A research model is presented in Figure 1.

**Fig. 1. Research model: the relationship among the elements of the managerial environment, the workplace creativity and the employee job satisfaction**



*Source: authors' calculations based on the microdata of the sixth (2015) EWCS.*

Microdata from the 2015 (sixth) wave of the European Working Conditions Survey were used to build indexes of the creative workplace, job satisfaction, and collaboration-based managerial environment and provide a picture of the relative level of these constructs in five European country groups. The following country groups were defined in the study: 'Nordic' (Denmark, Finland, Sweden), 'Continental' (Austria, Belgium, France, Germany, Luxembourg, Netherlands), 'Anglo-Saxon' (Ireland, United Kingdom), 'Mediterranean' (Cyprus, Greece, Italy, Malta,

Portugal, Spain) and 'Central and Eastern European' (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) countries.

To measure the collaboration-oriented managerial environment was selected 13 statements (Appendix, Table 1). Based on the results of factor analysis (Borisov & Vinogradov, 2019) two scale variables (subdimensions) – Managerial support and recognition and Constructive working climate – were computed to assess the level of the collaboration-based

managerial environment. The authors used also two scales to measure the Employee job satisfaction: Motivating and fair working environment (4 items) and Job engagement (5 items). Cronbach's alpha reliability coefficient was used to examine the internal consistency of the scales.

The level of the workplace creativity was assessed based on 11 items, which were combined into two scales (subdimensions): Work autonomy (5 items) and Inclusive and challenging working environment (6 items). From 11 items 4 were measured on the five-point Likert scale, the other 7 variables were binary (Yes/No). The five-

level ordinal items were transformed into binary variables, as follows: 'always' and 'most of the time' were recoded into 'Yes'; 'sometimes', 'rarely', and 'never' were recoded into 'No'. Kuder-Richardson 20 (KR-20) reliability coefficient was used to examine the internal consistency of the scales of Workplace creativity. The percentages of "Yes" or "Most of the time" and "Always" responses are presented in Table 1. The proportions of positive responses for most of the items are higher in Nordic countries and lower in CEE countries.

Data were analyzed by IBM SPSS Statistics 25 statistical software package.

**Table 1. Descriptive statistics for items of two scales of Workplace creativity, by country groups**

		NRD	AGS	CON	MED	CEE
<b>Work autonomy</b> ( $KR-20 = 0.736$ )						
Q53c. Generally, does your main paid job involve - Solving unforeseen problems on your own?	percentages of "Yes" responses	91.4	79.5	84.8	81.1	75.1
Q54a. Are you able to choose or change - Your order of tasks	percentages of "Yes" responses	79.1	65.1	65.5	57.9	54.4
Q54b. Are you able to choose or change - Your methods of work	percentages of "Yes" responses	76.8	61.8	68.6	58.6	55.2
Q54c. Generally, does your main paid job involve - Your speed or rate of work	percentages of "Yes" responses	72.6	67.7	66.4	63.0	66.6
Q61i. Which best describes your work situation - You are able to apply your own ideas in your work?	percentages of "Most of the time" and "Always" responses	90.4	82.4	74.7	72.1	68.7
<b>Inclusive and challenging working environment</b> ( $KR-20 = 0.654$ )						
Q53e. Generally, does your main paid job involve - Complex tasks?	percentages of "Yes" responses	70.2	60.6	63.8	46.7	62.1
Q53f. Generally, does your main paid job involve - Learning new things	percentages of "Yes" responses	88.5	77.3	72.6	62.4	63.6
Q71c. At your company or organisation - A regular meeting in which employees can express their views	percentages of "Yes" responses	64.5	57.5	52.2	37.5	44.8
Q61c. Which best describes your work situation - You are consulted before objectives are set for your work?	percentages of "Most of the time" and "Always" responses	50.1	55.3	44.1	36.1	48.2
Q61d. Which best describes your work situation - You are involved in improving the organisation or processes?	percentages of "Most of the time" and "Always" responses	48.7	47.8	48.0	44.0	38.5
Q61n. Which best describes your work situation - You can influence decisions that are important for your work?	percentages of "Most of the time" and "Always" responses	54.1	49.6	43.2	33.8	38.7

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

The values of all scales were normalized into [0, 1]. Because the Kolmogorov-Smirnov test showed non-normal data distribution within European country groups, the Kruskal-Wallis test followed by post hoc Dunn-Bonferroni tests was applied for inter-group comparisons.

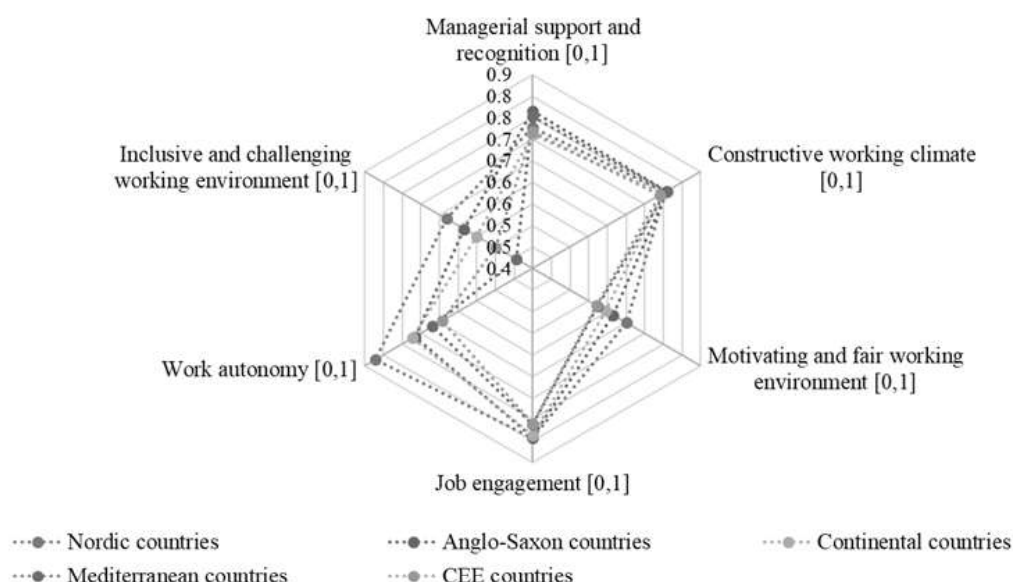
Canonical correlation analysis was applied to explore the underlying structure of how sets of study variables are associated. In the first study case the two scales of the Collaboration-oriented managerial environment were the first set of variables and the two subdimensions of the Employee job satisfaction were the second set. In

the second case the authors investigated the relationship among the scales of the Collaboration-oriented managerial environment and the Workplace creativity. In the third case it was explored the impact of the workplace creativity on the job satisfaction.

#### 4. Findings

Figure 2 shows the mean values of scales of Collaboration-oriented managerial environment, Workplace creativity and Employee job satisfaction for the European country groups.

**Figure 2. Comparison of mean values of scales of Collaboration-oriented managerial environment, Workplace creativity and Employee job satisfaction for European country groups**



Source: authors' calculations based on the microdata of the sixth (2015) EWCS

During examining two subdimensions of the Collaboration-oriented managerial environment, it can be established that Anglo-Saxon countries have a significantly higher level for the Managerial support and recognition compared to all other country groups (Table 2). The Managerial support and recognition is held in low esteem by employees in the Continental and CEE

countries. In case of the second subdimension of the Collaboration-oriented managerial environment – the Constructive working climate – it can be stated, that the Anglo-Saxon countries have a significantly higher mean score compared to the Continental and CEE countries in private sector.

**Table 2. Homogeneous subsets of country-groups by the levels of the subdimensions of the Collaboration-based managerial environment and the Employee job satisfaction in private sector, based on the Dunn-Bonferroni post hoc test**

Managerial support and recognition					Constructive working climate				Motivating and fair working environment					Job engagement		
Cntry groups	Homogeneous subsets				Cntry groups	Homogeneous subsets			Cntry groups	Homogeneous subsets				Cntry groups	Homogeneous subsets	
	1	2	3	4		1	2	3		1	2	3	4		1	2
CON	8752				CEE	8839			CEE	9146				MED	9124	
CEE	8803				CON	9014	9014		MED	9167				CEE	9228	
NRD		9195			NRD		9212	9212	CON		9594			CON		10142
MED			9764		MED		9251	9251	AGS			10251		AGS		10280
AGS				10369	AGS			9447	NRD				10993	NRD		10323
K-W test: p-value	<0.001				<0.001				<0.001					<0.001		

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

As result of examining the two aspects of the Employee job satisfaction – Motivating and fair working environment and Job engagement – it can be concluded that the average level of the motivating and fair working environment and job engagement is higher in Nordic and Anglo-Saxon countries, however in Mediterian and CEE countries the employees have a lower opinion of the working environment and job engagement. Two homogeneous subsets can be identified based on the value of the Job engagement: the first – Mediterranean countries and CEE countries –having the lower value, and all other groups of

countries that have higher value of the employees' job engagement.

The level of the work autonomy is significantly higher in Nordic countries compared to all other country groups (Table 3). The CEE countries have the lowest level of work autonomy. Based on the value of Inclusive and challenging working environment significant differences have been shown for all pairs of country groups. The Mediterranean countries have the lowest level of the Inclusive and challenging working environment, the Nordic countries have the highest one.

**Table 3. Homogeneous subsets of country-groups by levels of the Work autonomy and the Inclusive working environment in private sector, based on the Dunn-Bonferroni post hoc test**

Work autonomy					Inclusive and challenging working environment					
Country groups	Homogeneous subsets				Country groups	Homogeneous subsets				
	1	2	3	4		1	2	3	4	5
CEE	8975				MED	7918				
MED		9422			CEE		8873			
AGS			10212		CON			9746		
CON			10306		AGS				10396	
NRD				11947	NRD					11267
K-W test: p-value	<0.001				<0.001					

Note: Homogeneous subsets are based on asymptotic significances. The significance level is 0.05. Each cell shows the sample average rank of score/index. AGS= Anglo-Saxon countries, NRD= Nordic countries, CON= Continental countries, MED= Mediterranean countries, CEE= Central and Eastern European countries

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

Correlation analysis was conducted to determine the relationship of scales of the collaboration-based managerial environment, the

workplace creativity and the job satisfaction, by country groups. The results of the correlation analysis show a positive significant relationship

among the study variables for all country groups (Appendix, Table 2). The strongest – positive moderate – correlation was observed between two scales of the collaboration-based managerial environment and motivating and fair working environment. The second scale of employee job satisfaction – the job engagement – had a positive weak-moderate correlation with the managerial environment. The work autonomy had the weakest correlation with scales of managerial environment and job satisfaction.

There was no considerable difference found in the strength of correlations among country groups.

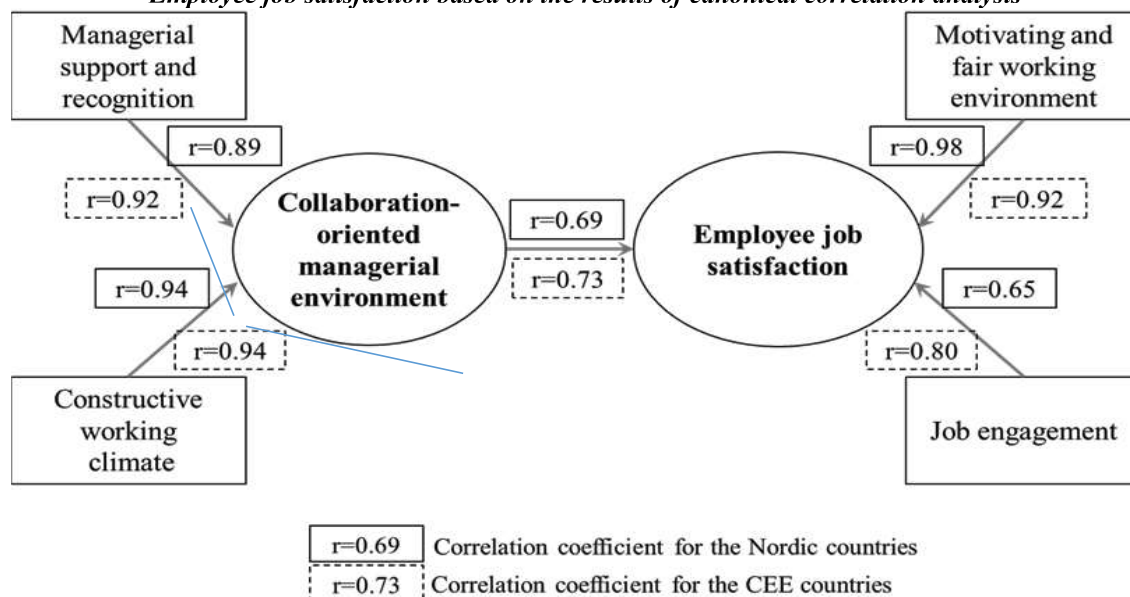
For canonical correlation analysis two country groups were selected: the Nordic and the CEE countries. The Nordic country group was chosen because it had the highest level of the workplace creativity. The CEE country group had the lowest values for most of study variables.

The results of canonical correlation analysis for the two-two scales of the Collaboration-oriented managerial environment and the Employee job satisfaction showed that these sets of variables were associated in one way in the case of Nordic countries, as evidenced by one significant canonical correlation (Appendix,

Table 3). For the CEE country group two significant canonical functions were obtained (Appendix, Table 4). Whereas the explanatory power of the second canonical correlation function was very weak ( $R^2=0.01$ ), the relationship among the sets of variables was examined based only on the first canonical function.

The canonical structure (Figure 3) showed the canonical variate for the Collaboration-oriented managerial environment to be strongly defined by the managerial support and constructive working climate, in both country groups. The canonical variate for the Employee job satisfaction has been strongly defined by motivating and fair working environment, the job engagement had a positive strong correlation ( $r=0.80$ ) with this canonical variate in the CEE countries and positive moderate ( $r=0.65$ ) in the Nordic countries. The results of canonical correlation analysis confirmed a medium strength relationship between the Collaboration-oriented managerial environment and the Employee job satisfaction in both country groups. There was no considerable difference found in canonical structures for Nordic and CEE countries.

**Figure 3. Relationship among scales of Collaboration-oriented managerial environment and the Employee job satisfaction based on the results of canonical correlation analysis**



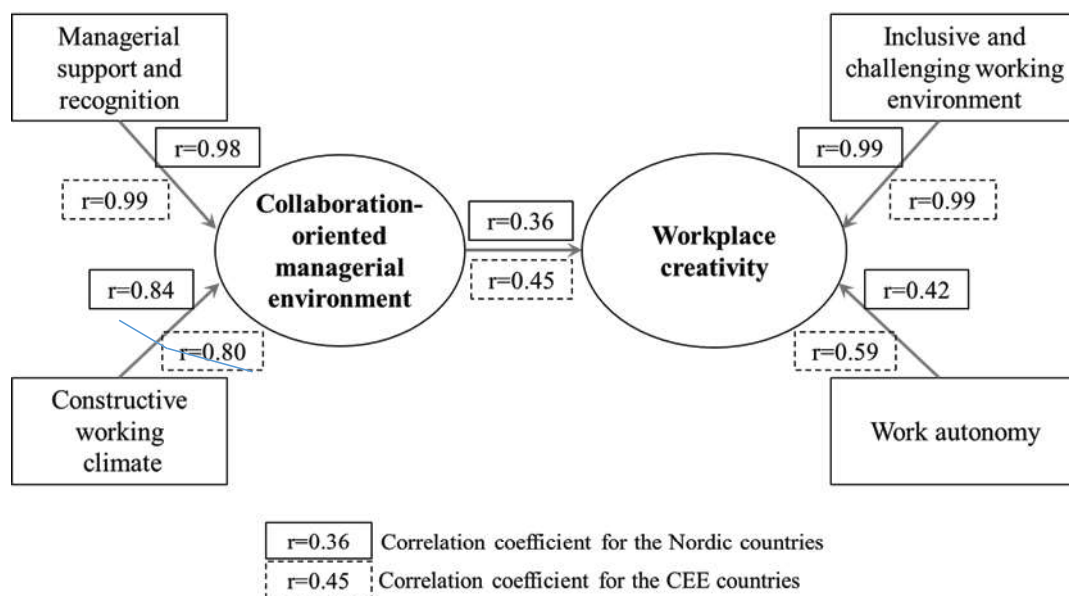
Source: authors' calculations based on the microdata of the sixth (2015) EWCS



Figure 4 shows the relationship of variables included in the canonical correlation model for Collaboration-oriented managerial environment and the Workplace creativity. The results of canonical correlation analysis for the two-two scales of the Collaboration-oriented managerial environment and the Workplace creativity showed that these sets of variables were associated in one way, since only the first canonical function has proved to be significant in both country groups (Appendix, Table 5, 6). The canonical structure (Figure 4) showed the canonical variate for the Collaboration-oriented managerial environment was strongly comprised

of the managerial support and constructive working climate, in both country groups. The canonical variate for the Workplace creativity has been strongly defined by Inclusive and challenging working environment scale, the work autonomy had only moderate correlation with this canonical variate ( $r_{\text{Nordic}}=0.42$ ,  $r_{\text{CEE}}=0.59$ ) in both country groups. The results of canonical correlation analysis confirmed a weak-moderate relationship between the collaboration-oriented managerial environment and the workplace creativity in both country groups. There was no considerable difference found in canonical structures for Nordic and CEE countries.

**Figure 4. Relationship among scales of Collaboration-oriented managerial environment and the Workplace creativity based on the results of canonical correlation analysis**

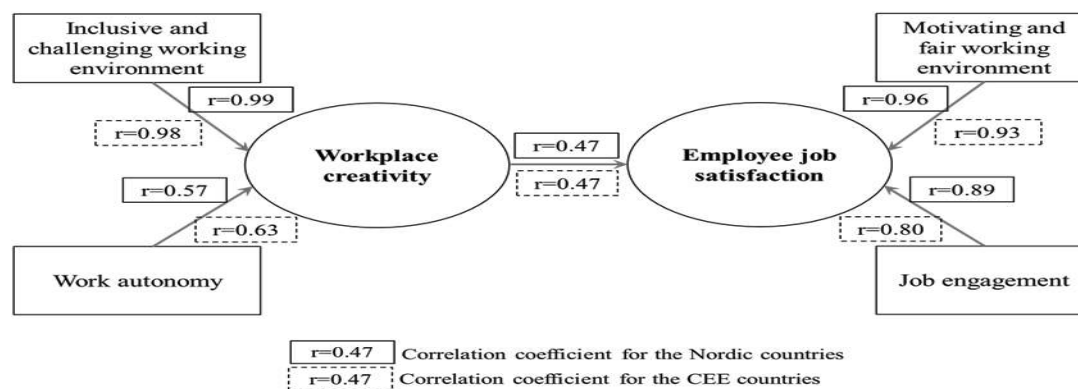


Source: authors' calculations based on the microdata of the sixth (2015) EWCS

The results of the canonical correlation analysis applied for exploring the relationship among scales of Workplace creativity and Employee job

satisfaction produced only one significant canonical correlations in both country groups (Appendix, Table 7, 8).

**Figure 5. Relationship among scales of Workplace creativity and the Employee job satisfaction based on the results of canonical correlation analysis**



Source: authors' calculations based on the microdata of the sixth (2015) EWCS

The canonical model (Figure 5) showed that the canonical variate for the Workplace creativity has been strongly defined by Inclusive and challenging working environment scale, and only moderate defined by the work autonomy, in both country groups. The canonical variate for the Employee job satisfaction has been strongly defined by both of the scales, the Motivating and fair working environment and Job engagement, in

both country groups. The results of canonical correlation analysis confirmed a moderate relationship between the workplace creativity and employee job satisfaction in both country groups. There was no considerable difference found in canonical structures for Nordic and CEE countries.

## 5. Discussion and Conclusion

Empirical research carried out on the microdata of the sixth (2015) European Working Conditions Survey has shown a significant positive relationship among collaboration-oriented managerial environment, employee job satisfaction, and workplace creativity. However, collaboration-oriented managerial environment and the employee job satisfaction showed a stronger positive linear relationship, than the correlation between collaboration-oriented managerial environment and the workplace creativity. The research results indicated a positive moderate correlations between the workplace creativity and the employee job satisfaction.

The results of the descriptive analysis reveal an extremely diverse situation across countries. Which, perhaps, indicates a greater connection of this score with the national social capital than with the economic sector.

This paper has indicated through secondary data analysis and the development of a novel

modular theoretical framework, the interrelationships among the collaboration-oriented working environment that promote creativity and employee job satisfaction. The paper contributes to the literature by presenting a theoretical framework built from extant secondary data that articulates testable relationships for future primary data empirical research.

The paper is limited by the fact that it is conceptual and further testing of the modular framework is presented using primary data research is called for before the model can be considered generalizable. In this regard, it is recommended that further primary research should use qualitative and quantitative analyses to establish the validity and generalizability of the model. The paper has also relied on secondary data reports that are the perceptions and interpretations of second party investigators which have then been further interpreted by the current researcher. As mentioned earlier this tertiary data interpretation remains tentative and open to change.

Appendix

**Table 1. Components of the Collaboration-oriented managerial environment, the Employee job satisfaction and the Workplace creativity**

Dimensions	Subdimensions (scales)	Statements (items)
Collaboration-oriented managerial environment	Managerial support and recognition (Cronbach's $\alpha = 0.900$ )	Q61b Your manager helps and supports you (1= strongly disagree, 5= strongly agree)
		Q63a Your immediate boss respects you as a person (1= strongly disagree, 5= strongly agree)
		Q63b Your immediate boss gives you praise and recognition when you do a good job (1= strongly disagree, 5= strongly agree)
		Q63c Your immediate boss is successful in getting people to work together (1= strongly disagree, 5= strongly agree)
		Q63d Your immediate boss... – Is helpful in getting the job done (1= strongly disagree, 5= strongly agree)
		Q63e Your immediate boss... – provides useful feedback on your work (1= strongly disagree, 5= strongly agree)
		Q63f Your immediate boss... – encourages and supports your development (1= strongly disagree, 5= strongly agree)
	Constructive working climate (Cronbach's $\alpha = 0.867$ )	Q70a Employees are appreciated when they have done a good job (1= strongly disagree, 5= strongly agree)
		Q70b The management trusts the employees to do their work well (1= strongly disagree, 5= strongly agree)
		Q70c Conflicts are resolved in a fair way (1= strongly disagree, 5= strongly agree)
		Q70d The work is distributed fairly (1= strongly disagree, 5= strongly agree)
		Q70e There is good cooperation between you and your colleagues (1= strongly disagree, 5= strongly agree)
		Q70f In general, employees trust management (1= strongly disagree, 5= strongly agree)
Employee job satisfaction	Motivating and fair working environment (Cronbach's $\alpha = 0.800$ )	Q89a Considering all my efforts and achievements in my job, I feel I get paid appropriately (1= strongly agree, 5= strongly disagree)
		Q89b My job offers good prospects for career advancement (1= strongly agree, 5= strongly disagree)
		Q89c I receive the recognition I deserve for my work (1= strongly agree, 5= strongly disagree)
		Q89e The organisation I work for motivates me to give my best job performance (1= strongly agree, 5= strongly disagree)
	Job engagement (Cronbach's $\alpha = 0.718$ )	Q89d I generally get on well with my work colleagues (1= strongly agree, 5= strongly disagree)
		Q90a At my work I feel full of energy (1= always, 5= never)
		Q90b I am enthusiastic about my job (1= always, 5= never)
		Q90c Time flies when I am working (1= always, 5= never)
		Q90f In my opinion, I am good at my job (1= always, 5= never)
Workplace creativity	Work autonomy (KR-20 = 0.736)	Q53c. Generally, does your main paid job involve – Solving unforeseen problems on your own? (Yes/No)
		Q54a. Are you able to choose or change – Your order of tasks (Yes/No)
		Q54b. Are you able to choose or change – Your methods of work (Yes/No)
		Q54c. Generally, does your main paid job involve – Your speed or rate of work (Yes/No)
		Q61i. Which best describes your work situation – You are able to apply your own ideas in your work? (1= always, 5= never)
	Inclusive and challenging working environment (KR-20 = 0.654)	Q53e. Generally, does your main paid job involve – Complex tasks? (Yes/No)
		Q53f. Generally, does your main paid job involve – Learning new things (Yes/No)
		Q71c. At your company or organisation – A regular meeting in which employees can express their views (Yes/No)
		Q61c. Which best describes your work situation – You are consulted before objectives are set for your work? (1= always, 5= never)
		Q61d. Which best describes your work situation – You are involved in improving the organisation or processes? (1= always, 5= never)
		Q61n. Which best describes your work situation – You can influence decisions that are important for your work? (1= always, 5= never)

Source: authors' construction based on the questionnaire of the sixth (2015) European Working Conditions Survey (EWCS)

**Table 2. Descriptive statistics and overall correlations for scales of the Collaboration-oriented managerial environment, the Employee job satisfaction and the Workplace creativity, by country groups**

Country groups	Variable	1	2	3	4	5	6	Mean	SD	Cronb. $\alpha$ / KR-20	n
NRD	1. Managerial support and recognition	1	.696**	.602**	.389**	.145**	.364**	.73	.22	.894	1453
	2. Constructive working climate		1	.631**	.422**	.159**	.315**	.75	.19	.828	1455
	3. Motivating and fair working environment			1	.457**	.246**	.455**	.65	.22	.724	1505
	4. Job engagement				1	.222**	.316**	.79	.11	.653	1534
	5. Work autonomy					1	.441**	.82	.23	.587	1522
	6. Inclusive and challenging working environment						1	.63	.27	.602	1469
AGS	1. Managerial support and recognition	1	.693**	.653**	.383**	.229**	.352**	.77	.23	.925	1345
	2. Constructive working climate		1	.681**	.486**	.178**	.302**	.76	.20	.873	1343
	3. Motivating and fair working environment			1	.432**	.258**	.383**	.62	.25	.804	1376
	4. Job engagement				1	.217**	.316**	.79	.14	.713	1414
	5. Work autonomy					1	.539**	.71	.31	.730	1414
	6. Inclusive and challenging working environment						1	.58	.28	.624	1353
CON	1. Managerial support and recognition	1	.640**	.616**	.405**	.197**	.358**	.71	.23	.896	4701
	2. Constructive working climate		1	.638**	.487**	.129**	.261**	.75	.19	.855	4613
	3. Motivating and fair working environment			1	.509**	.254**	.419**	.59	.23	.762	4925
	4. Job engagement				1	.217**	.315**	.79	.13	.710	4970
	5. Work autonomy					1	.514**	.72	.31	.730	5130
	6. Inclusive and challenging working environment						1	.55	.29	.637	4803
MED	1. Managerial support and recognition	1	.713**	.616**	.449**	.249**	.382**	.75	.21	.900	4382
	2. Constructive working climate		1	.612**	.504**	.190**	.302**	.76	.19	.870	4313
	3. Motivating and fair working environment			1	.456**	.230**	.385**	.57	.25	.803	4564
	4. Job engagement				1	.279**	.354**	.76	.15	.707	4538
	5. Work autonomy					1	.503**	.67	.33	.749	4745
	6. Inclusive and challenging working environment						1	.45	.30	.659	4346
CEE	1. Managerial support and recognition	1	.734**	.639**	.508**	.256**	.442**	.72	.21	.901	6055
	2. Constructive working climate		1	.624**	.578**	.217**	.365**	.74	.19	.884	5997
	3. Motivating and fair working environment			1	.508**	.278**	.432**	.57	.25	.838	6218

4. Job engagement	1	.229**	.364**	.76	.15	.746	6347
5. Work autonomy		1	.483**	.64	.33	.735	6317
6. Inclusive and challenging working environment			1	.50	.30	.653	5996

Note:   correlations among scales of the Collaboration-oriented managerial environment and the Employee job satisfaction;   correlation among scales of the Collaboration-oriented managerial environment and the Workplace creativity;   correlation among scales of the Workplace creativity and the Employee job satisfaction; \*\*correlation is significant at 0.01; AGS= Anglo-Saxon countries, NRD= Nordic countries, CON= Continental countries, MED= Mediterranean countries, CEE= Central and Eastern European countries.

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 3. Measures of overall model fit for canonical correlation analysis for scales of the Collaboration-oriented managerial environment and the Employee job satisfaction, Nordic countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.69	.48	258.79	2718	< .001
2	.03	.00	.92	1360	.337

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 4. Measures of overall model fit for canonical correlation analysis for scales of the Collaboration-oriented managerial environment and the Employee job satisfaction, CEE countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.73	.54	1320.06	11082	< .001
2	.11	.01	61.80	542	< .001

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 5. Measures of overall model fit for canonical correlation analysis for scales of the Collaboration-oriented managerial environment and the Workplace creativity, Nordic countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.36	.13	49.31	2634	< .001
2	.04	.00	2.14	1318	.143

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 6. Measures of overall model fit for canonical correlation analysis for scales of the Collaboration-oriented managerial environment and the Workplace creativity, CEE countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.45	.20	313.84	10616	< .001
2	.00	.00	.13	5309	.717

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 7. Measures of overall model fit for canonical correlation analysis for scales of the Workplace creativity and the Employee job satisfaction, Nordic countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.47	.22	96.12	2814	< .001
2	.06	.00	4.64	1408	.031

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

**Table 8. Measures of overall model fit for canonical correlation analysis for scales of the Workplace creativity and the Employee job satisfaction, CEE countries**

Canonical function	Canonical correlation	Canonical R <sup>2</sup>	Approx. F	DF	p
1	.47	.22	368.25	11154	< .001
2	.00	.00	.11	5578	.737

Source: authors' calculations based on the microdata of the sixth (2015) EWCS

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