Team Performance Management

The importance of organizational level decision latitude for well-being and organizational commitment

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Abstract

Purpose – This paper aims to focus on participation in the workplace and examines the relative importance of different dimensions of job control in relation to subjective well-being and organizational commitment. These dimensions are job autonomy (within a given job), functional support (from supervisor and colleagues) and organizational level decision latitude (shop-floor consultancy on process improvements, division of labor, workmates, targets, etc.). Interaction with work intensity is looked at as well.

Design/methodology/approach – Measurements and data were taken from the European Working Conditions Survey, 2010. The paper focusses on salaried employees only. The sample was further limited to employees in workplaces consisting of at least 50 workers. There are 2,048 employees in the final sample, from Denmark, Ireland, The Netherlands, Finland, Sweden and the UK. In this paper, the focus is not on differences between countries, and adding more countries would have introduced too many country characteristics as intermediate variables.

Findings – In the regression analyses, functional support and organizational level decision latitude showed stronger relations with the outcome variables than job autonomy. There was no relation between work intensity and the outcome variables. Two-way interactions were found for job autonomy and organizational level decision latitude on subjective well-being and for functional support and organizational level decision latitude on organizational commitment. A three-way interaction, of all job control variables combined, was found on organizational commitment, with the presence of all types of job control showing the highest organizational commitment level. No such three-way interaction was found for subjective well-being. There was an indication for a two-way interaction of work intensity and functional support, as well as an indication for a two-way interaction of work intensity and organizational level decision latitude on subjective well-being: high work intensity and low functional support or low organizational level decision latitude seemed to associate with low well-being. No interaction was found for any dimension of job control being high and high work intensity.

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Research limitations/implications – Although this study has all the limitations of a cross-sectional survey, the results are more or less in accordance with existing theories. This indicates that organizational level decision latitude matters. Differentiation of job control dimensions in research models is recommended, and so is workplace innovation for healthy and productive jobs.

Originality/value – Most theoretical models for empirical research are limited to control at task level (e.g. the Job Demand-Control-Support model of Karasek and Theorell. The paper aims at nuancing and extending current job control models by distinguishing three dimensions/levels of job control, referring to sociotechnical systems design theory (De Sitter) and action regulation theory (Hacker) and reciprocity (Akerlof). The policy relevance regards the consequences for work and organization design.

Keywords Job control, Job autonomy, Functional support, Organizational level decision latitude, Collective control, Gift-exchange, Subjective well-being, Organizational commitment

Paper type Research paper

Introduction

Employee participation is in the heart of workplace innovation programmes in European countries, as well as the USA (Totterdill *et al.*, 2009; Pot, 2011; Appelbaum *et al.*, 2011; Pot *et al.*, 2012). These programmes are an important element of strategies for smart, sustainable and inclusive growth of the economies (EU2020 Strategy) through higher productivity, a better quality of working life and more innovation capability. Recently, the European Commission started a "European Learning Network for Workplace Innovation" in which employee participation is a central focus.

Two categories of employee participation can be distinguished. The first is formal representation (works councils, trade unions and collective bargaining), often enforced by legislation. The second one can be labelled direct participation or participation in the workplace. This paper focusses on participation in the workplace and examines the relative importance of different dimensions of job control in relation to subjective well-being and organizational commitment. These dimensions are, first, job autonomy within a job; second, functional support from supervisor and colleagues; and third, organizational level decision latitude (e.g. shop-floor consultancy on process improvements, targets, division of labor and workmates). Another way to put it is to say that job autonomy is about individual control, organizational level decision latitude is about collective control and functional support is about something in between. In this paper, collective control refers to formal consultation (see Measures section) and not to informal labor process control as resistance and a way to survive. Measures and data are taken from the European Working Conditions Survey 2010, conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2012a). The paper aims to nuance and extend existing/current job control-models by distinguishing three dimensions of job control and to investigate the relative importance of these three dimensions for subjective well-being and organizational commitment. The policy relevance regards the consequences for work and organization design.

Direct participation is a core characteristic of teamwork and team learning (Emery and Thorsrud, 1976; Argyris and Schön, 1978; Yang and Choi, 2009; Savelsbergh *et al.*, 2010; Nielsen and Randall, 2012; Jaca *et al.*, 2013; Rolfsen, 2013). The advocates of direct participation refer to better organizational performance and a better quality of working life as consequences. They also point out that these two categories of results can be achieved simultaneously (Karasek and Theorell, 1990; De Sitter *et al.*, 1997; Mikkelsen *et al.*, 2000; Totterdill *et al.*, 2002; Ramstad, 2009). However, participation strategies "do

not always lead to "win–win" outcomes and tend to be less sustainable, as participation is often perceived as a technical solution to problems of engagement and productivity, not as a fundamental approach to relations between management and labor" (Cressey *et al.*, 2013). Akerlof contends from an economic perspective that participation needs to take the form of gift-exchange or reciprocity to be effective (Akerlof, 1982; Kube *et al.*, 2012). Some of the founding fathers and current opinion leaders emphasize the importance of developing a high-quality democratic society in which people can be creative and can participate in decision-making (Emery and Thorsrud, 1976; Gustavsen, 1992). "Participative work practices and the creation of an informed and democratically active workforce should be placed at the heart of business ethics and sustainability (Cressey *et al.*, 2013)".

Theoretical model

In this study, the intention is to look for convergences in a number of *theories of organizational design* to identify a common conceptual field. For as far as necessary, divergences between theories are discussed to explain differences in measurement and results. Of course, subjective well-being and organizational commitment are also discussed in theories concerning individual psychology, biology etc., but those are not our focus here.

In De Sitter's sociotechnical systems design theory, the central idea is the balance between "control requirements" (demands) and "control capacity" (job control). "It's not the problems and disturbances in the work that cause stress, but the hindrances to solve them (De Sitter, 1981, p.155)". To maintain this balance, control capacity is required regarding the performance of a given job on individual job level (internal control capacity), as well as regarding the division of labor, and in particular, the reduction of organizational complexity on production group and plant level (external control capacity): "from complex organizations with simple jobs to simple organizations with complex jobs" (De Sitter *et al.*, 1997). So, besides internal control capacity, complex jobs also include participation in external control activities on production group and plant level. The aim of this sociotechnical design is to simultaneously result in improved organizational performance, quality of working life and better labor relations.

In 1981, De Sitter integrated the "job demands–control-model" (Karasek, 1979) in his theory. The Job Demand–Control (JDC) model holds two predictions. High job demand and low job control individually represent risk factors that are detrimental to (mental) health outcomes such as work stress and coronary heart disease. The model also predicts that high job demand, as well as high job control foster motivation and learning. Central features of the JDC model are also the strain and learning hypotheses, referring to two interaction hypotheses on the balance between job demands and job control. Jobs with high demands and low control can be called "high strain jobs" which are a risk for work-related stress. Moreover, stress inhibits learning. Jobs with high demands and high control are called "active jobs" which offer opportunities for learning and coping with stressors (Karasek, 1976, 1979; Karasek and Theorell, 1990). Later, this model was extended with the social support dimension and with innovative and productive work behaviour (Karasek and Theorell, 1990). The foundations of the job-demand-control-support (JDCS) model go back to job (re)design and research theories from work organization sociology (Blauner, 1964), socio-technical thinking,

psychological work-stress literature (Selye, 1976) and learning theories (e.g. German action regulation theory, Hacker (1978)) (Karasek, 1976, 1979; Karasek and Theorell, 1990). So far, the Job Content Questionnaire (JCQ; Karasek and Theorell, 1990) does not make a distinction between different dimensions or levels of job control and refers to task level (also referred to as job level, micro-level or individual level):

> This most commonly used definition of job decision latitude describes features of jobs, primarily the ability of the worker to use his or her skills on the job and to have authority to make decisions regarding how the work is done and to set the schedule for completing work activities. This level of decision latitude focuses on the worker's abilities to control his or her own activities and skill use, not to control others. These concepts are operationalized by the "skill discretion" and "decision authority" subscales of the JCQ (Landsbergis, 2005 referring to Karasek and Theorell, 1990, p. 60).

This task-orientation of the concept of control also holds for other approaches such as the theory of control related to stress by Frese (decisions regarding sequence, timeframe and content, related to tasks, plans and feedback) (Frese, 1987, 1989) and the control-model (timing control, method control), related to well-being and "production responsibility" of Jackson *et al.* (1993) and Wall *et al.* (1995). All these authors discuss the importance of new technology and work organization on system's level and how this influences job content and job control. However, their measurements of job control are confined to task level. One exception is the collective control approach and measurement of Norwegian researchers, who refer to social relations at the collective level, in particular, group-level norms of employees and management (Saksvik *et al.*, 2013). The only research we are aware of that makes a clear distinction between levels of job control is that of Gallie (2013), who distinguishes "individual task discretion (autonomy)", "semi-autonomous teamwork" and "consultative participation": "Consultation through wider workplace meetings, more localized briefing groups, problem-solving groups or quality circles would empower employees by allowing them to influence organizational issues through direct communication with management" (Gallie, 2013, p. 456). For some time, there is a discussion in the JCQ-community about adding "organizational level demands and organizational level control":

> The job demand-control model is not limited to task-level control. "Organizational level" decision latitude involves participation, influence or control over decisions made at the work group, departmental or organizational level. Such latitude can have direct effects on health and productivity as well as indirect effects through changes in the possibility of task control at the individual level (Landsbergis, 2005 referring to Karasek and Theorell, 1990, p. 60).

The JDCS-model contains "social support" as well, which covers instrumental social support, as well as socioemotional social support. In this paper, the concept of "functional support" refers more to instrumental social support than to socioemotional social support. Where socioemotional support is different from job control, instrumental social support is not. When employees can call in the help of colleagues and supervisors, this provides them with a better control of their work. That is why functional support is considered to be a third dimension of job control, a level between job autonomy and organizational level decision latitude.

The notion of "complex jobs" can also be found in two other theories: the action regulation theory – although in the wording of "complete jobs" – which was developed by Hacker (1978, 2003); and the double loop learning theory by Argyris and Schön (1978). Hacker distinguishes three stages of action regulation: action preparation, implementation and evaluation. Complete jobs cover all these stages. For the execution of tasks (implementation), internal control capacity is needed. Organizing the work and checking the results of one's work presupposes external control capacity. However, Hacker does not make a distinction between these different dimensions of job control:

> Decision latitude (or autonomy) is the most important feature of complete activities. Complete activities offer the decision latitude that is necessary for setting one's goals. These are prerequisites of comprehensive cognitive requirements of a task, and determine the intrinsic task motivation, i.e. being motivated by a challenging job. These aspects serve as a well-known buffer against negative consequences of a high workload (Hacker, 2003, p. 112).

In the learning theory by Argyris and Schön (1978), two levels of control can be recognized:

> Ordinary repetitive acting corresponds with the 'given order with prescribed procedures' method. Innovative acting includes the characteristics of ordinary repetitive acting, but is also aiming for improvement of procedures, working conditions, and results to enhance effectiveness or efficiency (Argyris and Schön, 1978, p. 117).

In other words, job autonomy (internal control capacity) relates to "single-loop learning" (doing things better) and complex or complete jobs with external control capacity facilitate "double-loop learning" (e.g. "are we doing the right things?"). Another way of conceptualizing learning on the organizational level is the use of the concept of "productive reflection", covering jointly "the role that organizational structures have in articulating employee voice together with the active use of employee's formal and tacit skills and competencies in the process of improvement, innovation and change (Cressey *et al.*, 2013, p. 221)".

Based on these theories (JDCS model, sociotechnical systems design theory, action regulation theory and double loop learning), a practical expert tool has been developed in The Netherlands to assess the quality of jobs and to design high-quality jobs. The Dutch Government funded the development of the instrument which was – among other aims – supposed to help the Labor Inspectorate to enforce well-being at work. The instrument is called WEBA, a Dutch abbreviation of well-being at work (Pot *et al.*, 1994). The WEBA distinguishes seven dimensions:

(1) completeness of the job;

(2) short-cyclical tasks;

(3) cognitive complexity;

(4) job autonomy;

(5) contact opportunities (social contacts and opportunities for assistance or functional support);

(6) organizational level decision latitude; and

(7) information.

Job control is covered by the three-dimensions autonomy (internal control capacity), contact opportunities and organizational level decision latitude (the last two dimensions covering external control capacity).

Despite the theoretical heritage discussed above, it will not be possible to compare the concepts within the frame of this paper in different approaches exactly because the European Working Conditions Survey has its own questions and measurements that slightly differ from questions and measurements of the concepts discussed or that cover only part of the questions and measurements of the concepts discussed. For all theoretical models, however, it is interesting to see whether a distinction of three levels of job control is worthwhile.

Regarding the outcome measures, "subjective well-being" is part of most of the theories that have been discussed. Well-being and motivation are "environmentally facilitated" (Karasek and Theorell, 1990, p. 170), in particular through job control and complete/complex jobs or skill discretion. So the focus of organizational design should be on structural parameters for work organization (not on individual needs and appraisals). Hacker relates "intrinsic task motivation" to complete jobs. The choice in this paper for organizational commitment as an outcome variable stands for this environmentally facilitated motivation. De Sitter (1981) draws our attention to the danger of "alienation" (more or less the opposite of "well-being") where people have jobs with low control and low job demands.

There is quite some empirical evidence for the JDCS-model. Reviews of longitudinal studies lend some support to these strain and learning interaction hypotheses (De Lange *et al.*, 2003; Taris *et al.*, 2003; De Lange *et al.*, 2005). The main effects of job demand and job control on health and well-being are more often found than demand control interaction effects (Häusser *et al.*, 2010). However, empirical findings with the model also suggest that especially the presence of high job demands, more than a lack of job control, results in work stress and work-related health problems. Conversely, especially the presence of job control is associated with positive outcomes, such as learning, job engagement, well-being and organizational commitment (Demerouti *et al.*, 2001; cf. Taris *et al.*, 2003; Lyness *et al.*, 2012; Stansfeld *et al.*, 2013; Gallie, 2013). In this paper, such associations are also analyzed, but with three instead of two dimensions of job control and special attention for the association of organizational level decision latitude. Furthermore, these three dimensions might reinforce each other. Based on the theoretical power of the sociotechnical systems design theory and the action regulation theory, and based on day-to-day experiences in organizations, the hypothesis in this paper is that organizational level decision latitude might have even stronger effects than job autonomy and functional support. However, until recently, most questionnaires contained not enough proper questions on organizational level decision latitude to investigate that. But in the European Working Conditions Survey (EWCS) of 2010, some questions regarding organizational level decision latitude have been added which makes it possible to construct a strong variable now. This EWCS also contains the proper questions to measure "job demands" (called "work intensity" in the EWCS), "subjective well-being" and "organizational commitment".

So the new approach in this paper is to distinguish three dimensions of job control and to investigate the relative importance of these three dimensions for subjective well-being, for organizational commitment, for the "high-strain jobs hypothesis" and for the "active jobs hypothesis".

However, as highlighted already, exact comparisons of the distinguished theories cannot be made, as the questions and measurements differ to some extent.

Research questions and hypotheses

On the basis of this theoretical model, in particular the new approach of job control, the following research questions are formulated:

RQ1. How do the job control dimensions job autonomy, functional support and organizational level decision latitude and work intensity relate to the employee outcomes, i.e. subjective well-being and organizational commitment?

RQ2. How do these three dimensions of job control contribute to the employee outcomes?

RQ3. How do the dimensions of job control, on the one hand, and work intensity, on the other, contribute to the employee outcomes?

The accompanying hypotheses (*H*) read:

H1. Higher levels of a) job autonomy, b) functional support and c) organizational level decision latitude are associated with higher levels of subjective well-being.

H2. Higher levels of a) job autonomy, b) functional support and c) organizational level decision latitude are associated with higher levels of organizational commitment.

H3. Higher levels of work intensity result in with lower levels of a) subjective well-being and b) organizational commitment.

H4. High values on more than one job control dimension result in *extra* a) high subjective well-being and b) high organizational commitment (i.e. significant *two-way* interactions between job control dimensions and one *three-way* interaction of all three job control dimensions; *extra* meaning an interaction effect).

H5. High work intensity together with a) low job autonomy, b) low functional support or c) low organizational level decision latitude results in *extra* low subjective well-being (i.e. *two-way* interactions of work intensity and the job control dimensions; *extra* meaning an interaction effect). This is the "high-strain jobs hypothesis".

H6. High work intensity together with a) high job autonomy, b) high functional support or c) high organizational level decision latitude results in extra high organizational commitment (*idem*). This is the "active jobs hypothesis".

Method

Data

In the present study, secondary analyses were carried out on the data from the fifth EWCS. This rich cross-sectional EWCS was conducted by Eurofound in 34 countries in 2010. Workers were interviewed face-to-face in their homes using a structured questionnaire on their employment situation and working conditions. In each country, the basic EWCS sample was a multi-stage, stratified, random sample. The overall response rate was 44 per cent. The target population was all residents of EU27 countries (plus Turkey, Croatia, the Former Yugoslavian Republic of Macedonia, Norway,

Albania, Kosovo and Montenegro), who were in employment at the time of the survey. The target sample size in most countries was 1,000, with some exceptions, such as Germany (2,000) and the UK (1,500). The sample of the EWCS is representative of the workers (employed and self-employed) during the fieldwork period in each of the countries covered (Eurofound, 2012b).

In this paper, we focussed on salaried employees only; freelancers and the self-employed were excluded from the sample. We also limited the sample to employees in workplaces (local site) consisting of at least 50 workers. These selection criteria are based on the aim of studying (formal) work organization practices employees face. Conversely, freelancers and self-employed themselves can choose, to a large extent, what their work organization looks like, while in small and micro-enterprises work organization practices are less formalized. Moreover, we limited our sample to six North-Western European countries: Denmark, Finland, Sweden, Ireland, the UK and The Netherlands. These were chosen because we know from research, such as studies with previous waves of the EWCS, that these countries have sufficiently high levels of job control. Furthermore, in these countries, more or less the same level of applied technologies and more or less the same approaches to work organization are deployed. All of these characteristics are somewhat different for South European countries and for new member states (including former East Germany). Such differences would complicate the intended analysis. The purpose of this paper is not to describe the situation in specific countries, but to improve theories which include job control. Next, after list-wise deletion of missing values on the study variables, 2,048 employees were in the final sample, averaging 43 years of age ($SD = 12$), while 49 per cent were female. Among the respondents, 18 per cent were from Denmark, 12 per cent from Finland, 15 per cent from Sweden, 13 per cent from Ireland, 25 per cent from the UK and 17 per cent from The Netherlands. Moreover, 22 per cent were lower educated, 32 per cent at intermediate level and 46 per cent at higher educational level, and 20 per cent of the employees held a supervisory position. Finally, the distribution of the respondents across sector of activity of the organization was: 32 per cent worked in agriculture, industry, construction or the transport sectors; 10 per cent in wholesale, retail, food or accommodation; 5 per cent in the financial services; 10 per cent in the public administration; 12 per cent in the education sector; 16 per cent in the health care sector; and 15 per cent in other services.

Measures

The operational definitions of the variables were based on the available indicators in the EWCS 2010. Due to the EWCS's aim to give a broad overview of working conditions, the questionnaire generally included abbreviated, sometimes slightly modified, versions of existing scales. However, the questions had high face validity.

Job autonomy was measured with three items that were adapted from the JCQ decision authority scale (Karasek *et al.*, 1985). The items were: "Are you able, or not, to choose or change […]?" "your order of tasks", "your methods of work" and "your speed or rate of work" (response alternatives: "no" and "yes"). In the scale construction, we excluded an item of the original JCQ ("You can influence decisions that are important for your work"), as it showed ambiguous factor loadings in a principal component analysis with all job autonomy and organizational tasks items. The item loaded on both factors and was removed from the scale constructions, as the aim was independent, distinct

dimensions of job control. Cronbach's α of the three-item job autonomy scale was 0.74. Next, the mean of the three item scores constituted the score for the job autonomy concept.

Functional support was assessed by two items, adapted from the JCQ and formulated as "Your colleagues help and support" and "Your manager helps and supports you" (the answer scale ranged from 1 = "never" to 5 = "always"); r was 0.54 ($p < 0.001$).

Organizational level decision latitude was assessed by a scale compiled from five items. The questions/statements were formulated as "You are consulted before targets for your work are set"; "You have a say in the choice of your working partners"; "You are involved in improving the work organization or work processes of your department or organization" (1 = "never", 5 = "always"); "At your workplace, does management hold meetings in which you can express your views about what is happening in the organization?"; and "In general, your immediate manager/supervisor encourages you to participate in important decisions" (0 = "no"; 1 = "yes"). Due to the differences in the number of answer categories per item, first we standardized the item scores (z-transformation) before these were averaged; Cronbach's α of the scale was 0.70.

The stressor *work intensity* was assessed by two items, adapted from the JCQ self-report measure of psychological job demands (Karasek *et al.*, 1985). Although, as the developers argue, self-report of a "demanding" job doubtless includes an element of subjective perception of stress, there is also strong evidence of validity for an objective component (Karasek *et al.*, 1981). The item wordings were designed to keep individual appraisal processes to a minimum (Zapf, 1993). The questions were formulated as "Does your job involve […]?": "Working at high speed" and "Working to tight deadlines" (1 = "never", 7 = "all of the time"); r was 0.47 ($p < 0.001$).

Next, the scale scores of job autonomy, functional support and organizational level decision latitude, as well as work intensity, were dichotomized at the median for reasons of comparability of the effect sizes of the variables in the analyses.

The WHO-five Well-being Index (1998 version) was used for the outcome variable *subjective well-being*. This well-being measure consisted of the following questions: "How have you been feeling over the last two weeks:" "I have felt cheerful and in good spirits", "I have felt calm and relaxed", "I have felt active and vigorous', "I woke up feeling fresh and rested' and "My daily life has been filled with things that interest me'. The respondents had six answer options for each question, starting from "at no time' through to "all of the time'. Cronbach's α of the scale was 0.83. The scale score was created by averaging all the variables, and normalized to the 0 to 100 range, with 0 representing the worst possible subjective well-being and 100 the best possible ($M = 69$ with $SD = 17$). In the model of this paper, subjective well-being is considered as the opposite of stress, meaning that low well-being and high stress can substitute each other as can low stress and high well-being.

Finally, *organizational commitment* was conceptualized by a measure compiled from two statements: "I feel 'at home' in this organization" and "The organization I work for motivates me to give my best job performance" (1 = "strongly disagree" – 5 = "strongly agree"); r was 0.49 ($p < 0.001$). The average score over the two items was 3.9 (with $SD = 0.8$).

Analyses

Multiple linear regression analyses were conducted for the subjective well-being and organizational commitment variables, with the predictor variables entered in steps. To

increase the robustness of the results, we adjusted the analyses for several socio-demographic background variables, which, in earlier research, have shown to be associated with both the predictor variables and work stress and learning.

Regression model 1 (M1) contained the socio-demographic background variables sex, age and educational attainment (three levels), and whether one held a supervisory position, as well as sector of activity of the organization and country. In M2, the job autonomy, functional support, organizational level decision latitude and work intensity dummies (main terms) were added in the regression. Next, to test for moderation (interaction), interaction terms were created using the guidelines of Aiken and West (1991). M3 contained, respectively, all two-way interaction terms of job autonomy, functional support and organizational level decision latitude, as well as those of job autonomy, functional support and organizational level decision latitude in combination with work intensity. Finally, M4 contained the three-way interaction term of job autonomy, functional support and organizational level decision latitude. If significant, these interactions were graphically represented.

Results

Descriptive analyses

Table I shows the univariate associations between the central study variables. Job autonomy correlated only very weakly ($r = 0.05$; $p < 0.05$) with functional support, and moderately with organizational level decision latitude ($r = 0.28$; $p < 0.001$), while the correlation (r) between functional support and organizational level decision latitude was 0.22 ($p < 0.001$). Despite these associations, we may consider job autonomy, functional support and organizational level decision latitude as three distinct job control dimensions, which can be analyzed simultaneously in relation to the outcome measures.

Job autonomy associated negatively with work intensity ($r = -0.14$; $p < 0.001$), whereas there were no significant correlations between functional support and organizational level decision latitude, on the one hand, and work intensity on the other. Job autonomy showed no relation with subjective well-being; job autonomy related, however, positively with organizational commitment ($r = 0.15$; $p < 0.001$). Functional support was positively associated with both subjective well-being ($r = 0.18$; $p < 0.001$) and organizational commitment ($r = 0.23$; $p < 0.001$), as did organizational level decision latitude ($r = 0.13$, respectively $r = 0.30$). There was no significant correlation between work intensity and subjective well-being, while work intensity correlated weakly and negatively with organizational commitment ($r = -0.06$; $p < 0.05$). The outcome variables organizational commitment and subjective well-being were related moderately ($r = 0.32$; $p < 0.001$).

Regression analyses

As in the univariate analyses, the multiple linear regression analysis showed no relation between job autonomy on its own and subjective well-being (*H1a rejected*), whereas the weak positive relation with organizational commitment remained ($\beta = 0.05$; $p < 0.05$; *H2a supported*) (Table II, Models M2). Functional support related positively with both subjective well-being ($\beta = 0.16$; $p < 0.001$; *H1b supported*) and organizational commitment ($\beta = 0.18$; $p < 0.001$; *H2b supported*). In addition, more organizational level decision latitude associated with more subjective well-being ($\beta = 0.11$; $p < 0.001$; *H1c supported*) and more organizational commitment ($\beta = 0.25$; $p < 0.001$; *H2c supported*).

Table I.
Means (M), standard deviations (SD) and Pearson correlations of the central study variables and background variables ($N = 2{,}048$)

Study variables	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Job autonomy (0 = low; 1 = high)	0.56	0.50	1																							
Functional support (0 = low; 1 = high)	0.42	0.49	0.05	1																						
Organizational level decision latitude (0 = low; 1 = high)	0.50	0.50	0.28	0.22	1																					
Work intensity (0 = low; 1 = high)	0.50	0.50	−0.14	−0.03	−0.02	1																				
Subjective well-being (0 worst possible quality of life-100 = best)	69	17	0.02	0.18	0.13	−0.04	1																			
Organizational commitment (1 = Strongly disagree-5 = Strongly agree)	3.9	0.8	0.15	0.23	0.30	−0.06	0.32	1																		
Sex: female	0.49	0.50	−0.07	0.04	−0.03	0.03	−0.09	0.05	1																	
Age	43	12	0.09	−0.05	0.06	−0.07	0.06	0.08	−0.03	1																
Low educational level	0.22	0.41	−0.18	0.04	−0.20	−0.01	0.04	−0.03	0.01	0.08	1															
Intermediate educational level	0.32	0.47	−0.07	0.03	−0.02	−0.01	0.04	0.01	−0.01	−0.09	−0.36	1														
High educational level	0.46	0.50	0.22	−0.06	0.19	0.01	−0.07	0.01	0.00	0.02	−0.49	−0.63	1													
Supervisory position (0 = no; 1 = yes)	0.20	0.40	0.15	0.01	0.25	0.06	0.02	0.08	−0.12	0.07	−0.10	−0.04	0.12	1												
Agriculture, industry, construction and transport	0.32	0.47	−0.07	−0.05	−0.12	0.05	0.06	−0.04	−0.28	0.01	0.14	0.09	−0.20	−0.03	1											
Wholesale, retail, food and accommodation	0.10	0.30	−0.09	0.03	−0.08	−0.02	0.00	0.00	0.07	−0.18	0.13	0.07	−0.17	0.02	−0.23	1										
Financial services	0.05	0.23	0.01	0.03	0.06	0.02	−0.01	0.02	0.00	−0.02	−0.04	0.02	0.01	0.02	−0.16	−0.08	1									
Public administration and defence	0.10	0.29	0.01	0.00	0.03	−0.02	−0.01	−0.03	0.02	0.04	0.01	−0.04	0.03	0.05	−0.22	−0.11	−0.08	1								
Education	0.12	0.32	0.13	0.00	0.05	−0.06	−0.05	0.05	0.08	0.11	−0.13	−0.14	0.24	−0.02	−0.25	−0.12	−0.09	−0.12	1							
Health	0.16	0.37	−0.04	0.04	0.02	0.00	-0.02	0.00	0.26	0.02	−0.06	0.02	0.03	−0.04	−0.30	−0.15	−0.11	−0.14	−0.16	1						
Other services	0.15	0.36	0.08	−0.01	0.09	0.00	0.00	0.03	−0.06	0.01	−0.09	−0.04	0.12	0.03	−0.29	−0.14	−0.10	−0.14	−0.15	−0.19	1					
Denmark	0.18	0.39	0.14	0.00	0.04	−0.04	0.09	0.16	0.00	0.07	−0.12	0.09	0.02	−0.02	0.01	−0.03	−0.05	−0.06	0.05	0.01	0.03	1				
Ireland	0.13	0.34	−0.11	0.16	0.03	0.06	0.08	−0.05	−0.01	−0.12	−0.04	0.08	−0.04	0.04	−0.02	0.05	0.06	−0.02	−0.05	0.04	−0.04	−0.18	1			
The Netherlands	0.17	0.37	0.02	−0.09	0.01	−0.04	−0.02	−0.06	−0.04	0.05	−0.01	0.00	0.01	0.02	0.00	−0.03	0.04	0.01	0.00	0.02	−0.03	−0.21	−0.17	1		
Finland	0.12	0.32	0.03	−0.04	0.00	−0.02	−0.03	−0.04	−0.01	−0.01	−0.11	0.05	0.04	−0.09	0.08	−0.02	−0.04	−0.06	0.01	−0.06	0.04	−0.17	−0.14	−0.16	1	
Sweden	0.15	0.36	−0.02	−0.10	0.03	0.04	0.01	0.05	0.00	0.10	−0.16	0.03	0.10	0.00	−0.03	−0.05	0.01	0.02	0.00	−0.03	0.09	−0.20	−0.16	−0.19	−0.15	1
The UK	0.25	0.44	−0.06	0.06	−0.08	0.01	−0.11	−0.07	0.04	−0.08	0.36	−0.20	−0.11	0.03	−0.03	0.07	−0.02	0.09	−0.02	0.01	−0.08	−0.28	−0.23	−0.26	−0.21	−0.24

Note: Correlations $>= 0.044$ are significant at $p < 0.05$

Table II.
Results of the multiple linear regression analyses of subjective well-being (0 worst possible quality of life–100 = best) and organizational commitment (1 = strongly disagree-5 = strongly agree) (standardized regression coefficients [β]) (N = 2,048)

Study variables	Subjective well-being								Organizational commitment							
	M1		M2		M3		M4		M1		M2		M3		M4	
	β	p	β	p	β	p	β	p	β	p	β	p	β	p	β	p
Sex: female	−0.08	***	−0.08	***	−0.08	***	−0.08	***	0.06	*	0.06	**	0.06	**	0.06	**
Age	0.06	*	06	*	0.05	*	0.05	*	0.06	**	0.05	*	0.05	*	0.05	*
Education (high = reference category)																
low educational level	0.09	***	0.10	***	0.10	***	0.10	***	0.02		0.06	*	0.06	*	0.07	*
intermediate educational level	0.04		0.03		0.03		0.03		0.02		0.03		0.03		0.03	
Supervisory position (0 = no; 1 = yes)	0.02		−0.01		−0.01		−0.01		0.09	***	0.03		0.02		0.02	
Sector (agriculture, industry, construction and transport = ref.)																
wholesale, retail, food and accommodation	0.00		−0.01		−0.01		−0.01		0.02		0.01		0.01		0.01	
financial services	−0.01		−0.03		−0.03		−0.03		0.04	****	0.01		0.01		0.01	
public administration and defence	−0.01		−0.02		−0.02		−0.02		−0.01		−0.03		−0.04		−0.04	
education	−0.04		−0.05	*	−0.05	****	−0.05	****	0.05	****	0.01		0.02		0.02	
health	−0.01		−0.02		−0.02		−0.02		0.01		−0.02		−0.02		−0.02	
other services	−0.02		−0.03		−0.03		−0.03		0.03		−0.01		−0.01		−0.01	
Country (the UK = ref.)																
Denmark	0.16	***	0.16	***	0.16	***	0.16	***	0.17	***	0.16	***	0.16	***	0.16	***
Ireland	0.15	***	0.13	***	0.13	***	0.13	***	0.00		−0.02		−0.02		−0.02	
The Netherlands	0.06	*	0.07	**	0.06	*	0.06	*	0.00		0.01		0.01		0.01	
Finland	0.05	*	0.06	*	0.06	*	0.06	*	0.02		0.02		0.02		0.02	
Sweden	0.10	***	0.12	***	0.11	***	0.11	***	0.09	**	0.11	***	0.10	***	0.11	***
Job autonomy (0 = low; 1 = high)			−0.01		−0.01		−0.02				0.05	*	0.05	*	0.04	****
Functional support (0 = low; 1 = high)			0.16	***	0.16	***	0.15	***			0.18	***	0.18	***	0.17	***
Organizational level decision latitude (0 = low; 1 = high)			0.11	***	0.11	***	0.11	***			0.25	***	0.25	***	0.25	***
Work intensity (0 = low; 1 = high)			−0.03		−0.03		−0.03				−0.03		−0.03		−0.03	
Job autonomy * Functional support					−0.02		−0.02						−0.01		−0.01	
Job autonomy * Organizational level decision latitude					0.05	*	0.05	*					−0.01		−0.01	

(*continued*)

Table II.

	Subjective well-being								Organizational commitment							
	M1		M2		M3		M4		M1		M2		M3		M4	
	β	p	β	p	β	p	β	p	β	p	β	p	β	p	β	p
Functional support * Organizational level decision latitude					−0.02		−0.02						−0.05	*	−0.05	*
Job autonomy * Work intensity					−0.03		−0.02						−0.01		−0.01	
Functional support * Work intensity					0.04	****	0.04	****					0.01		0.00	
Organizational level decision latitude * Work intensity					0.04	****	0.04	****					0.02		0.01	
Job autonomy * Functional support * Organizational level decision latitude							0.02								0.04	*
R-square	0.044	***	0.086	***	0.093	***	0.093	***	0.050	***	0.165	***	0.168	***	0.170	***
R-square change			0.042	***	0.007	*	0.000				0.115	***	0.003		0.002	**
F	5.8[a]		9.5[b]		8.0[c]		7.7[d]		6.7[a]		20.0[b]		15.7[c]		15.3[d]	

Notes: **** $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; [a] this F-value has 16.2031 df; [b] this F-value has 20.2047 df; [c] this F-value has 26.2021 df; [d] this F-value has 27.2020 df

As was the non-significant correlation with subjective well-being, the weak relation between work intensity and organizational commitment – in the correlational analysis – was not significant in the regression analysis (*H3a and H3b rejected*).

The *H4a* and *H4b* are formulated in such a way that both M3 (two-way interaction) and M4 (three-way interaction) have to be analyzed. The regression analyses of M3 (Table II) also revealed a significant two-way interaction of job autonomy and organizational level decision latitude on *subjective well-being* ($\beta = 0.05$; $p < 0.05$). As graphically represented in Figure 1, high scores on job autonomy together with high scores on organizational level decision latitude associated with the highest scores on subjective well-being (*H4a in M3 supported*). However, remarkably, low job autonomy combined with low organizational level decision latitude showed better well-being than high job autonomy combined with low organizational level decision latitude, which is not in line with *H4a*.

Moreover, the analyses of M3 also revealed a two-way interaction of functional support and organizational level decision latitude on *organizational commitment* ($\beta = -0.05$; $p < 0.05$). High scores on both functional support and organizational level decision latitude associate with the highest scores on organizational commitment. Low scores on both control dimensions associate with the extra low organizational commitment, extra meaning lower than the cumulative associations with the separate dimensions. Especially in work situations characterized by low organizational level decision latitude, presence of functional support opportunities seems to matter (Figure 2). This *supports in M3 H4b*.

In the analyses of M4, a three-way interaction of job autonomy and functional support and organizational level decision latitude on *organizational commitment* came to the fore ($\beta = 0.04$; $p < 0.05$; *H4b* in M4 supported) (Figure 3) – but not on subjective well-being (*H4a in M4 rejected*). As Figure 3 shows, extra high organizational commitment occurred among job incumbents with high scores on job autonomy, functional support and organizational level decision latitude as well. Moreover, extra low organizational commitment scores were present in work situations characterized by low scores on autonomy, functional support and organizational level decision latitude as well (Figure 3). Therefore, the job control dimensions seem to reinforce each other in relation to organizational commitment.

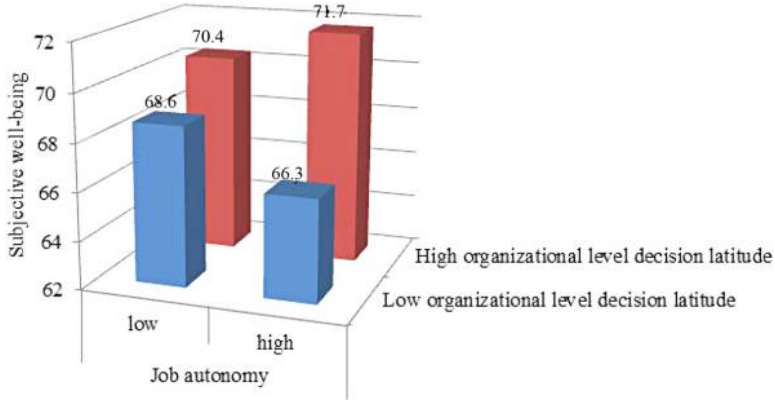

Figure 1.
Two-way interaction effect of job autonomy and organizational level decision latitude on subjective well-being (means multivariately adjusted based on linear regression)

No two-way interactions were found for job autonomy and work intensity on subjective well-being, nor for one of the three dimensions of job control and work intensity on organizational commitment – hence *H5a*, *H6a*, *H6b and H6c are rejected*. As Figure 4 illustrates, the results of the regression analyses showed indications of a two-way interaction between work intensity and functional support on subjective well-being ($\beta = 0.04$; $p < 0.10$). High work intensity combined with low functional support associated with extra-low well-being, which is in line with the notion of "high strain jobs" in the JDCS model.

In a similar vein, the regression analyses showed indications of a two-way interaction between work intensity and organizational level decision latitude on subjective well-being ($\beta = 0.04$; $p < 0.10$). As Figure 5 depicts, high work intensity and a low score on organizational level decision latitude together associated with extra low well-being. Again, this result is in line with the notion of "high strain jobs" in the JDCS model (*H5c*).

To conclude, the *results support H5b and H5c*.

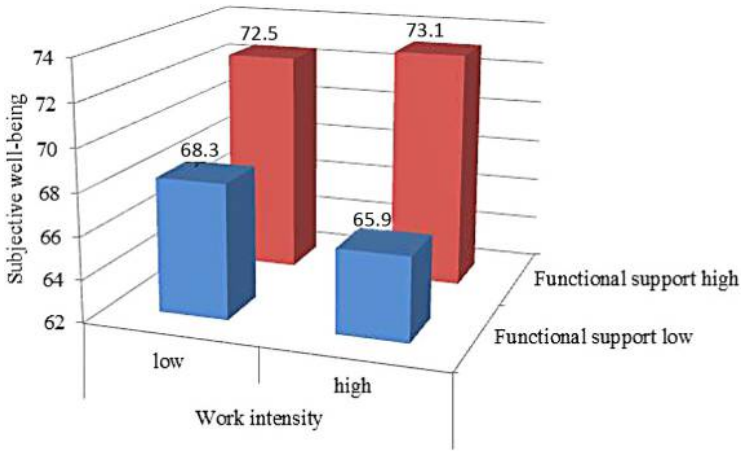

Figure 2.
Two-way interaction effect of functional support and organizational level decision latitude on organizational commitment (means multivariately adjusted based on linear regression)

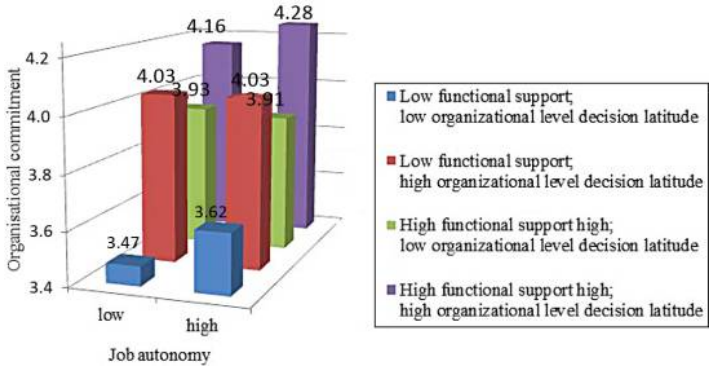

Figure 3.
Three-way interaction effect of job autonomy and functional support and organizational level decision latitude on organizational commitment (means multivariately adjusted based on linear regression)

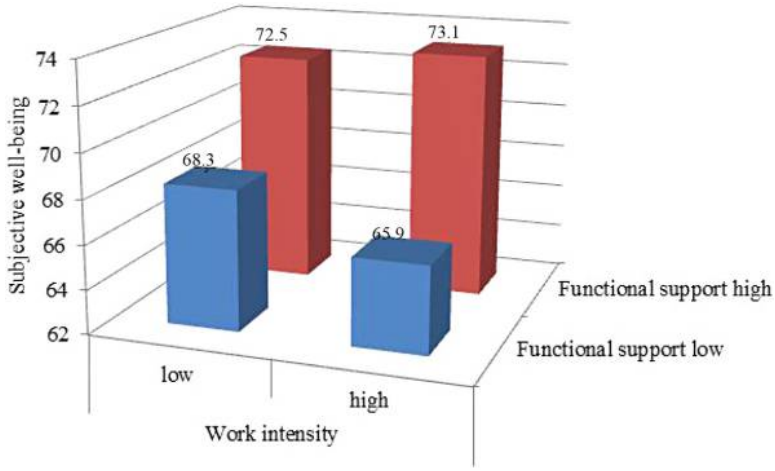

Figure 4.
Two-way interaction effect of work intensity and functional support on subjective well-being (means multivariately adjusted based on linear regression)

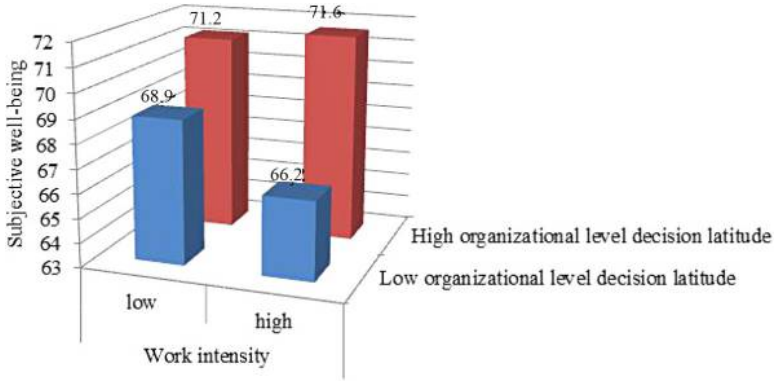

Figure 5.
Two-way interaction effect of work intensity and organizational level decision latitude on subjective well-being (means multivariately adjusted based on linear regression)

Conclusions and discussion

Conclusions

The following research questions were at the core of this paper:

- How do the job control dimensions job autonomy, functional support and organizational level decision latitude and work intensity relate to the employee outcomes subjective well-being and organizational commitment?
- How do these three dimensions of job control interact in relation to the employee outcomes?
- How do the dimensions of job control, on the one hand, and work intensity, on the other, interact in relation to the employee outcomes?

Functional support and organizational level decision latitude relate positively to subjective well-being and organizational commitment and seem to be even more important than job autonomy. Job autonomy only relates positively to organizational commitment. The three control dimensions seem to reinforce each other. Work intensity

showed no associations on its own. The "high-strain jobs hypothesis" in this paper was supported for functional support and for organizational level decision latitude, but rejected for job autonomy. The "active jobs hypothesis" in this paper was rejected for all three dimensions of job control. This is in line with research results as mentioned before that main effects are found more often than interactions. However, the distinction of three dimensions of job control – by adding organizational level decision latitude to job autonomy and functional support – appears to provide more knowledge about what is important, theoretically as well as practically.

Discussion

This study showed that high job autonomy related only weakly to high organizational commitment. Autonomy related to subjective well-being only in combination with organizational level decision latitude and did so ambiguously. These weak and ambiguous associations of job autonomy do not seem to correspond to the results of research with the JCQ, where "decision latitude' was related positively to well-being (Häusser *et al.*, 2010). However, there is an important difference in measurement. In the JCQ, job autonomy questions are part of "decision authority" which – together with "skill discretion" – constitutes the decision latitude concept. Furthermore, this decision authority concept contains a (broadly formulated) question "I take part in decisions that affect me" which in the approach of this paper might better fit into the variable organizational level decision latitude. Similar questions – available in the EWCS – were used for that purpose. This could be part of the explanation why job autonomy showed weaker correlations, in this paper, than decision latitude in studies with the JCQ.

So, in accordance with reviews of JDCS research, relations of job control variables with the outcome measures were found in the present study with EWCS data as well. However, contrary to the same reviews, relations of work intensity with these outcome measures could not be found.

Functional support and organizational level decision latitude appeared to relate to organizational commitment more strongly than job autonomy does. All three dimensions of job control are important for organizational commitment. The analysis also showed relations with the outcomes in which control dimensions seem to reinforce each other: the highest scores on organizational commitment were shown when job autonomy, functional support and organizational level decision latitude were present simultaneously.

The results are different from those of Gallie (2013) who found that – although all three forms of direct participation related to general well-being – individual task discretion (job autonomy) was even strongly associated with general well-being than consultative participation (organizational level decision latitude). The impact of semi-autonomous teamwork appeared to be more limited. Individual task discretion was measured slightly different from job autonomy in this study; general psychological well-being was measured quite differently. So it is difficult to understand the different outcomes and these emphasize the need for more convergence in research strategies and methodologies.

Some indications were found for interactions of work intensity with functional support and organizational level decision latitude on subjective well-being (but not on organizational commitment), although only significant at 90 per cent level. These interaction results (high work intensity, low control, extra low well-being) were in line with the JDCS-hypothesis of "high-strain jobs" (high demands, low control, extra high stress and bad health). The reverse – although not hypothesized – did not find support:

high work intensity together with high control did not associate with extra-high well-being. There were no indications for an interaction of work intensity and job autonomy. Again, it should be taken into account that the concept of job autonomy in this paper is smaller than decision authority in the JCQ. These weak effects of job autonomy, as they are defined in this study, may also count for the remarkable outcome concerning part of *H4a*: the relatively high level of subjective well-being in case of low job autonomy and low organizational level decision latitude (Figure 1).

The advantage of the extension of the JDCS model by distinguishing three dimensions of job control appears to be according to expectations. The three dimensions of job control were on its own related to the outcome measures. The new dimension of organizational level decision latitude really matters. Moreover, the interaction results showed that the three dimensions even seem to reinforce each other. The results also support the modern sociotechnical design theory and the action regulation theory. It shows that work and organization design should not be limited to one control dimension but be extended to all three dimensions.

Of course, we have to take into account that the direction of the causation cannot simply be assumed. It could be the case that people with lower subjective well-being or lower organizational commitment are less likely to ask their colleagues for assistance or to be involved in consultation practices on departmental or organizational level. Finally, different outcomes may not only be due to different measurements but also to changes in jobs and work organization that occurred since these measurements were developed decades ago. This is an issue for discussion as well, in particular, because the combination of robotization, digitalization and working mobile is going to change jobs, work organization and labor relations considerably (Brynjolfsson and McAfee, 2014).

Recommendations for research and future policy

There are some limitations to the present study. As in many studies, cross-sectional data were used, due to the lack of other longitudinal data on the subject. However, as several interesting relations were demonstrated, the recommendation for replication of the results by longitudinal data also applies to the present study; such replication may allow for inferring causality.

For research, the results mean that researchers should follow the example of EUROFOUND with the EWCS by including questions on organizational level decision latitude. It is also recommended to follow the theoretical approach of the present study by restricting job autonomy to job control within a given job (individual control) and distinguishing it from functional support and organizational level decision latitude (collective control, consultative participation).

For organizational policy, the recommendation obviously is to create job control opportunities at the three levels of job autonomy, functional support and organizational level decision latitude to enhance organizational commitment and employee well-being. This fits very well into the broader context of "workplace innovation" to improve organizational performance (e.g. labor productivity and innovation capabilities) and quality of working life (e.g. learning opportunities, stress prevention, participation) simultaneously. In particular, in the present global knowledge economy, a competent, informed and involved workforce is needed to maintain our level of prosperity.

The results also show that the three dimensions of job control – job autonomy, functional support and organizational level decision latitude – are necessary

requirements for better workplaces. This shows the importance of an integral approach to redesign workplaces, rather than partial redesign. So the results contribute to the foundation of European and national programmes or initiatives concerning, e.g. workplace innovation, innovative workplaces or sustainable jobs.

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