

Autonomy and work-life balance and their effects on job satisfaction



Universiteit Utrecht

Name student: Laura Lehmann
Student ID: 5661552
E-mail address student: l.lehmann@students.uu.nl

Universiteit Utrecht, Faculty of Social and Behavioural Sciences
MSc Social and Organizational Psychology

Name thesis supervisor: dr. Pierre Cavalini
E-mail address thesis supervisor: p.m.cavalini@uu.nl

Total word count: 9399 words

Pleasure in the job puts perfection in the work.

Aristotle

Abstract

The 2010 *European Working Condition Survey* [EWCS] was used for this study to test the interrelationships between job demands and job resources, autonomy, work-life balance and job satisfaction. The used data was based on a subsample of participants who were working in the public sector in Northwest Europe (N=770). Autonomy and work-life balance are significantly related to job satisfaction as well as they both mediate the relationships between job demands and job resources on job satisfaction. These findings enhance the importance of employers and their oriented focus on consciously encouraging autonomy and improving their work-life balance policies to improve employee wellbeing and job satisfaction.

Samenvatting

Dit onderzoek richt zich op de concepten werkeisen (job demands) en energiebronnen (job resources), autonomie, werk-privé balans en werktevredenheid en de verbonden onderliggende verbanden. De verzamelde data is afkomstig van het *European Working Condition Survey* [EWCS] uit 2010 en leverde een substeekproef van 770 participanten op die in Noordwest-Europa een fulltime baan in de publieke sector vervullen. De resultaten laten zien dat zowel autonomie als ook werk-privé balans gerelateerd zijn aan werktevredenheid. Daarnaast hebben zowel autonomie als ook werk-privé balans een mediërend effect op het verband tussen werkeisen en energiebronnen met werktevredenheid. Geconcludeerd kan worden dat de gerichte aandacht op het ondersteunen en bevorderen van autonomie en werk-privé balans het welzijn en de werktevredenheid van de werknemers kan verbeteren.

Introduction

Among others, there is one thing that plays a significant role in the daily lives of people as well as companies and society, namely work (Eurofound, 2012). According to the Oxford Advanced Learner's Dictionary (Hornby, 2003), work is defined as "doing something that involves physical or mental effort, especially as part of a job" and additionally "the job that a person does especially to earn money". Work is a set of diverse and often varying tasks, which are carried out by workers within the context of the workers job (Eurofound, 2012) and within the context of an employment relationship.

In that sense, "a job is a group of homogenous tasks having in common the similarity of their functions" which are summarized in a job description with a specific job title to identify the employee's responsibilities and duties within an organization. The contractual relationship between the organization or employer and the employee is entitled as employment (Eurofound, 2012).

Locke (1969) defines work or having a job as an "abstraction referring to a combination of tasks performed by an individual in a certain physical and social context for financial (and other) remuneration". According to that, earning a living through working is essential for the majority of people to cover the most basic human needs such as doing groceries and renting a house. Besides the fact that current costs need to be covered, people spend various amounts of time at their workplace, where they idealistically also seek for self-cultivation in terms of self-improvement, self-reliance, and self-efficacy.

This process of self-education through work can be described as a self-directed process, which is characterized by the transformation of the individual mental abilities into academic and practical skills. In that context, learning is viewed as an activity with the purpose to gather knowledge and knowhow through a proactive way. Self-regulation is related to self-generated thoughts, feelings, and behaviors with the focus and orientation to attain set goals (Zimmerman, 2000).

During work, several aspects are playing a role when it comes to performing a job within a certain framework and in line with specific expectations. According to the drafted model (Figure 1), this research offers five concepts, which will be defined individually, and their interrelationships will be substantiated by previous research and studies. Those concepts are job demands and job resources, autonomy, work-

life balance, and job satisfaction. The job demands-resources (JD-R) model, which was first issued by Demerouti, Bakker, Nachreiner and Schaufeli (2001) to provide insights of the origin of burnout, is used as a conceptual framework to explain the relationship between job demands and job resources and their link with autonomy and work-life balance as mediating variables on job satisfaction. Also the demand-control model (DCM) from Karasek (1979) was used to construct the research model based on the relationship between job demands, job resources, and perceived stress.

The first concept, job demands, are strains, which are related to successfully accomplishing the tasks and proceedings within a certain working environment. Those job demands are measured by identifying psychological stressors, which are involved in accomplishing the requested workload, stressors which are related to unexpected tasks as well as stressors which are caused by job-related personal conflicts (Karasek, 1979). Summarized, job demands refer to organizational, physical, or social aspects of the performed job, which require mental and physical effort such as pace of work, time pressure, and availability. These efforts are associated with physiological and psychological costs, which can evoke a stress process because of its energy depletion (Bakker, Demerouti, & Euwema, 2005). High job demands can result in reduced work effort and performance, reduced levels of general health and energy such as cognitive difficulties, lack of concentration, and low alertness (Beauregard & Henry, 2009).

Job demands are not necessarily stressful, especially when employees have a certain amount of control over their own job responsibilities and if they experience support from the organization they work for (Chiang, Birtch, & Kwan, 2010). By structuring the work environment with the purpose of effective performance of the employees, intrinsic and extrinsic rewards will lead to total job satisfaction (Porter & Lawler, 1968). Job satisfaction is another important concept of the constructed research model, which will be discussed later into detail.

Job resources, the second concept of this research model, are defined as “physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development” (Demerouti et al., 2001). Among others, examples of job resources are control, feedback, and support such as work-life balance practices.

According to the effort-recovery model of Meijman and Mulder (1998), a workplace with sufficient job resources has a positive effect on the effort of the employees to meet requested work requirements and expectations. Job resources are a crucial factor when it comes to extrinsic motivation, especially on pursuing the work the employee is assigned for (Schaufeli & Taris, 2013).

Summarized, the JD-R model proposes that job demands are generally consume energy with the potential to grow into stressors, which eventually can lead to mental exhaustion and related health problems. This can be described as an exhaustion process. Analogously, job resources generally have a motivational potential and may therefore eventually lead to increased engagement and related positive work and personal outcomes, which can be described as motivational process (Schaufeli & Taris, 2013).

As already mentioned, motivation is another crucial concept when it comes to work. It concerns several aspects of activity and intention such as direction, energy, equifinality and persistence. Extrinsic motivation refers to “the performance of an activity in order to attain some separable outcome and, thus, contrasts with intrinsic motivation, which refers to doing an activity for the inherent satisfaction of the activity itself” (Ryan & Deci, 2000).

According to Gagné and Deci (2005), autonomy is most important for intrinsic motivation and as well as for extrinsic motivation. Research has shown that challenging activities are generally intrinsically motivated (Danner & Lonky, 1981). Thus, job demands and certain degrees of continuous challenges and autonomy are crucial to support intrinsic motivation in the workplace.

The third concept, autonomy, has an important role in the perception of the job demands and job resources within the working environment of the employee. Autonomy refers to the extent to which one experiences the ability to make own decisions and to act without control of anyone else (Hornby, 2003) as well as the degree to which one has the impression that those decisions are compatible with one’s individual norms and values (Ryan & Deci, 2006). Autonomy seems to be essential, next to relatedness and competence within the Self-Determination Theory, for facilitating of personal growth, integration, social development and personal well being (Ryan & Deci, 2000). The feeling of the possibility and trust from the organization to make autonomous decisions and feeling the competence to do so supports intrinsic motivation and internalization (Gagné & Deci, 2005).

To support autonomy within the working environment, a certain degree of decision latitude of the employee and the maintenance of an interpersonal leadership style of the managers are eligible. Work climates, in which autonomy is supported, are characterized by managers, who have the ability to take employees' perspectives, encourage and support self-initiation, and provide greater choice (Gagné & Deci, 2005).

The possibility of making decisions has also influence on the fourth concept, the work-life balance of an employee, which has assumed increased relevance in recent years for employees. Practices, which are implemented to anticipate on the changing circumstances at work and at home are, among others, flexible work hours, compressed work weeks, working from home, sharing a full-time job between two employees, family leave programs, onsite childcare, and financial and/or informational assistance to find and to take advantage of appropriate childcare and eldercare services. The availability of those practices "increases positive job-related attitudes, work effort and contextual behaviors by enhancing social exchange processes" (Beauregard & Henry, 2009). The possibility of work-life balance practices within an organization also has an effect on extrinsic motivation (Gagné & Deci, 2005).

From the mid-1980s onwards, human resource management (HRM) approaches concerning the management of the staff within an organization had changed in anticipation of the growing recognition of the personnel (Maxwell, 2005). Employees were more seen as business investment instead of costly collectives with a reformed focus on individual needs and interests in their work, their functioning and their responsibilities (Guest, 1997).

The number of employee requests for more flexibility has increased noticeable within the last years (Kropf, 1999; Thomas, 2000) due to the increasing number of the feminization of the workforce and the gender differentials in family responsibilities (Maxwell, 2005). Female employees are taking more family responsibilities, like motherhood, childcare and elder care responsibilities, in relation to their male counterparts (Sullivan & Lewis, 2001; Pillinger, 2002). Men are still strongly identified with the working domain whereas women are more associated with the family domain (Valcour, 2007).

Another important factor for the increased focus on work-life balance are changing perceptions of work (Foley, Maxwell & McGillivray, 1999). According to

Shabi (2002), employees recently prefer “a lifestyle that that includes non-work time, irrespectively of other responsibilities, hence actively may seek employers who offer work-life balance arrangements. This is in line with the assumption of Maxwell (2005) that organizations, which are offering work-life balance practices, seem to be more attractive for potential employees.

To enable work-life balance “a three-way relationship between the organization, the manager and the employee base must be obtained” which highlights the significant role of organizational culture (Glynn, Steinberg, & McCartney, 2002). On the one hand, conflicts between work and private life have negative repercussions for employee functioning and organizational performance. On the other hand, the implementation and use of work-life practices only has positive effects on the commitment of an employee towards an organization, when they are not linked with negative consequences (Beauregard & Henry, 2009). Allen and Russell (1999) related those negative consequences to negative perceptions from colleagues and superiors, based on suppositions that co-workers, who make use of work-life balance practices, are less committed to the organization. Additionally, employees are afraid of being not eligible for advancement opportunities and salary increases by working part-time (Allen & Russell, 1999). The common perception that mainly women benefit from work-life balance arrangements reinforces the impression of possible harmed career prospects for flexible workers (Rana and Higginsbottom, 2002).

Based on previous research of Maxwell (2005) “work-life balance seems to offer mutual benefits to employees and their employers” when the organization, especially the managers, are aware of the policy development and the therewith associated practical application of those arrangements.

When the employer provides the possibility of work-life balance practices, employees will perceive more job satisfaction in general. Job satisfaction is a result of a sense of recognition by the employer of the employee’s needs (Kalleberg, 1977) such as a balanced work and private life situation.

Job satisfaction is considered as the fifth concept and, at the same time, as the outcome variable of this research. To define and measure job satisfaction, Locke (1969) stated that liking for a task is correlated with the perceived success on this specific task. Success is defined as solving an assigned problem or reaching a quantitative performance goal. Individuals rate their satisfaction with a particular work

position based on all job aspects such as pay, work, and supervision. Summarized, job satisfaction is “the pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating the achievement of one’s job values” (Locke, 1969). This is in line with the definition of job satisfaction by Kalleberg (1977) in which he refers to an overall affective orientation of employees towards their presently occupied work roles.

Herzberg’s “two-factor” theory is an explanation of the variation in job satisfaction, which depends on the attitudes of the workers and their reflection of the structure of their work place. Based on this approach, employers can increase job satisfaction among their employees by manipulating specific job characteristics, which they control. Factors, which are related to the work itself, like achievements and work content, can cause job satisfaction. Factors, which are extrinsic to work, such as company policies and supervision, can cause job dissatisfaction (Herzberg, Mausner, & Snyderman, 1959). Work-life balance policies and practices provided by the employer are of great importance when it comes to job satisfaction of the employee.

This research has the purpose of illustrating and explaining the interrelationships and mediating effects between the five concepts job demands and job resources, autonomy, work-life balance, and job satisfaction (figure 1). According to this, the research question is:

‘How are autonomy and work-life balance within job demands and job resources related to job satisfaction of employees?’

Based on the JD-R model (Demerouti et al., 2001), job demands and job resources have an interactive relationship. The DCM (Karasek, 1979, 1998) has a premise, which states “employees who can decide themselves how to meet their job demands do not experience job strain (e.g. job-related anxiety, health complaints, exhaustion, and dissatisfaction). Thus, when job demands are high and job resources are low, employees will experience a certain degree of stress at work. According to this, the first hypothesis is:

Hypothesis 1: Job demands and job resources are negatively related.

The study of Chiang, Birtch and Kwan (2010) concluded that organizational support, such as work-life balance practices, buffers the effect of high job demands and low job control on job stress. Their research was based on the hotel and catering industry, so they suggest testing the validity of these findings for other branches and industries. Therefore, the second hypothesis is formulated to test the evidence of this research and subsample among the public sector:

Hypothesis 2: Job demands are negatively related to work-life balance.

Based on a review of Schaufeli and Taris (2013) on the job demands-resources model, job resources, especially autonomy, has a buffering effect on stress. Employees are able to cope with workload by making their own decision when and how they meet their work obligations (Karasek, 1979). Therefore, the third hypothesis of this research states:

Hypothesis 3: Job resources are positively related to autonomy.

Previous research of Valcour (2007) suggested that “additional hours spend at work reduce people’s ability to meet multiple role demands, thereby contributing to a diminished sense of successfully integrating work and family”. This study states that there are proven effects of work hours on the satisfaction with work-life balance.

Additionally, based on the Karasek’s job strain model (1979), it can be assumed that high decision latitude, like autonomy, within job demands and job resources leads to “development of new behavior patterns both on and off the job” such as a proper work-life balance. This leads to the fourth hypothesis:

Hypothesis 4: Autonomy is positively related to work-life balance.

Guest (2002) summarizes in his article review that previous research on the positive relationship between work-life balance and well-being as well as job satisfaction of an employee is repeatedly proven. This is in line with the study of Allen (2001) who found a relationship between work-life balance and job satisfaction.

Considering the research of Persaud (2001) and Mayne, Tregaskis and Brewster (1996), who evidenced increased commitment and attention to work

flexibility and work-life balance in the chosen public sector of this subsample, the fifth hypothesis is as follows:

Hypothesis 5: Work-life balance is positively related to job satisfaction.

Job satisfaction depends, among others, on organizational policies and procedures (Furnham, 2005). According to the constructed job strain model by Karasek (1979) heavy job demands and low decision latitude, which is associated with decreased autonomy, are leading to less job satisfaction and mental strain. When job demands are matching with a certain degree of decision latitude and autonomy within job resources to make decisions, employees will be more satisfied with their work and the confederate job demands. The perception of the job demands and job resources and autonomy within a certain working environment of an employee are of great importance when it comes to job satisfaction (Herzberg, Mausner, & Snyderman, 1959; Arches, 1991). The sixth hypothesis is therefore:

Hypothesis 6: Autonomy is positively related to job satisfaction.

Based on previous research of Adams, King and King (1996) and Kinman and Jones (2008) among full-time workers, it can be stated that high job demands are negatively related to work-life balance, which results in low job satisfaction. These findings are consistent with research of Kossek and Ozeki (1998) who found a consistent negative relationship among work-family conflict and job-life satisfaction.

For this study is assumed that when job demands are low, work-life balance is high which is subsequently related to high job satisfaction. Therefore, the seventh hypothesis states:

Hypothesis 7: Work-life balance has a mediating effect on the relation between job demands and job satisfaction.

Recent research of Finn (2001) among Australian nurses found that autonomy is the most important job component for job satisfaction. Greenhaus, Collins and Shaw (2003) indicated that job satisfaction is higher of employees who spent more time on family than work compared to employees who spent more time on work than family.

When an employee experiences a certain degree of autonomy within work, he or she will be able to make their own decision on his or her work-life balance, which will result in more job satisfaction. Based on that assumption and previous studies, the eighth hypothesis therefore is:

Hypothesis 8: Work-life balance has a mediating effect on the relation between autonomy and job satisfaction.

Petterson, Arnetz and Arnetz (1995) investigated the influences on job satisfaction among Swedish nurses. They found evidence for high decision latitude as a predictor of job satisfaction. Thus, when job resources are experienced as satisfying, because of a certain degree of decision latitude and autonomy, the job satisfaction of the employee will be high. The ninth en last hypothesis of this research is therefore:

Hypothesis 9: Autonomy has a mediating effect on the relation between job resources and job satisfaction.

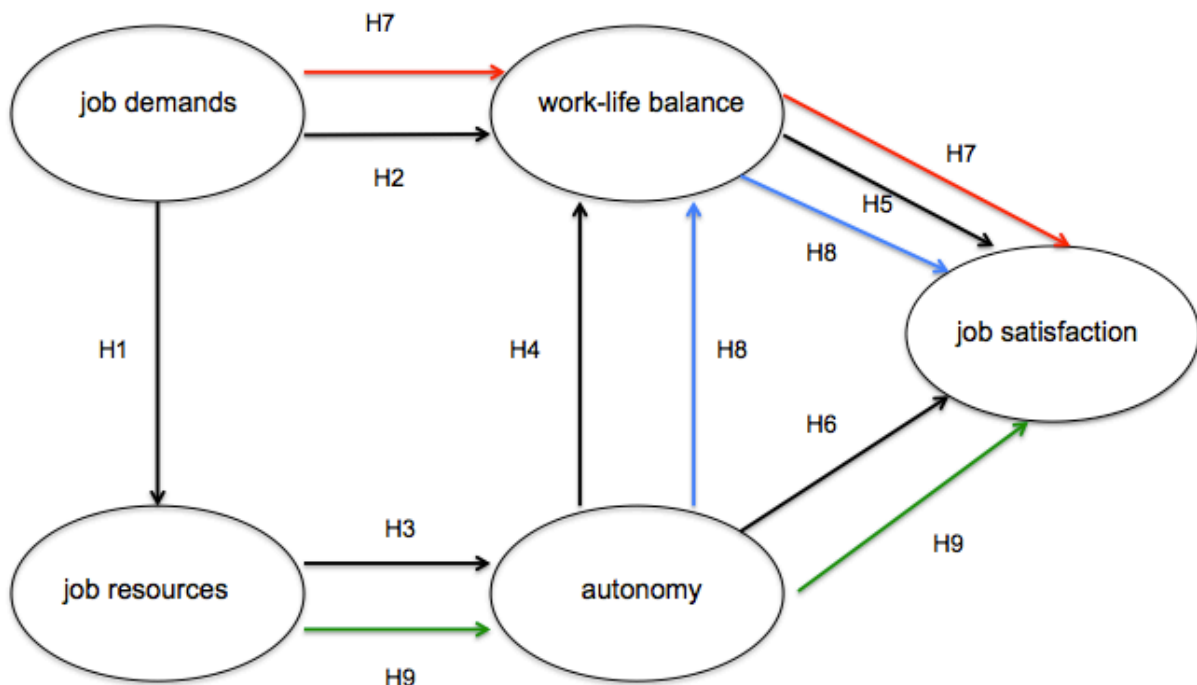


Figure 1. Research model of proposed interrelationships between job demands and job resources, autonomy, work-life balance, and job satisfaction.

Method

Procedure and sample

To proof the drafted model and its underlying interrelationships, data from the *European Working Conditions Survey* [EWCS] from 2010 was used. At that time, about 216 million people in Europe were employed in the main reference area of this specific survey (Eurofound, 2012). The EWCS is conducted every five years among the working population in Europe. Since the survey questionnaire was launched in 1990, it provides an overview of the working conditions of the both employed and self-employed working class. Working conditions can be defined as “the results of the interaction between a job, the work, the company and an individual (Gollac, 2004).

The data was collected through multitude questionnaire-based, personal, face-to-face interviews in the national language of the participating country. The main purpose and aim of the EWCS is to provide a comprehensive picture of the everyday working life of men as well as women in Europe.

In addition, the survey analyses relationships between various aspects of working conditions, identifies possible groups at risk and possible issues of concern as well as of progress, monitors trends by providing homogenous indicators on mentioned issues, and contributes to the European policy development with particular focus on the quality of work and related employment issues.

Questions about employment status as well as the work organization, working time duration and organization, the provided possibilities for learning and training, possible physical and psychosocial risk factors, safety and health, earnings and financial security, worker participation, work and health, and work-life balance were used to cover all important facets of working life.

In the fifth edition of the EWCS, workers from 27 EU member states, Albania, Croatia, Kosovo, Montenegro, Norway, Turkey, and the former Yugoslav Republic of Macedonia were interviewed between January and June of 2010. Almost 44,000 workers of 34 countries participated in the research. This extensive participation made this wave of the EWCS the most comprehensive one so far, especially in terms of geographical coverage. The quality assurance framework was covered by Gallup Europe to ensure the quality of the data collection and the editing processes.

The target population was composed of workers aged 15 or older (aged 16 or older in Norway, Spain, and the UK) who were in employment and worked for at least one hour per week on a paid or profit basis at the time the surveys were provided.

The basic sample can be described as a multi-stage, stratified, random sample. Region and degree of urbanization were taken into account by selecting the participating households. The target sample size was on average 1,000 with the exception of several countries with larger samples.

For this research, a secondary data analysis, the subsample was limited to Northwest European countries and fulltime workers of the public sector. Belgium, Denmark, France, Germany, Ireland, Luxemburg, the Netherlands, Norway, Sweden, and the United Kingdom were selected for the most ideal frame of reference of this Dutch research.

The focus on the public sector results from previous research of Persaud (2001) and Mayne, Tregaskis and Brewster (1996), who detected significant evidence for more commitment to work flexibility in this specific sector compared to others. Work flexibility seems to be the essence of work-life balance, which is a central concept and variable of this study. Assuming that the combination of work and life is generally an issue for fulltime workers, the subsample is also selected by their contractual set working hours per week.

Due to the gender differences in family responsibilities and discussed earlier, gender (male=1; female=2) and age were included in the analysis as control variables.

In total, 770 participants of the EWCS comply with the requirements of the chosen subsample.

Measures

Job demands. Job demands are particularly associated with work overload and time pressure (Bakker & Demerouti, 2007). Since job demands mainly concern accomplishments of work-related tasks, which are measured by several psychological and physical stressors (Karasek, 1979), this concept was measured with 34 items to cover the relatively wide range of the concept as complete as possible. All items concerning job demands, such as several questions about workplace exposures with possible risks for health and safety, physical efforts, the need to work overtime, meeting high quality standards, conflicts with personal norms and values, emotional involvement, and stress, were recoded. One example question was “Does your job involve working on a very high speed and working to tight deadlines?” which could be answered on a recoded seven-point Likert scale from “never” (1) to “all of the time” (7).

With the aid of measuring the internal consistency by using a reliability analysis based on the z-scores of all items measured on diverse scales, the Cronbach’s alpha of this variable is $\alpha=.81$.

Job resources. As mentioned before, job resources initiate a motivational process through social support and feedback among others. This leads to job-related learning, organizational commitment, and work engagement (e.g. Demerouti et al. 2001; Salanova, Agut and Peiró, 2005; Taris and Feij, 2004). Additionally, job resources are characterized by achieving work-goals, stimulating personal development, and reducing job demands when control, feedback, and support are provided by the employer (Demerouti et al., 2001).

A relatively large amount of items of the used questionnaire were used to cover the different aspects of the mentioned concept. The variable was constructed by using 20 recoded items. An example item of this specific scale is “Over the past 12 months, have you undergone any of the following types of training to improve your skills or not? (a) Training paid for or provided by your employer or by yourself if self-employed; (b) Training paid by yourself; (c) On-the-job training (co-workers, supervisors)” which was measured with a dichotomous scale of yes or no response options. The internal consistency of this variable based on the z-scores of the items can be described with a Cronbach’s alpha of $\alpha=.71$. Z-scores were used to standardize all items because they were measured with different scales.

Autonomy. Hornby (2003) described autonomy as the ability and opportunity of an employee to make their own decisions within a certain working environment and to act without control of anyone else, such as a supervisor or co-worker. Additionally, autonomy is characterized with a certain decision latitude within work-related responsibilities and tasks (Gagné & Deci, 2005) wherein the autonomously taken decisions are compatible with the norms and values of the employee (Ryan & Deci, 2006).

Based on that definition, 17 items, of which 12 had been recoded, were selected from the questionnaire with questions about, for instance, the degree of independence concerning the work of colleagues, targets, machines, and taking breaks. The Cronbach's alpha and internal consistency are based on the z-scores of the different scaled items with $\alpha=.70$. An example of the relatively wide range of items is "Are you able to choose or change (a) your order of tasks; (b) your methods of work; (c) your speed or rate of work?" which was measured on a dichotomous scale with yes or no response options.

Work-life balance. Flexible working is seen as the very basis of work-life balance (Felstead, Jewson, Phizacklea, & Walters, 2002). Work-life balance is multi-faceted. According to Glynn, Steinberg, and McCartney (2002) work-life balance includes flexibility in working hours, flexibility concerning the arrangement of working hours, flexibility regarding the place of work, the possibility of support and training to manage the balance better, the provision of back-up support, and the possibility to take breaks from work.

The internal consistency of two recoded items, which cover only several aspects of above-mentioned concept, can be established with a Cronbach's alpha of $\alpha=.46$ based on the z-scores of the items. Since just two items match with the mentioned aspects of work-life balance, namely the adjustment of working hours and family and social commitments as well as taking hours off to fulfill personal or family matters, the internal consistency is in comparison to the other variables of this study quite low. One question was "In general, do your working hours fit in with your family or social commitments outside work very well, well, not well or not at all well?" which was measured on a recoded four-point Likert scale with response options of "not at all well" (1) to "very well" (4). The second question was "Would you say that for you arranging to take an hour or two off during working hours to take care of personal or family matters is very difficult, somewhat difficult, not too difficult or not difficult at

all?” and was measured by using a recoded four-point Likert scale with response options of “very difficult” (1) to “not difficult at all” (4).

Job satisfaction. According to Kalleberg (1977), job satisfaction refers to an overall affective orientation of an employee towards his presently occupied work roles within a certain working environment with the aim to achieve the best results.

Job satisfaction was measured with five items and has an internal consistency based on a Cronbach’s alpha of $\alpha=.66$ based on the z-scores of the items. Participants could answer all five items, concerning payment, relatedness at work, and motivation for good job performance, on a five-point Likert scale that can be rated from “strongly disagree” (1) to “strongly agree” (5) on statements like “The organization I work for motivates me to give my best job performance” and “My job offers good prospects for career advancement”.

Data analysis

In 2010, the fifth edition of the EWCS, 43.816 participants took part in the survey in Europe. The data of this research was integrated into the statistical program IBM SPSS Statistics 24 (IBM Corp., 2016) to create a subsample (N=770) based on the earlier mentioned requirements, namely Northwestern Europe, public sector and fulltime workers.

Firstly, all chosen items were recoded to match the measured concepts and z-scores were created to make sure that the different scales of the items were comparable with each other.

Secondly, the five variables were created by choosing matching items from the questionnaire and testing their internal consistency using a reliability test based on Cronbach’s alpha. All variables were grand mean centered. Means and standard deviations represent the average and typical spread of the values of the chosen variables.

Thirdly, a bivariate correlation analysis with all five variables was performed to check the overall correlation between the five concepts.

Fourthly, the assumptions for a regression analyses were tested, specifically on linear relationship, multivariate normality, no or slight multicollinearity, no auto-correlation, and homoscedasticity (Field, 2009). All assumptions for the analyses were met.

Fifthly and finally, several linear regression analyses were done to identify the interrelationships between the single concepts. Thereafter, three statistical mediation analyses were done by using a multiple regression analysis to identify a possible mediating effect of work-life balance between job demands and job satisfaction, a possible mediating effect of work-life balance between autonomy and job satisfaction, and a possible mediating effect of autonomy between job resources and job satisfaction. The multiple regression analyses are based on model 4 of the PROCESS tool by Andrew F. Hayes (Hayes & Preacher, 2014).

Results

Descriptive statistics, such as means, standard deviations, and correlations of the regression analyses on the standardized variables are reported in Table 1. As of differing measuring scales of the items within one variable, all measured items were standardized for enhanced comparison. Since standardized item scores were used to construct the variables, standard deviations not only reflect real differences in variability among the studied subsample, but also differences in measurement scales.

The correlation between job demands and job resources is not significant ($r=.00$, $p>.05$). There is no negative relationship between job demands and job resources as stated in hypothesis 1.

Job demands have a negative relation on work-life balance since the correlation is significantly negative ($r=-.23$, $p<.01$). The second hypothesis is thus confirmed. When job demands are high, work-life balance is low and when job demands are low, work-life balance is high.

The third hypothesis is confirmed since the correlation of job resources and autonomy is positive ($r=.83$, $p<.01$), which means that job resources have a relation with autonomy. When job resources are high, autonomy is high as well and when job resources are low, autonomy is low.

The correlation between autonomy and work-life balance is positive ($r=.40$, $p<.01$). Hypothesis 4 is confirmed based on the positive relation with autonomy when it comes to work-life balance. When autonomy in the work field is high, work-life balance is high and when autonomy is low, work-life balance is low as well.

Work-life balance has a positive relation with job satisfaction ($r=.29$, $p<.01$). Hypothesis 5 is herewith confirmed. When work-life balance is high, job satisfaction is high too and when work-life balance is low, job satisfaction is low.

The sixth hypothesis is confirmed as well since the relationship between autonomy and job satisfaction is confirmed ($r=.28$, $p<.01$). When autonomy is high, job satisfaction is high as well and when autonomy is low, job satisfaction is low.

Concerning the control variables, gender is not related to the considered concepts at all. A gender specific difference in relation to work-life balance could be expected, based on traditional roles and allocation of tasks concerning childcare responsibilities, but that was not shown in the results of this study. In comparison,

female participants of this study were older than their male counterparts ($r=.11$, $p<.01$). Therefore, age and gender were included as standardized control variables.

Age is negatively related to job demands ($r=-.16$, $p<.01$), which means that younger participants of the survey generally experience more job demands compared to older workers. Furthermore, age is positively related to work-life balance ($r=.14$, $p<.01$) and autonomy ($r=.18$, $p<.01$), thus older employees experience a better work-life balance and more autonomy. Additionally, age is negatively related to job satisfaction ($r=-.07$, $p<.01$), which suggests that older workers probably experience less job satisfaction compared to their younger counterparts. The relatively small effect size and weak correlation is possibly associated with the large subsample size of 758 participants.

Table 2 provides an overview on the mediating effects between the concepts used for this research. The indirect effects were tested using a bootstrap estimation approach with 1000 samples (Shrout & Bolger, 2002).

The first regression analysis was used to investigate the seventh hypothesis on the relationship between job demands and job satisfaction with the mediating role of work-life (Table 2). Results indicate that job demands are a significant predictor of work-life balance ($\beta=-.54$, $SE=.08$, $p<.001$). Furthermore, the results indicate that work-life balance is a significant predictor of job satisfaction ($\beta=.25$, $SE=.03$, $p<.001$). The results support the mediation hypothesis. Job demands were no longer a significant predictor of job satisfaction after controlling for the mediator, work-life balance, ($\beta=-.08$, $SE=.06$, ns) which is consistent with full mediation. Approximately 2% of the variance in job satisfaction is accounted by the predictors ($R^2=.02$, $F(3, 753)=5.07$, $p<.01$). These results indicate the indirect coefficient is significant ($\beta=-.13$, $SE=.03$, 95% CI=-.20, -.08). Job demands are associated with approximately .13 points lower job satisfaction as mediated by work-life balance.

The second regression analysis tested the relationship between autonomy and job satisfaction with work-life balance as the mediator (Table 2). Based on the results to test the eighth hypothesis, autonomy is a significant predictor of job satisfaction ($\beta=.75$, $SE=.06$, $p<.001$). Work-life balance as well significantly predicts job satisfaction ($\beta=.19$, $SE=.03$, $p<.001$). A full mediating role of work-life balance is not supported. Autonomy was still a significant predictor after controlling for work-life balance ($\beta=.32$, $SE=.06$, $p<.001$), which indicates a partial mediation. Hypothesis 8 is thus partially supported. Approximately 9% of the variance in job satisfaction can be

allocated to the predictors ($R^2=.09$, $F(3, 753)=25.95$, $p<.001$). The indirect coefficient is significant ($\beta=.14$, $SE=.03$, 95% $CI=.09, .20$). Autonomy is associated with approximately .14 points higher job satisfaction as mediated by work-life balance.

The third regression analysis investigated the ninth hypothesis on the relationship between job resources and job satisfaction and the mediating effect of autonomy (Table 2). According to the results, job resources are a significant predictor of job satisfaction ($\beta=.39$, $SE=.03$, $p<.001$). In addition, autonomy is a significant predictor of job satisfaction ($\beta=.21$, $SE=.05$, $p<.001$). Given the results, a complete mediation of autonomy is not supported since job resources significantly predicted job satisfaction after controlling for autonomy ($\beta=.69$, $SE=.06$, $p<.001$). The mediation of autonomy is partially supported, which means that the ninth hypothesis is partially supported as well. Approximately 24% of the variance in job satisfaction is based on the predictors ($R^2=.24$, $F(3, 753)=77.30$, $p<.001$). The indirect coefficient is significant ($\beta=.08$, $SE=.02$, 95% $CI=.04, .13$) which means that job resources are associated with .08 higher job satisfaction as mediated by autonomy.

Table 1. Means (\bar{x}) and standard deviations (SD) of standardized variables and unstandardized control variables. Correlations between standardized variables and standardized control variables gender and age.

	N	\bar{x}	SD	1	2	3	4	5	6	7
1. Job demands	770	.00	.37							
2. Job resources	770	-.02	.40	.00						
3. Work-life balance	770	.00	.80	-.26**	.24**					
4. Autonomy	770	.00	.42	-.23**	.38**	.40**				
5. Job satisfaction	769	.00	.65	-.11**	.47**	.29**	.28**			
6. Gender	770	1.46 ¹	.50	.06	.00	-.04	.04	-.03		
7. Age	758	42.81	11.28	-.16**	.03	.14**	.18**	-.07*	.11**	

Note. ¹ 53,9% male, 46,1% female; * $p < .05$ (two-tailed), ** $p < .01$ (two-tailed).

Table 2. Significant mediation effects with job demands, autonomy and job resources as independent variable (IV), job satisfaction as dependent variable (DV) and work-life balance and autonomy as mediators (M).

Independent variable (IV)	Mediator	Dependent variable (DV)	Total effect (c path)	Direct effect (c' path)	Indirect effect	IV → M (a path)	M → DV (b path)
Job demands	Work-life balance	Job satisfaction	-.21**	-.08	-.13*** [-.20, -.08]	-.54***	.25***
Autonomy	Work-life balance	Job satisfaction	.47***	.32***	.14*** [.09, .20]	.75***	.19***
Job resources	Autonomy	Job satisfaction	.78***	.69***	.08*** [.04, .13]	.39***	.21***

Note. Standardized results based on 1000 bootstraps. Bias corrected. 95% confidence interval. * $p < .05$, ** $p < .01$, *** $p < .001$; N=758.

Discussion

The aim of this research was to identify the interrelationships between job demands and job resources, work-life balance, autonomy and job satisfaction. Findings from this study do not support the first hypothesis as job demands and job resources do not have a relationship. This finding is in contrast with recent studies indicating a relationship between high job demands and low job resources based on the job demands-resources (JD-R) model (Demerouti et al. 2001; Bakker, Demerouti, & Euwema, 2005; Schaufeli & Taris, 2011). A possible explanation is that demographical differences between the participants could result in dissimilar interpretations of the questions concerning job demands and job resources. Perhaps a certain deviation in experiencing and interpreting one's work circumstances cannot be eliminated completely and may result in a not demonstrable relationship between those two concepts.

Additionally, the findings of this research suggest that job demands are negatively related to work-life balance, which is in line with previous studies on the relationship and the impact of high job demands on work-life balance (e.g. Thomas & Ganster, 1995; Maxwell, 2005; Valcour, 2007). When job demands are high, which means for example that employees need to work extra hours to meet the expectations of their employer, workers cannot meet the responsibilities they have at home with their relatives. Thus, the second hypothesis is confirmed.

The third hypothesis is confirmed as well since job resources are positively related to autonomy. The correlation between those concepts is, compared to correlations of the remaining concepts, relatively high. A possible explanation could be that autonomy is considered to be part of job resources in previous research (e.g. Demerouti et al., 2001; Taris & Feij, 2004), which explains the high correlation. However, to test whether job resources and autonomy do not overlap, the concepts were tested on multicollinearity. This assumption is fulfilled, thus the positive relationship between job resources and autonomy can be seen as significantly shown.

Furthermore, the fourth hypothesis is confirmed since autonomy is positively related to work-life balance. This is consistent with recent research of Beauregard and Henry (2009) in which they suggest that supporting positive job-related attitudes,

such as the possibility to act autonomously and make independent choices within one's work environment leads to a well balanced work and private life.

Additionally, this research suggests that work-life balance as well as autonomy are positively related to job satisfaction, which supports the fifth and sixth hypothesis. This is in line with the findings of Saltzstein, Ting and Saltzstein (2001) who suggested in their research that work-life balance is the strongest predictor of job satisfaction. Besides that, Stoddard, Hargraves and Vratil (2001) suggest a highly negative impact of eroded autonomy on job satisfaction, which supports the findings of this study that high autonomy results in high job satisfaction.

The seventh hypothesis is supported by the finding of this study due to the shown mediating effect of work-life balance on the relation between job demands and job satisfaction. This finding confirms previous research of Chiang, Birtch and Kwan (2010) who suggested that employees, who can control their job responsibilities and receive support from their organization by providing work-life balance policies, are less sensitive for job demands which leads to higher job satisfaction.

Furthermore, findings from this study propose that work-life balance at least partial mediates the relationship between autonomy and job satisfaction. The eighth hypothesis is thus partially supported. This is consistent with previous findings on the mediating role of perceived control (e.g. Thomas & Ganster, 1995), wherein autonomy is part of, and work-life imbalance (e.g. Anderson, Coffey, & Byerly, 2002; Choi, 2008) in their relationship with job outcomes and job satisfaction.

This research found a partial mediating effect of autonomy on the relation between job resources and job satisfaction, which supports the ninth and last hypothesis only to a certain extent. This finding is in line with Arches (1991), who suggested that perceived autonomy is a major contributor to job satisfaction in social service workplaces. If employees experience a lack of autonomy, they are more likely to be dissatisfied and most satisfied when they experience autonomy within their work.

Regarding the control variables, the results of this study suggest that age was of added value concerning the interpretation of the considered concepts since the mean age was 42.81 years. It can be assumed that employees of this age do have adequate working and life experience to make accurate judgments when it comes to job demands, job resources, work-life balance, autonomy, and job satisfaction.

Furthermore, the results suggest that younger employees experience higher job demands compared to older employees. Older workers as well experience more autonomy and are more satisfied with their work-life balance compared to their younger counterparts. On the other hand, younger employees are compared to older employees more satisfied with their job and associated responsibilities.

Gender, the second control variable, should have minimal impact on the results because of a well-balanced proportion of male and female participants.

Limitations

This research indicated diverse influences on job satisfaction. However, there are several limitations within this study, involving the collected data and chosen subsample. Based on the EWCS report, “the main challenge in measuring and assessing work and working conditions across Europe is to address the complexity of the situation (different definitions, levels and expectations) in a meaningful and relevant way” (Eurofound, 2012). Several limitations of the survey and the collected data need to be taken into account when analyzing and interpreting the results.

Firstly, the given answers by the participants are self-reported, which cannot be objectively observed by an external assessor who collects the data. Therefore, certain subjectivity needs to be taken into account by interpreting the data. Secondly, not all questions of the questionnaire are validated in all the surveyed countries, which could lead to distorted interpretations of the data. Thirdly, even though the survey is constructed to allow comparisons across different European countries by being highly harmonized, cultural differences are cannot be ruled out completely, especially when it comes to the interpretation of certain concepts and a completely equal translation of all questions. Fourthly and finally, all results are based on a sample of the European population. Sampling rather than reflecting and observing real differences can cause differences between countries as well (Eurofound, 2012).

Next to the individual and subjective differences in interpreting and answering the questions of the survey, especially the differences in receptiveness to work-life balance, need to taken into account. The mentioned receptiveness depends largely on national cultures in different countries (Maxwell, 2005). This might explain the relatively low internal consistency of the chosen items concerning work-life balance in relation to other concepts. Assuming that the chosen subsample, employees within the public sector in Northwestern Europe, has comparable business and labor market

conditions, this limitation seems of less negative influence for the interpretation of the results.

Nevertheless, the large subsample size (N=770) should be taken into account while analyzing the effect sizes of the correlations. A large sample usually causes significant results, which emphasizes the importance of estimating true effects and relationships based on effect sizes (Lantz, 2013).

Future research

With regard to future research, especially for subsequent revisions of the EWCS, it could provide added value to define the most important concepts concerning work and related aspects such as health, work-life balance and less demarcated concepts as job demands and job resources. By using validated questionnaires to measure those concepts for the EWCS, the interpretation of the results could be more specific and provides the possibility for enhanced comparison with similar scientific research.

Furthermore, this study had its focus on the public sector, because of evidence for more commitment concerning work flexibility, which is considered as essentially to work-life balance, compared to other branches (Mayne et al., 1996; Persaud, 2001). Concerning future research, it could be of interest how work flexibility is considered and treated in other sectors, for instance compared to the private sector which is not under direct state control.

Additionally, since the mean age of the participants of this subsample is averaged ($\bar{x}=42,81$), it could be interesting to investigate the relevance of work-life balance practices for younger employees. Van Huijgevoort (2016) suggests that millennials, usually employees born between 1980 and 1995, are more susceptible for a burnout, which is commonly a result of a non-balanced work and private life. Further research with the focus on this generation could be of added value for science as well as for organizations since this generation already makes up a large part of the labor market.

Practical implications

Based on the results of this study concerning practical implications, there is evidence for the added value of consciously controlling and managing a well-balanced work and private life of employees. Policies, practices, and professional decisions of the employers are of great importance. HRM departments of organizations have the key

role in this process since they determine the strategies concerning their employee management, which ideally result in increased wellbeing and increased performance of their workers. Job satisfaction and affective commitment are results of experienced supervisor and organizational support (Baral & Bhargava, 2008).

Additionally, autonomy is an important factor when it comes to job satisfaction and commitment of an employee. To actively stimulate autonomy, decision-making concerning individual or team responsibilities should be with the staff of an organization (Bakker, 2003).

Summarized, work-life balance and autonomy are positively related to job satisfaction. The responsibility of working self-sufficiently and autonomously and having a balanced work and private life lays largely with the employee, nevertheless employers and organizations can stimulate that process by consciously conducting their HRM policies and strategies.

Conclusion

“Pleasure in the job puts perfection into work”, as stated by Aristotle thousands of years ago, makes job satisfaction to a highly interesting and important concept when it comes to work. The results of this research show direct positive relationships of work-life balance and autonomy with job satisfaction. Furthermore, job resources are positively related to autonomy, which indicates the importance of support from the organization to encourage a similar attitude among their employees. Autonomy is positively related with work-life balance and job demands are negatively related to work-life balance indicating that those concepts need special attention of employers with regards to the commitment to the organization and wellbeing of their employees.

Additionally, this study found a fully mediating effect of work-life balance on the relationship between job demands and job satisfaction. Work-life balance partially mediates the relationship between autonomy and job satisfaction as well as autonomy partially mediates the relation between job resources and job satisfaction.

Lastly, older employees experience better work-life balance and more autonomy, but are less satisfied with their job compared to their younger counterparts.

References

- Adams, G. A., King, L. A., & King, D. W. (1996). Relationships of job and family involvement, family social support, and work-family conflict with job and life satisfaction. *Journal of Applied Psychology, 81*(4), 411-420.
- Allen, T. D., & Russell, J.E. (1999). Parental leave of absence: Some not so family friendly implications. *Journal of Applied Social Psychology, 29*(1), 166-191.
- Allen, T. D. (2001). Family-supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior, 58*, 414-435.
- Anderson, S. E., Coffey, B. S., & Byerly, R. T. (2002). Formal organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes. *Journal of Management, 28*(6), 787-810.
- Arches, J. (1991). Social structure, burnout, and job satisfaction. *Social Work, 36*(3), 202-206.
- Bakker, A. B. (2003). Bevlogen aan het werk: Hoe Nederland haar eigen energiebronnen kan creëren. Verhaar, K. (red.), *Sociale Verkenningen, 4*, 119-141.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources, buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170-180.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309-328.
- Baral, R. & Bhargava, S. (2008). Work-family enrichment as a mediator between organizational interventions for work-life balance and job outcomes. *Journal of Managerial Psychology, 25*(3), 274-300.

- Beauregard, T. A., & Henry, L. C. (2009). Making the link between work-life balance practices and organizational performance. *Human Resource Management Review*, 19(1), 9-22.
- Chiang, F. F. T., Birtch, T. A., & Kwan, H. K. (2010). The moderating roles of job control and work-life balance practices on employee stress in the hotel and catering industry. *International Journal of Hospitality Management*, 29(1), 25-32.
- Choi, J. (2008). Work and family demands and life stress among Chinese employees: The mediating effect of work-family conflict. *International Journal of Human Resource Management*, 19(5), 878-895.
- Danner, F. W., & Lonky, E. (1981). A cognitive-developmental approach to the effects of rewards on intrinsic motivation. *Child Development*, 52, 1043-1052.
- Demerouti, E., Bakker, A. B., Nachreiner, F. & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- Eurofound (2012). *Fifth European Working Conditions Survey*. Luxembourg: Publications Office of the European Union.
- Felstead, A., Jewson, N., Phizacklea, A., & Walters, S. (2002). Opportunities to work at home in the context of work-life balance. *Human Resource Management Journal*, 12(1), 54-76.
- Field, A. (2009). *Discovering Statistics using SPSS*. Sage Publications.
- Finn, C. (2001). Autonomy: An important component for nurses' job satisfaction. *International Journal of Nursing Studies*, 38(3), 349-357.
- Foley, M., Maxwell, G., & McGillivray, D. (1999). The UK context of empowerment: Debating HRM and postmodernity. *Participation and Empowerment International Journal*, 7(6), 163-177.

- Furnham, A. (2005). *The psychology of behavior at work: The individual in the organization*. New York: Psychology Press.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362.
- Glynn, C., Steinberg, I., & McCartney, C. (2002). *Work-life balance: The role of the manager*. Horsham: Roffey Park Institute.
- Gollac, M. (2004, June). *Measuring working conditions*. Unpublished presentation at the meeting on the fourth European Working Conditions Survey, Brussels.
- Greenhaus, J. H., Collins, K. M., & Shaw, J. D. (2003). The relation between work–family balance and quality of life. *Journal of Vocational Behavior*, 63(3), 510-531.
- Guest, D. E. (1997). Human resource management and performance: A review and research agenda. *International Journal of Human Resource Management*, 8(3), 263-276.
- Guest, D. E. (2002). Perspectives on the study of work-life balance. *Social Science Information*, 41(2), 255-279.
- Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, 67, 451-470.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. New York: Wiley.
- Hornby, A. S. (2003). *Oxford Advanced Learner's Dictionary*. Oxford: Oxford University Press.
- IBM Corp. (2016). *IBM SPSS statistics for Macintosh, version 24.0* (Computer software). Armonk, NY: IBM Corp.

- Kalleberg, A. L. (1977). Work values and job rewards: A theory of job satisfaction. *American Sociological Review*, 42, 124-143.
- Kalliath, T., & Brough, P. (2008). Work–life balance: A review of the meaning of the balance construct. *Journal of Management & Organization*, 14(3), 323-327.
- Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285-308.
- Karasek, R.A. (1998). Demand-control model: A social, emotional, and physiological approach to stress risk and active behavior development. In Stellman, J. M. (Eds.), *Encyclopaedia of Occupational Health and Safety* (pp. 34.06-34.14). Geneva: ILO.
- Kinman, G., & Jones, F. (2008). A life beyond work? Job demands, work-life balance, and wellbeing in UK academics. *Journal of Human Behavior in the Social Environment*, 17(1-2), 41-60.
- Kossek, E. E., & Ozeki, C. (1998). Work–family conflict, policies, and the job–life satisfaction relationship: A review and directions for organizational behavior–human resources research. *Journal of Applied Psychology*, 83(2), 139-149.
- Kropf, M. B. (1999). Flexibility initiatives: Current approaches and effective strategies. *Women in Management Review*, 14(5), 177-186.
- Lantz, B. (2013). The large sample size fallacy. *Scandinavian Journal of Caring Science*, 27(2), 487-492.
- Locke, E. A. (1969). What is job satisfaction? *Organizational Behavior and Human Performance*, 4(4), 309-336.
- Maxwell, G. A. (2005). Checks and balances: The role of managers in work-life balance policies and practices. *Journal of Retailing and Consumer Services*, 12, 179-189.

- Mayne, L., Tregaskis, O., & Brewster, C. (1996). A comparative analysis of the link between flexibility and HRM strategy. *Employee Relations*, 18(3), 5-24.
- Persaud, J. (2001). Does the private sector believe that work-life balance is for wimps. *Human Resources*, 38, 40-43, 45.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P.J.D. Drenth, H. Thierry, & C. J. de Wolff (Eds.), *Handbook of Work and Organizational Psychology* (p. 5-33). Hove, UK: Psychology Press.
- Pillinger, J. (2002). The politics of time: Can work-life balance really work? *Equal Opportunities Review*, 107, 18-21.
- Porter, L. W., & Lawler, E. E. III. (1968). *Managerial attitudes and performance*. Homewood, IL: Irwin-Dorsey.
- Rana, E., & Higginsbottom, K. (2002). Work-life balance 'ghettoized'. *People Management*, 8(19), 8.
- Ryan, R. M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality*, 74(6), 1557-1586.
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Science*, 90(6), 1217-1227.
- Saltzstein, A. L., Ting, Y., & Saltzstein, G. H. (2001). Work-family balance and job satisfaction: The impact of family-friendly policies on attitudes of federal government employees. *Public Administration Review*, 61(4), 452-467.

- Schaufeli, W., & Taris, T. W. (2013). The job demands-resources model: A critical review. *Gedrag & Organisatie*, 26(2), 182-204.
- Shabi, R. (2002). Flex appeal. *Management Accounting*, 78(6), 20-21.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*, 7(4), 422.
- Stoddard, J. J., Hargraves, J. L., Reed, M., & Vratil, A. (2001). Managed care, professional autonomy, and income. *Journal of General Internal Medicine*, 16(10), 675-684.
- Sullivan, C., & Lewis, S. (2001). Home-based telework, gender and the synchronization of work and family: Perspectives of teleworkers and their co-residents. *Gender, Work and Organization*, 18(2), 123-145.
- Taris, T. W., & Feij, J. A. (2004). Learning and strain among newcomers: A three-way study on the effects of job demands and job control. *Journal of Psychology*, 138(6), 543-563.
- Thomas, J. C. (2000). Flexible work arrangements: Managing the work family boundary. *Personnel Psychology*, 53(2), 478-481.
- Thomas, L. T., & Ganster, D. C. (1995). Impact of Family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of Applied Psychology*, 80(1), 6-15.
- Valcour, M. (2007). Work-based resources as moderators of the relationship between work hours and satisfaction with work-family balance. *Journal of Applied Psychology*, 92(6), 1512-1523.
- Van Huijgevoort, S. (2016, August 2). Millennials en burn-outs: Echt wel zo uniek? Retrieved from <http://www.rtlz.nl/business/carriere/millennials-en-burn-outs-echt-wel-zo-uniek>

Zimmerman, B. J. (2000). Attainment of self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). San Diego, CA: Academic Press.

Appendix

Selection of original (not recoded) questions of the *European Working Conditions Survey* [EWCS] used for the purpose of this research:

JOB DEMANDS (N = 34 items)

Q23 Please tell me, using the following scale, are you exposed at work to ...?

	All of the time	Almost all of the time	Around $\frac{1}{4}$ of the time	Around half of the time	Around $\frac{3}{4}$ of the time	Almost never	Never	DK	Refusal
A - Vibrations from hand tools, machinery, etc.	1	2	3	4	5	6	7	8	9
B - Noise so loud that you would have to raise your voice to talk to people	1	2	3	4	5	6	7	8	9
C - High temperatures which make you perspire even when not working	1	2	3	4	5	6	7	8	9
D - Low temperatures whether indoors or outdoors	1	2	3	4	5	6	7	8	9
E - Breathing in smoke, fumes (such as welding or exhaust fumes), powder or dust (such as wood dust or mineral dust) etc.	1	2	3	4	5	6	7	8	9
F - Breathing in vapours such as solvents and thinners	1	2	3	4	5	6	7	8	9
G - Handling or being in skin contact with chemical products or substances	1	2	3	4	5	6	7	8	9
H - Tobacco smoke from other people	1	2	3	4	5	6	7	8	9
I - Handling or being in direct contact with materials which can be infectious, such as waste, bodily fluids, laboratory materials, etc	1	2	3	4	5	6	7	8	9

Q24 Please tell me, using the same scale, does your main paid job involve ...?

	All of the time	Almost all of the time	Around $\frac{3}{4}$ of the time	Around half of the time	Around $\frac{1}{4}$ of the time	Almost never	Never	DK	Refusal
A – Tiring or painful positions	1	2	3	4	5	6	7	8	9
B – Lifting or moving people	1	2	3	4	5	6	7	8	9
C - Carrying or moving heavy loads	1	2	3	4	5	6	7	8	9
D – Standing	1	2	3	4	5	6	7	8	9
E - Repetitive hand or arm movements	1	2	3	4	5	6	7	8	9
F - Dealing directly with people who are not employees at your workplace such as customers, passengers, pupils, patients, etc	1	2	3	4	5	6	7	8	9
G - Handling angry clients?	1	2	3	4	5	6	7	8	9
H - Working with computers: PCs, network, mainframe	1	2	3	4	5	6	7	8	9
I - Using internet / email for professional purposes	1	2	3	4	5	6	7	8	9

Q42 Over the last 12 months how often has it happened to you that you have worked in your free time in order to meet work demands?

- 1 – Nearly every day
 - 2 – Once or twice a week
 - 3 – Once or twice a month
 - 4 – Less often
 - 5 – Never
-
- 7 – Not applicable
 - 8 – DK/no opinion (spontaneous)
 - 9 – Refusal (spontaneous)

Q45 And, does your job involve ... ?

	All of the time	Almost all of the time	Around 3/4 of the time	Around half of the time	Around 1/4 of the time	Almost never	Never	DK	Refusal
A – working at very high speed	1	2	3	4	5	6	7	8	9
B- working to tight deadlines	1	2	3	4	5	6	7	8	9

Q47 How often do you have to interrupt a task you are doing in order to take on an unforeseen task?

- 1– Very often -----
- 2– Fairly often -----
- 3– Occasionally -----
- 4– Never -----
- 8– DK/no opinion (spontaneous)--
- 9– Refusal (spontaneous) -----

Q49 Generally, does your main paid job involve ... ?

	Yes	No	DK	Refusal
A – meeting precise quality standards	1	2	8	9
B – assessing yourself the quality of your own work	1	2	8	9
C – solving unforeseen problems on your own	1	2	8	9
D – monotonous tasks	1	2	8	9
E – complex tasks	1	2	8	9
F – learning new things	1	2	8	9

Q51 For each of the following statements, please select the response which best describes your work situation.

	Always	Most of the time	Some-times	Rarely	Never	DK	Refusal	Not Applicable
L – Your job involves tasks that are in conflict with your personal values (NEW)	1	2	3	4	5	8	9	
M – You get emotionally involved in your work (NEW)	1	2	3	4	5	8	9	
N- You experience stress in your work (NEW)	1	2	3	4	5	8	9	
P – Your job requires that you hide your feelings (NEW)	1	2	3	4	5	8	9	

Q66 Do you think your health or safety is at risk because of your work?

1 - Yes

2 – No

8 - DK/no opinion (spontaneous)

9 - Refusal (spontaneous)

Q67 Does your work affect your health, or not?

1 – Yes, mainly positively

2 – Yes, mainly negatively

3 – No

8 - DK/no opinion (spontaneous)

9 - Refusal (spontaneous)

JOB RESOURCES (N = 20 items)

Q30 Regarding the health and safety risks related to performance of your job, how well informed would you say you are?

- 1 - Very well informed - Well informed
- 3 - Not very well informed
- 4 - Not at all well informed

- 8 - DK/no opinion (spontaneous)
- 9 - Refusal (spontaneous)

Q49 Generally, does your main paid job involve ... ?

	Yes	No	DK	Refusal
F – learning new things	1	2	8	9

Q51 For each of the following statements, please select the response which best describes your work situation.

	Always	Most of the time	Some-times	Rarely	Never	DK	Refusal	Not Applicable
A –Your colleagues help and support you (MODIFIED TREND)	1	2	3	4	5	8	9	7
B – [ASK EMPLOYEE ONLY, Q6=3] Your manager helps and supports you (MODIFIED TREND)	1	2	3	4	5	8	9	7
D- You are involved in improving the work organisation or work processes of your department or organisation (NEW)	1	2	3	4	5	8	9	7
H – Your job gives you the feeling of work well done (TREND 2005)	1	2	3	4	5	8	9	
J – You have the feeling of doing useful work (TREND 2005)	1	2	3	4	5	8	9	
K – You know what is expected of you at work (NEW)	1	2	3	4	5	8	9	

Q61 Over the past 12 months, have you undergone any of the following types of training to improve your skills or not?

	Yes	No	DK	Refusal
A - Training paid for or provided by your employer or by yourself if self-employed	1	2	8	9
B - Training paid for by yourself	1	2	8	9
C - On-the-job training (co-workers, supervisors)	1	2	8	9

Q61_1 Do you agree or disagree with the following statements describing some aspects of the training?

	Agree	Disagree	DK	Refusal
A - The training has helped me improve the way I work	1	2	8	9
B - I feel that my job is more secure because of my training	1	2	8	9
C - I feel my prospects for future employment are better	1	2	8	9

Q58 In general, your immediate manager / supervisor

	Yes	No	DK	Refusal
A - Provides you with feedback on your work	1	2	8	9
B - Respects you as a person	1	2	8	9
C -Is good at resolving conflicts	1	2	8	9
D - Is good at planning and organising the work	1	2	8	9
E - Encourages you to participate in important decisions	1	2	8	9

Q64. At your workplace, does management hold meetings in which you can express your views about what is happening in the organisation ?

1 - Yes

2 - No

8 – DK/no opinion (spontaneous)

9 - Refusal (spontaneous)

AUTONOMY (N = 17 items)

Q46 On the whole, is your pace of work dependent, or not, on ... ?

	Yes	No	DK	Refusal	Not Applicable
A – the work done by colleagues	1	2	8	9	
B – direct demands from people such as customers, passengers, pupils, patients, etc.	1	2	8	9	
C – numerical production targets or performance targets	1	2	8	9	
D – automatic speed of a machine or movement of a product	1	2	8	9	
E – the direct control of your boss	1	2	8	9	7

Q50 Are you able to choose or change ... ?

	Yes	No	DK	Refusal
A – your order of tasks	1	2	8	9
B – your methods of work	1	2	8	9
C – your speed or rate of work	1	2	8	9

Q51 For each of the following statements, please select the response which best describes your work situation.

	Always	Most of the time	Some-times	Rarely	Never	DK	Refusal	Not Applicable
C – You are consulted before targets for your work are set (NEW)	1	2	3	4	5	8	9	7
E - You have a say in the choice of your working partners (MODIFIED TREND)	1	2	3	4	5	8	9	7
F – You can take a break when you wish (MODIFIED TREND)	1	2	3	4	5	8	9	
G – You have enough time to get the job done (TREND)	1	2	3	4	5	8	9	
I - You are able to apply your own ideas in your work (TREND 2005)	1	2	3	4	5	8	9	
O – You can influence decisions that are important for your work (NEW)	1	2	3	4	5	8	9	

Q57 For the team in which you work mostly, do the members decide by themselves...?

	Yes	No	DK	Refusal
A - ... on the division of tasks	1	2	8	9
B - ... who will be head of the team	1	2	8	9
C - ... the timetable of the work	1	2	8	9

WORK-LIFE BALANCE (N = 2 items)

Q41 In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well?

- 1 - Very well
- 2 - Well
- 3 - Not very well
- 4 - Not at all well

- 8 - DK/no opinion (spontaneous)
- 9 - Refusal (spontaneous)

Q43. Would you say that for you arranging to take an hour or two off during working hours to take care of personal or family matters is ... ?

- 1- Not difficult at all
- 2 – Not too difficult
- 3– Somewhat difficult
- 4 – Very difficult

- 8 – DK/no opinion (spontaneous)
- 9 – Refusal (spontaneous)

JOB SATISFACTION (N = 5 items)

Q77 How much do you agree or disagree with the following statements describing some aspects of your job?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable (spontaneous)	DK (spontaneous)	Refusal (spontaneous)
B - I am well paid for the work I do	5	4	3	2	1	7	8	9
C - My job offers good prospects for career advancement	5	4	3	2	1	7	8	9
D - I feel 'at home' in this organisation	5	4	3	2	1	7	8	9
E - I have very good friends at work	5	4	3	2	1	7	8	9
G – The organisation I work for motivates me to give my best job performance (NEW)	5	4	3	2	1	7	8	9