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QUALITY OF WORK AND EMPLOYMENT IN BELGIUM

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INTRODUCTION

This volume present the findings of a research project on the quality of work and employment in Belgium. All findings are based on analyses of different Belgian experts on the data collected through the European Working Conditions Survey.

Since its launch in 1990 the European Working Conditions Survey (EWCS) has provided an overview of working conditions in Europe in order to assess and quantify working conditions of both employees and the self employed across Europe on a harmonised basis, analyse relationships between different aspects of working conditions, identify groups at risk and issues of concern as well as of progress, monitor trends by providing homogeneous indicators on these issues, and contribute to European policy development.

The scope of the survey questionnaire has widened substantially since the first edition, aiming to provide a comprehensive picture of the everyday reality of men and women at work. Gender mainstreaming has been an important concern in recent reviews of the questionnaire.

Themes covered today include employment status, working time duration and organisation, work organisation, learning and training, physical and psychosocial risk factors, health and safety, work-life balance, worker participation, earnings and financial security, as well as work and health.

In each wave a random sample of workers (employees and self-employed) has been interviewed face to face. Following the European enlargements the geographical coverage of the survey has expanded. In the first EWCS-workers in EC12 were surveyed in 1990. In the latest, fifth wave of the EWCS, almost 44,000 workers were interviewed in 2010, covering 34 countries - EU27, Norway, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Albania, Montenegro and Kosovo - making this wave the most comprehensive one so far, in terms of geographical coverage.

In the 2010 survey, the target sample size in most countries was 1,000. Exceptions were Germany and Turkey (target sample size of 2,000), and Italy, Poland and the UK (with a target sample size 1,500). Moreover, three countries decided to finance bigger national samples resulting in a target sample size of 4,000 in Bel-

gium, 3,000 in France and 1,400 in Slovenia. Raising the number of respondents resulted in a more complete coverage of sectors and occupations and smaller confidence intervals leading to a higher reliability of findings.

As the Belgian government financed an extra sample of this survey, there has been an opportunity to map these results with a particular national focus. A consortium of Belgian researchers has been contacted to work out a report with a particular interest in the quality of work and employment in Belgium, based on the information collected through the Belgian EWCS in 2010.

The interest in this report is providing an overview of the quality of work and employment in Belgium. In general, two paths have been followed in this exercise. First of all, a list of indicators has been developed to bring more insight in the concept of quality of work. Secondly, the impact of work on several outcome indicators has been measured to assess the quality of work. Bluntly said, when work is making people sick, there is a problem with the quality of this work.

This approach has, just as any other approach using information collected through surveys, the risk of losing the information of respondents that did not answer the questionnaire in total. A good example is the information on the wages of workers, a question traditionally badly reported by quite a lot of respondents in surveys. Although we have used many questions of the EWCS, often asking for specific information about the employment situation of respondents, the dropout has been limited. Most analyses can be performed on a sample of approximately 3,000 Belgian workers.

This sample has information on both employees and self-employed people. Although information on the quality of work quite often refers to the relationship between an employer and an employee, we have included information on the quality of work of self-employed people in several sections. These sections enable the Belgian public to have an insight in the different job quality according to the position on the labour market.

Furthermore, the extended database allowed us to perform a cluster analysis to regroup all respondents in categories that represent a particular job quality type. This technique has the disadvantage that observations are lost in the particular case that a lot of sensitive variables (*e.g.* wages) are part of the analysis. The high number of observations has allowed us to analyse the quality of work of the Belgian working population in this way, and to develop a typology of job quality types on the Belgian labour market. We could still keep about 2,400 observations, more than enough to describe the variety in job quality on the labour market from a statistical viewpoint.

We used the EWCS to get a better view on the relation between job quality and particular outcomes such as health, absenteeism or job insecurity. As the survey is collected at the level of an individual worker, we only get a view of the consequences of good and/or bad quality work at this level. It is evident that we expect good quality work also to have a good outcome at the level of a company (*e.g.* on

productivity levels or turnover of personnel), but testing this kind of hypotheses is not part of this report.

This report has approached the issue of quality of work and employment in Belgium in five different chapters, each of them tackling a particular issue related with job quality by an expert researcher. This method has resulted in five different chapters worked out from a different perspective, but in the end raising the insight in the subject in a complementary way.

In the first chapter Tom Vandenbrande and Sem Vandekerckhove develop the framework of indicators that will be used throughout the volume. The EWCS has a lot of information on job quality, and reporting on all questions would only bring less clarity in the subject. The first chapter reduced this information and came up with a list of 22 essential job quality indicators and ten indicators on job quality outcomes. In a second step, this information was used to divide the Belgian workers in seven groups, each of them confronted with a particular job quality type. Full-time balanced work is distinguished from emotionally demanding work or work on flexible and unusual hours. Furthermore, we typify jobs as saturated jobs, work with limited career prospects, heavy repetitive work and indecent work. These seven job types remain at central stage in this first chapter and are used at several moments in the following chapters. The first chapter explores the division of these seven job types on the Belgian labour market and assesses the outcomes of the different job quality types.

Patricia Vendramin and Gérard Valenduc picture the work sustainability on the Belgian labour market. The consideration of the remaining low employment rate of older workers in Belgium is the starting point of their exposé. The idea worked out is that workers will have a longer career when they are offered more sustainable work, *i.e.* work of a decent quality. The chapter indicates what quality elements can be crucial in this regard.

In Chapter III, Isabelle Hansez explores the impact of work on health on the Belgian labour market. The chapter starts with a general view on the health of workers on the Belgian labour market. The next parts of the chapter indicate what individual and organisational characteristics are linked with the best health outcomes, and what kind of work guarantees a healthy worker.

Rik Huys asks to pay more attention to the issue of job design in case of restructuring in Chapter IV. On the current labour market, restructuring is a reality for many employees. Quite often, these processes have a negative impact on workers' health. One of the antecedents for this problematic outcome is the increase of job demands and limited job control for employees in case of restructuring. The analyses underline that this negative impact on workers' well being can be limited when 'active jobs' are promoted in the restructuring of the work organisation.

The fifth chapter, by Christophe Vanroelen, Vanessa Puig-Barrachina, Kim Bosmans and Hans De Witte, calculates the prevalence of precarious employment on the Belgian labour market. They conceptualise precariousness with a set of

eight indicators. The EWCS-data are used to present figures on the prevalence of precariousness in different labour market segments and within different groups on the labour market. Furthermore, they report on the link between precariousness and the seven different job quality types and on the outcomes of precarious work on the Belgian labour market.

The concluding chapter supports a policy enhancing work quality in Belgium. The chance to enjoy good quality work and the risk to perform bad quality work is not evenly distributed within the working population. Gender, occupation, sector and company size are important determinants for the job quality of employees. And at the same type a different kind of work quality is associated with different health outcomes, with particularly 'full-time balanced work' being linked to good outcomes. A main job quality determinant on work related health risks is of course a safe workplace. Violence and harassment is a second element with very negative health outcomes. These result back the current Belgian legal framework strongly focusing on risk prevention and with particular attention for violence and harassment at work. Furthermore, a good social climate and controlling emotional pressure and speed pressure seem to be vital in a good quality of work policy.

CHAPTER I
QUALITY OF WORK IN BELGIUM

Tom Vandenbrande, Sem Vandekerckhove

1. Introduction

This introductory chapter will set the tone for the quality of work analyses in this volume. We will briefly present the conceptual framework for the analyses on the relationship between the quality of work and the health outcomes of workers. In a second paragraph we will explore the EWCS on latent factors that correspond to our conceptual model, and develop a set of 22 quality of work indicators and 10 outcome variables to be explored in this and other chapters of this volume.

In a next step, we will present the particular job quality (mix) of seven clusters of workers on the Belgian labour market. These clusters will be the result of latent cluster analysis using the 22 indicators developed in the first part. Best quality jobs will be distinguished from worst quality jobs, and from intermediate job quality types such as full-time balanced work, work with limited career prospects, work on flexible and unusual hours, emotionally demanding work and heavy repetitive work. This taxonomy of job types on the Belgian labour market will be the connecting thread throughout this volume.

In this chapter, the variation in job quality on the Belgian labour market will be illustrated by describing the distribution of the seven job quality according to individual and organisational characteristics. Furthermore, we will explore the job quality outcomes of these seven job quality types. In the subsequent chapters, a more detailed analysis will be presented on a selection of interesting findings in this descriptive chapter.

The final section in this chapter puts the quality of work of Belgian employees in a European perspective. A new cluster analysis regroups all European countries according to the dominant quality of work in the different Member States. Belgium is clustered in a group with Austria, Luxembourg and Germany.

2. Conceptual framework

2.1 Quality of work in indicators

Improving the quality of jobs has been introduced into the European Employment Strategy at the Lisbon summit in 2000, summarised in the formula of 'more and better jobs'. Europe not only envisages full employment, but also good quality employment ever since. Most observers agree on the fact that Europe has successfully created 'more jobs'. There is a general consensus in Europe on how to monitor this goal. Figures on the employment rate from the Labour Force Survey serve as the indicator to measure progress on this goal. Consequently, no one will deny that both the number of employed persons and the European employment rate has grown between 2000 and 2010. Europe has realised 'more jobs' although the employment rate of 64.2% in 2010 is beyond the 70% target.

It has been much more challenging to have a good estimation whether jobs have become 'better' than before. Europe published a list of indicators to be used for monitoring quality of work, but Davoine, Erhel and Guergoat-Larivière (2008) argued that the socio-economic literature does not appear to have reached a clear consensus on a definition of variables to include in a broad set of indicators on quality of work. Following the policy interest in quality of work in 2001, a range of studies and initiatives has been developed in Europe to tackle the issue of measuring the quality of work and employment. In relatively short time, various indicator sets for the quality of work in the EU have been compiled. Munoz-Bustillo *et al.* (2009) revised 19 different indicators of job quality and came up with a model of job quality based on two areas (work quality and employment quality) and a list of essential components, and - in doing so - proposed a 20th list of indicators on job quality. Looking at these different efforts there seems to be a widespread consensus among labour economists, sociologists and work psychologists that evaluations of job quality should reflect multiple components. The 'clear candidate variables' for an index of job quality Munoz-Bustillo *et al.* have selected as a result of their revision include income (wages and social benefits), working time, flexibility and job security, participation, skill development, autonomy, physical and psychosocial risks, work intensity and meaningfulness of work.

A more recent review (Holman & McClelland, 2011) on existing classifications of job quality dimensions introduces a comprehensive conceptual framework using more or less the same essential variables on quality of work. Holman & McClelland suggest to operationalise the multidimensionality of job quality in three areas, covering five dimensions. The main areas and dimensions of job quality are i) work quality, which includes the dimension of work organisation, ii) employment quality, which includes the dimensions of wages and payment system, security and flexibility, iii) and empowerment quality which includes the dimensions of skills and development, and engagement and representation. Each dimen-

sion consists of a number of sub-dimensions with different characteristics. For example, work organisation includes the sub-dimensions of job resources (with key characteristics such as job discretion and variety) and job demands (with key characteristics such as workload and physical demands).

Table I-1 Areas, dimensions, sub-dimensions and characteristics of job quality

Area	Dimension	Sub-dimension	Characteristics
A. Work quality	1. Work organisation	Job demands	Workload, ambient demands, cognitive demands
		Job resources	Job discretion, social support, autonomous work groups
B. Employment quality	2. Wages and payment system		Wage level, performance related pay, benefits
	3. Security and flexibility	Security	Contractual status
		Flexibility	Flexible working arrangements, working time arrangements
C. Empowerment quality	4. Skills and development		Training provided, opportunity for development
	5. Engagement and representation		Employee engagement and communication practices

Source: Holman & McClelland (2011)

Looking at the local (Belgian) approach to quality of work indicators, we find a remarkable overlap between the contemporary Holman & McClelland summary on objective job quality indicators and the 'four A dimensions' Belgian researchers in quality in work have often referred to (De Rijker & van der Hallen, 1987; Bertrand *et al.*, 1994-1996; Huys, Pollet, Van Hootegem & Wauters, 1997; Le Blanc, de Jonge & Schaufeli, 2000; Ver Heyen & Vandenbrande, 2005). The 'four A dimensions' indicate four different job-related characteristics that need to be of good quality to guarantee a good overall job quality. The A's refer to the four Dutch A-words 'arbeidsinhoud' (job content), 'arbeidsomstandigheden (working conditions), 'arbeidsvoorwaarden' (employment conditions) and 'arbeidsverhoudingen' (social relations at work). In English, we would have to translate this 'four A model' into the less attractively sounding 'JWES' model. Job content refers to the work organisation. It is an expression of the kind of work that has to be done and the work methods to be used by employees. A good job should have quality such as challenging and interesting work, task variation, responsibility, autonomy and learning opportunities. Working conditions refer mainly to the physical circumstances of employees at their working premises. Relevant job characteristics are noisy work floors, high/low temperatures, toxic substances, physically demanding work, dangerous working situations, protective devises *etc.* The interesting question is whether these circumstances do have an impact on the emotional

and/or physical health of workers. The third group of characteristics, the employment conditions, refers to all contractual arrangements between the employer and the employee. These arrangements relate to the wage and all other pay related bonuses, to the contractual security, to working time arrangements (working hours, overtime work, weekend work, ...) and to training opportunities. The social relations at work refer to the way all stakeholders go about with each other in the work organisation. The character of these relations can be both formal (collective bargaining processes, conflict management, meetings, ...) and informal (contact with supervisor, social support from colleagues, ...). The model assumes all of the four characteristics to be important in the assessment of the quality of work.

Table I-2 Job quality characteristics in three approaches: the Belgian 'four A' model, Holman & McClelland and Munoz-Bustillo

Dimension	JWES model Characteristics	Holman & McClelland	Munoz-Bustillo
A. Job content	Work autonomy Workload Work complexity Task variety Role ambiguity	*Cf.* work quality area	Work autonomy Intensity of work Meaningfulness of work
B. Working conditions	Toxic substances Physically demanding work Dangerous situations Work hygiene Use of protective devices	-	Physical working conditions Psychosocial risk factors
C. Employment conditions	Low pay Contractual arrangements Shift work Job security Career opportunities	*Cf.* employment quality area and skills and development dimension	Wage level Benefits complementing worker's income Working hours Work schedules and time flexibility Job security Skills development
D. Social relations at work	Leadership Social support Participation in decision making	*Cf.* engagement and representation dimension	Participation

Table I-2 summarises these characteristics and indicates the overlap between the locally applied quality of work model and the two other international quality of work conceptualisations discussed above. The conclusion is that there is a consensus that a conceptual framework on quality of work needs to cover a variety of areas and indicators. This system of areas or indicators is generally expected to in-

clude income, work organisation and climate, pay and reward systems, skills and career development, working time, flexibility, job security, and engagement and representation.

In this volume we will empirically deduct relevant indicators on quality of work and employment in Belgium based on the EWCS-data (see further).

2.2 The outcomes of good/bad quality of work

The reason for the policy attention for job quality is that jobs do not exist in isolation. A given set of work characteristics will depend on the social policy of a country (*e.g.* on behalf of family-friendly provisions) or the industrial relations in a company. The quality of work (mix) will be different according to characteristics on individual level, on company level and on macro level. Particularly relevant for chapters in this volume are the age-related differences on employee level, and the elements related to company restructuring on company level.

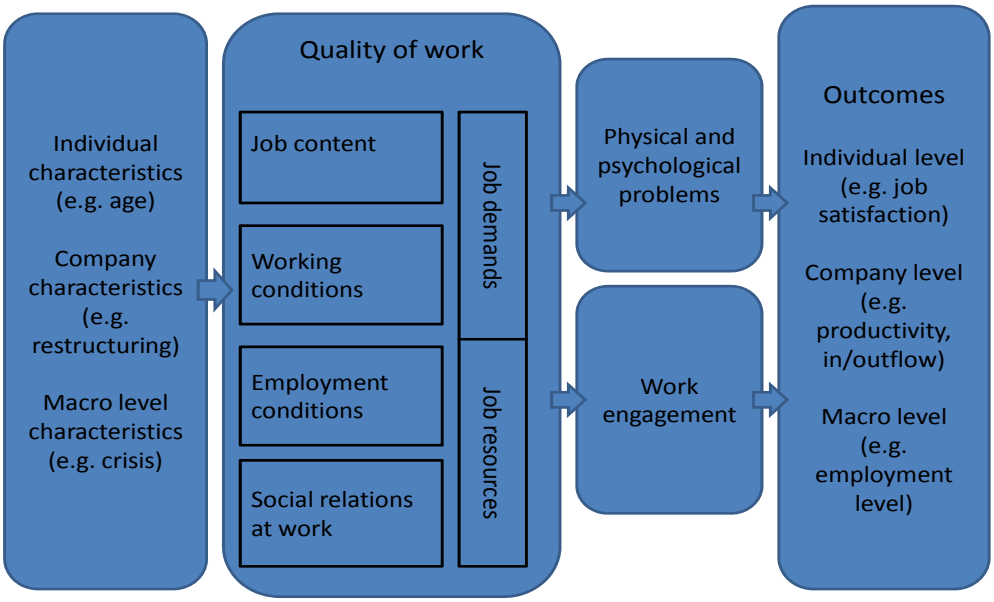

Figure I-1 Analytical framework

Policy makers have not only interest in the quality of work because of the contextual contingency, but all the more because of the outcomes of precarious work quality levels. Particularly the expected negative impact on workers' health of bad quality jobs encouraged policymakers to put this issue on the agenda. Comparative analyses have indeed suggested a link between organisational models and health (Valeyre, 2006). While new organisational models took place, potentially

more favourable to workers' well-being, the surveys on working conditions and occupational risks demonstrate a deterioration of working conditions and health problems. The previous waves of the EWCS show a slow but continuous deterioration of working conditions (painful positions, exposure to risks, high speed, short deadline, atypical working time, ...) (Merlié & Paoli, 2001). Such trends induce an increased number of health problems perceived as linked to work, notably infra-pathological troubles (general tiredness, back pain, headache) but also psychosocial troubles.

Health problems and work engagement are considered as direct outcomes of good or bad job quality.

The outcomes of job quality can be conceptualised according to two dimensions: the type of outcome, whether it relates to well-being or performance, and; the level of outcome, whether it occurs at an employee, organisational or societal level (Holman & McClelland, 2011). On an individual level, the worker will express more or less career and employment security, realise a certain level of skill development and/or enjoy a good reconciliation of working and non-working life. On a company level, productivity levels, workers' mobility and/or absence rates will be influenced by the quality of work offered. And on a macro level, we may have a higher employment rate as good quality jobs can attract inactive people to the labour market and/or keep older workers at work.

A third dimension to divide job quality outcomes we'd like to introduce is the division between positive and negative outcomes of job quality, between stress outcomes and motivational aspects related to job characteristics. The traditional way to analyse job quality has focused on problematic outcome scores (De Witte *et al.*, 2010). Policy makers have mainly shown interest in preventing accidents at work, reducing absence rates or tackling large turnover figures, and consequently focus on outcome ratio's measuring these negative outcomes. Figure I-2, showing that employees suffer more from depression or anxiety in case they experience stress at work, is a perfect illustration of this approach. Although unhealthy results of work life should be avoided, a complete analysis of job quality outcomes must encompass also drivers of positive experiences at work. Work life provides opportunities for exceptional performance, joyous experiences, and deep fulfilment (Maslach, Leiter & Schaufeli, 2009). Figure I-3 illustrates that employees are better motivated to give their best job performance in case they feel they are able to choose the order of the tasks they have to perform. A more balanced view, not only explaining what causes stress but also indicating what motivates employees, will enrich the research findings.

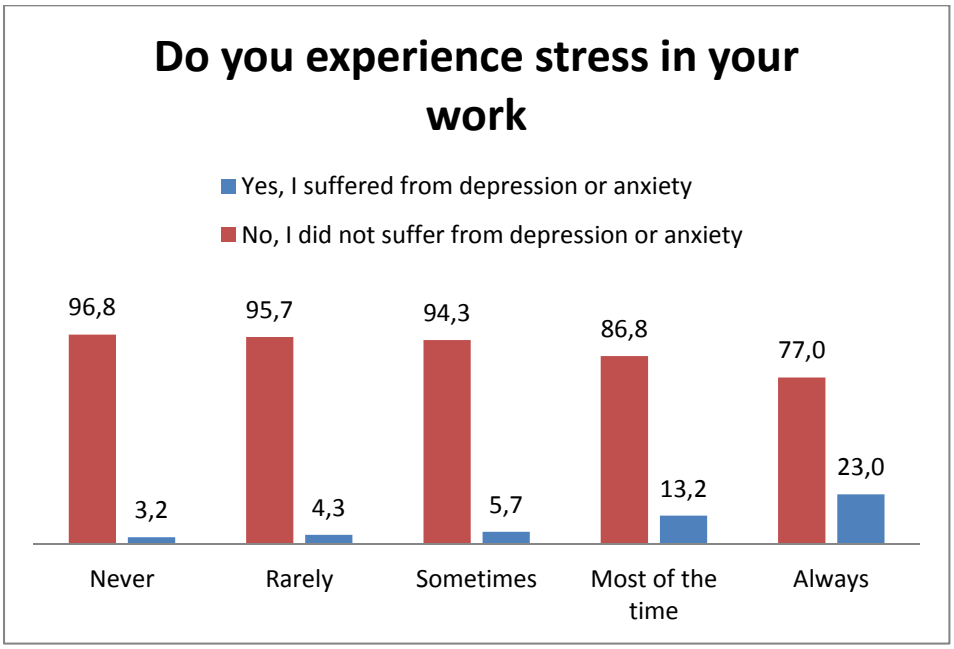

Figure I-2 Share of employees that suffered from depression or anxiety, according to the experience of stress at work

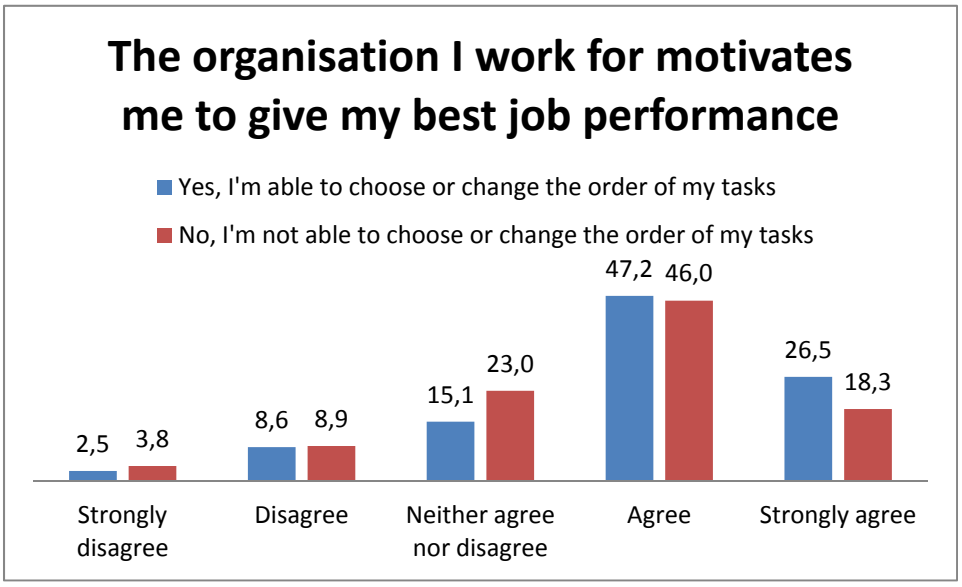

Figure I-3 Share of employees motivated to give the best job performance, according to the ability to choose or change the order of tasks

3. An empirical analysis of the quality of work of Belgian employees – a taxonomy of seven job quality types on the Belgian labour market

In this descriptive part of the report, we will divide all Belgian employees based on their quality of work. We will classify them in different job types, each of them

representing a different job quality constellation. We will construct these different job types based on indicators covering all relevant dimensions of job quality discussed in the previous paragraph. The selection of these relevant dimensions will be guided by the conceptual background of our analytical framework and of the EWCS-questionnaire on the one hand and by the empirical exploration of the EWCS-database on the other hand.

First, we briefly indicate the methodology followed in this analysis and the selected quality of work sub-dimensions we have constructed and used in this report. Next, we describe the different clusters that have been selected to regroup all employees according to their quality of work.

Readers' guide

In the next sections (3.1 and 3.2) you can find more information on how our data was manipulated in order to describe different job quality constellations in the next sections. We have constructed 22 indicators on job quality, and for every single indicator you can find (1) information on the EWCS-questions used to construct the indicator, (2) a short presentation of the indicator, (3) histograms illustrating the distribution of the values on the indicator of all Belgian employees and the breakdown used to dichotomise the indicator in cluster analyses in consecutive chapters, and (4) tables presenting breakdowns of the indicator by gender, age categories and educational level. Section 3.2 compares the scores of employees with the scores of self employed workers.

People not interested in this background information can skip this section and immediately start reading the presentation of seven job quality types on the Belgian labour market in section 3.3.

3.1 Selection of quality of work indicators in this volume

The construction of the job quality components for analyses in this volume involved first of all a selection of the relevant variables for the quality of work model determined in the previous paragraph. All relevant variables in the EWCS-database were classified in four big groups, each of them covering the broad 'four A' dimensions: job content, social relations, working conditions and employment conditions.

In the next step the number of variables was reduced through constructs within each of the four 'A' dimensions. When questions in the EWCS could be regarded as manifestations of latent variables, we used factor analysis to look for correlating items. This strategy worked well for 'job content' and 'social relations' dimensions, but not for dimensions on 'working conditions' and 'employment conditions'. For the constructs within these two dimensions, we have respected the sets of questions in the EWCS.

For more detailed information on this data manipulation we refer to the methodological annex[1] for this report. We finally reduced all relevant EWCS-variables into 22 job quality sub-dimensions. Table I.3 summarises these 22 job quality sub-dimensions and indicates the EWCS-information that has been used to construct the sub-dimensions. At first sight we find all relevant indicators used in the different quality of work models, ensuring that any conceptualisation of quality of work remains possible based on this list of 22 indicators.

1 Available from the authors.

Table I-3 Summary of the quality of work sub-dimensions used in this report

Dimension/Sub-dimension	Information used	EWCS-questions used
Job content		
Autonomous team work	Does your job involve rotating tasks between yourself and colleagues?/Do you work in a group or team that has common tasks and can plan its work?/For the team in which you work mostly, do the members decide by themselves, ... on the division of tasks?; who will be head of the team?; the timetable of the work?	Q53/Q56/Q57a/ Q57b/Q57c
Emotional pressure	On the whole, is your pace of work dependent, or not, on direct demands from people such as customers, passengers, pupils, patients, etc?/You get emotionally involved in your work/You experience stress in your work/Your job requires that you hide your feelings.	Q46b/Q51m/Q51n/ Q551p
Repetitive tasks	Does your job involve short repetitive tasks of less than 1 minute/10 minutes?	Q44a/Q44b
Speed pressure	Does your job involve working at very high speed/tight deadlines? On the whole, is your pace of work dependent, or not, ... on the work done by colleagues?; on numerical production targets or performance targets?; on automatic speed of a machine or movement of a product?; on the direct control of your boss./Do you have enough time to get the job done?	Q46a/Q46c/Q46d/ Q46e/Q51g
Task autonomy	Are you able to choose or change your order of tasks/methods of work/peed or rate of work?	Q50a/Q50b/Q50c
Task complexity	Generally, does your main paid job involve meeting precise quality standards/assessing yourself the quality of your own work/solving unforeseen problems on your own/monotonous tasks/complex tasks/learning new things?	Q49a/Q49b/Q49c/ Q49d/Q49e/Q49f
Working time autonomy	How many people work under your supervision, for whom pay increases, bonuses or promotion depend directly on you?/How are your working time arrangements set?/You can take a break when you wish./You can influence decisions that are important for your work.	Q17/Q39/Q51f/ Q51o

Table I-3 Summary of the quality of work sub-dimensions used in this report. Next

Dimension/Sub-dimension	Information used	EWCS-questions used
Working conditions		
Risks	Work related musculoskeletal disorders: Are you exposed at work to vibrations from hand tools, machinery, etc?/Does your main paid job involve, ... tiring or painful positions?; lifting or moving people?; carrying or moving heavy loads?; standing?; repetitive hand or arm movements?; Biochemical risks: Are you exposed at work to, ... breathing in smoke, fumes, powder or dust etc?; breathing in vapours such as solvents and thinners?; handling or being in skin contact with chemical products or substances?; handling or being in direct contact with materials which can be infectious, such as waste, bodily fluids, laboratory materials, etc? Ambient risks: Are you exposed at work to, ... noise so loud that you would have to raise your voice to talk to people?; high temperatures which make you perspire even when not working?; low temperatures whether indoors or outdoors?	Q23a/Q24a/Q24b/ Q24c/Q24d/Q24e// Q23e/Q23f/Q23g/ Q23i//Q23b/Q23c/Q 23d
Dealing with people	Does your main paid job involve, ... dealing directly with people who are not employees at your workplace such as customers, passengers, pupils, patients, etc?; handling angry clients, patients?	Q24f/Q24g
Fixed workplace	Where is your main place of work? My employers ''my own business' premises/Clients' premises/A car or another vehicle/An outside site/My own home/Other. Have you worked in any other location in the past 3 months? My employers' premises/Clients' premises/A car or another vehicle/An outside site/Own home/Other.	Q26/Q27
Employment conditions		
Career opportunities	My job offers good prospects for career advancement?	Q77c
Contract	What kind of employment contract do you have?	Q7
Earnings	Wage basket: Thinking about your earnings from your main job, what do they include? piece rate or productivity payments?/extra payments for additional hours of work/overtime?/extra payments compensating for bad or dangerous working conditions?/extra payments compensating for Sunday work?/other extra payments?/payments based on the overall performance of the company where you work?/income from shares in the company you work for?/advantages of other nature? Income: How much are your net monthly earnings from your main paid job?/What letter (= interval) best matches your total net earnings from your main job?	EF7b/EF7c/EF7d/ EF7e/EF7f/EF7g/ EF7i/EF7j//EF10/ EF11

Table I-3 Summary of the quality of work sub-dimensions used in this report. Next

Dimension/Sub-dimension	Information used	EWCS-questions used
Employment conditions		
Full-time work	How many hours do you usually work per week in your main paid job?	Q18
Training	Over the past 12 months, have you undergone any of types of training to improve your skills or not? training paid for or provided by your employer or by yourself if self-employed; training paid for by yourself; on-the-job training.	Q61a/Q61b/Q61c
Unusual working hours	Normally, how many times a month do you work, ... at night, for at least 2 hours between 10.00 pm and 05.00 am?; in the evening, for at least 2 hours between 6.00 pm and 10.00 pm?; on Sundays?; on Saturdays?; more than 10 hours a day?	Q32/Q33/Q34/Q35/ Q36
Working time flexibility	Do you work, ... the same number of hours every day?; the same number of days every week?; the same number of hours every week?; fixed starting and finishing times?; on call?; shifts? Do changes to your work schedule occur regularly and if so, how long before are you informed about these changes? 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?	Q37a/Q37b/Q37C/ Q37d/Q37e/Q37f/ Q40/Q42
Social relations		
Say	You are consulted before targets for your work are set./You are involved in improving the work organisation or work processes of your department or organisation./You have a say in the choice of your working partners./In general, your immediate manager or supervisor encourages you to participate in important decisions.	Q51c/Q51d/Q51e/ Q58e
Supportive management	In general, your immediate manager or supervisor, ... provides you with feedback on your work.; respects you as a person.; is good at resolving conflicts.; is good at planning and organizing the work.	Q58a/Q58b/Q58c/ Q58d
Social support	Your colleagues help and support you./Your manager helps and supports you.	Q51a/Q51b
Violence and harassment	Over the past 12 months, during the course of your work have you been subjected to, ... physical violence?; bullying or harassment?; sexual harassment?	Q71a/Q71b/Q71c
Voice	At your workplace, ... is there an employee acting as an employee representative?; does management hold meetings in which you can express your views about what is happening in the organisation?	Q63/Q64

Seven sub-dimensions refer to job content characteristics. The sub-dimension 'autonomous team work' takes account of task rotation between colleagues, working in a team with common tasks, and with decisions in teams on the work organisation. The average score of this construct for Belgian employees is 0.34.

'Emotional pressure' refers to the dependency of the work pace on other people, and on different expressions of the emotional pressure of the work context. For instance, the statement whether 'the job requires that you hide your feelings' is part of this sub-dimension. The new variable is normally distributed and averages 0.49 in the Belgian economy. Emotional pressure is higher amongst women, middle aged an older people and higher educated workers.

A third sub-dimension scores the employees who answer their job involves short 'repetitive tasks' of less than 1 or 10 minutes. This kind of work is more frequent for low educated workers.

'Speed pressure' summarises the information in the EWCS on high speed work, the external control of pace and the lack of time to get the job done. The average score of this construct in Belgium is 0.35. Again, lower educated people have a higher score on this sub-dimension.

The demands at work can be made more amenable by enabling worker to decide how to respond to these demands. 'Task autonomy' sums up the scores of respondents on three questions referring to the task autonomy of workers, *i.e.* the ability to choose or change the order of tasks, the work methods and the speed of work. About 600 respondents have no autonomy at all (and score 0), and 1,800 respondents autonomy on the three different elements (score 1). The average score of employees on task autonomy is 0.69. Task autonomy is higher for women, older workers and higher educated people.

'Task complexity' synthesises the answers of respondents on six questions. The job becomes more complex in case quality standards have to be met, in case unforeseen problems have to be solved, in case new things are learned at work, and in case the job involves complex tasks and not much monotonous tasks. Men, older people and higher educated workers have more complex tasks than females, youngsters and lower educated workers.

Finally, 'working time autonomy' expresses to what extent the employee can decide to work individually when the work is performed. Having people under supervision is taken as an element from this sub-dimension as it is seen as a proxy for the amount of leverage in organizing ones work. Again, the scores are higher amongst men, older people and higher educated workers.

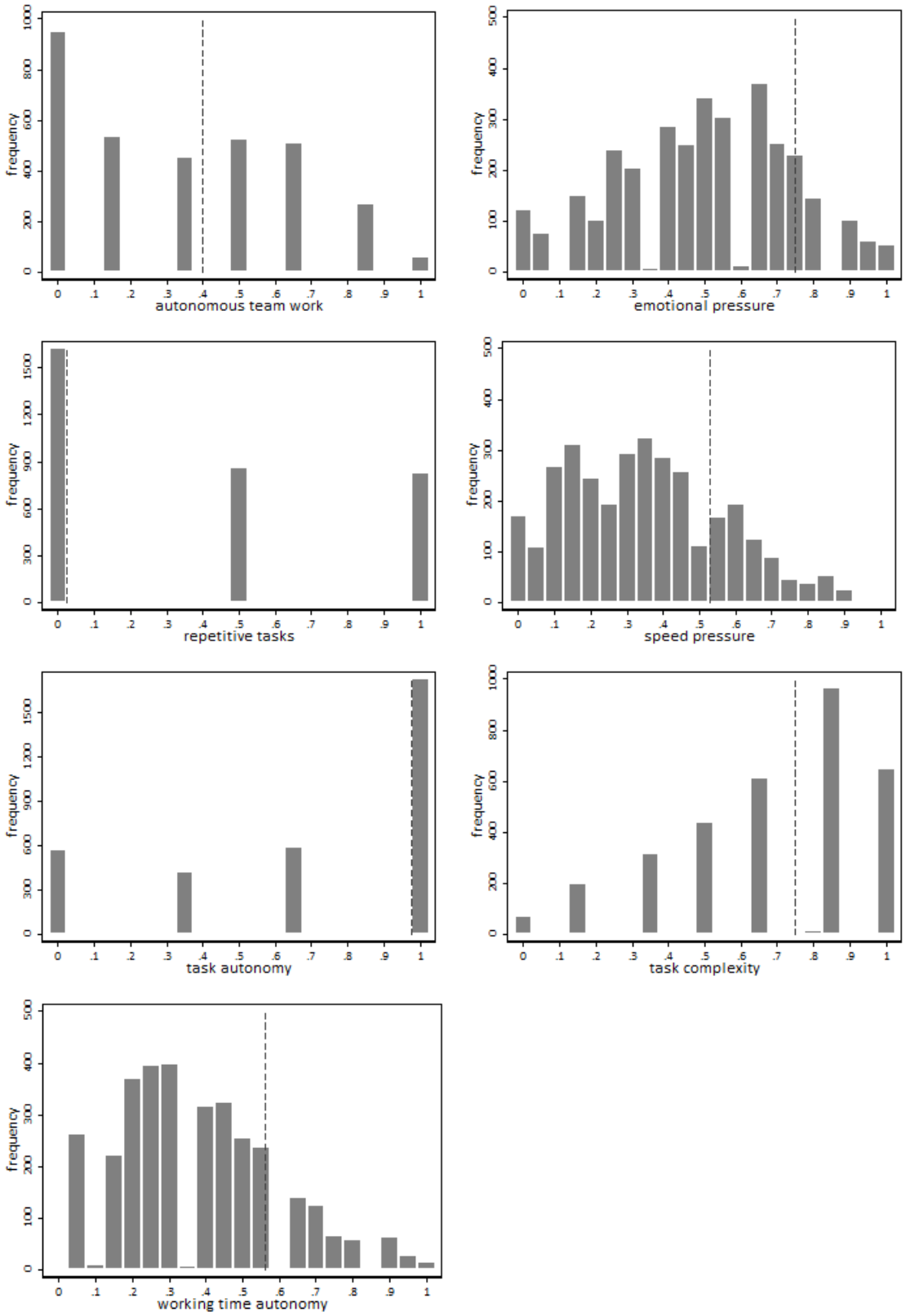

Figure I-4 Histograms of the seven job content sub-dimensions (autonomous team work, emotional pressure, repetitive tasks, speed pressure, task autonomy, task complexity and working time autonomy)

Table I-4 Seven job content sub-dimensions (autonomous team work, emotional pressure, repetitive tasks, speed pressure, task autonomy, task complexity and working time autonomy), by gender, age categories and educational level

	Total	Gender			Age				Educational level		
		Men	Women		-34y	35-49	50+		Low	High	
Autonomous team work	0.34	0.36	0.33	**	0.34	0.34	0.34		0.34	0.35	
Emotional pressure	0.49	0.45	0.53	***	0.46	0.50	0.49	**	0.44	0.55	***
Repetitive tasks	0.37	0.37	0.36		0.39	0.37	0.33	*	0.45	0.28	***
Speed pressure	0.35	0.38	0.32	***	0.35	0.35	0.34		0.36	0.34	***
Task autonomy	0.69	0.66	0.72	***	0.66	0.70	0.72	**	0.60	0.80	***
Task complexity	0.69	0.71	0.67	***	0.67	0.69	0.72	***	0.62	0.77	***
Working time autonomy	0.38	0.40	0.36	***	0.35	0.39	0.41	***	0.34	0.44	***

Note: * p<0.050; ** p<0.010; *** p<0.001.

Three different sub-indicators cope with working conditions. The sub-indicator 'risks' summarises the scores on questions dealing with a variety of exposures for employees at work. Some questions refer to work related musculoskeletal disorders, other to biochemical risks and a third group of questions ask for exposure to ambient risks (such as high of low temperatures). On average, the score of 0.19 is quite low and indicates that most employees have to cope with a limited number of risks. Exposure to risks is spread unevenly though, as male, young and low educated worker have to work more than average in such a risky work environment.

'Dealing with people' indicates to what extent the job involves dealing with people who are not employees at the workplace and/or with angry clients or patients. Again, the young workers are more affected than older workers with this kind of work. On the other hand, female workers and highly educated workers deal more with (angry?) people than average.

A third indicator, 'fixed workplace', expresses whether or not people work at employers' premises or not. 57% of all employees have this fixed workplace.

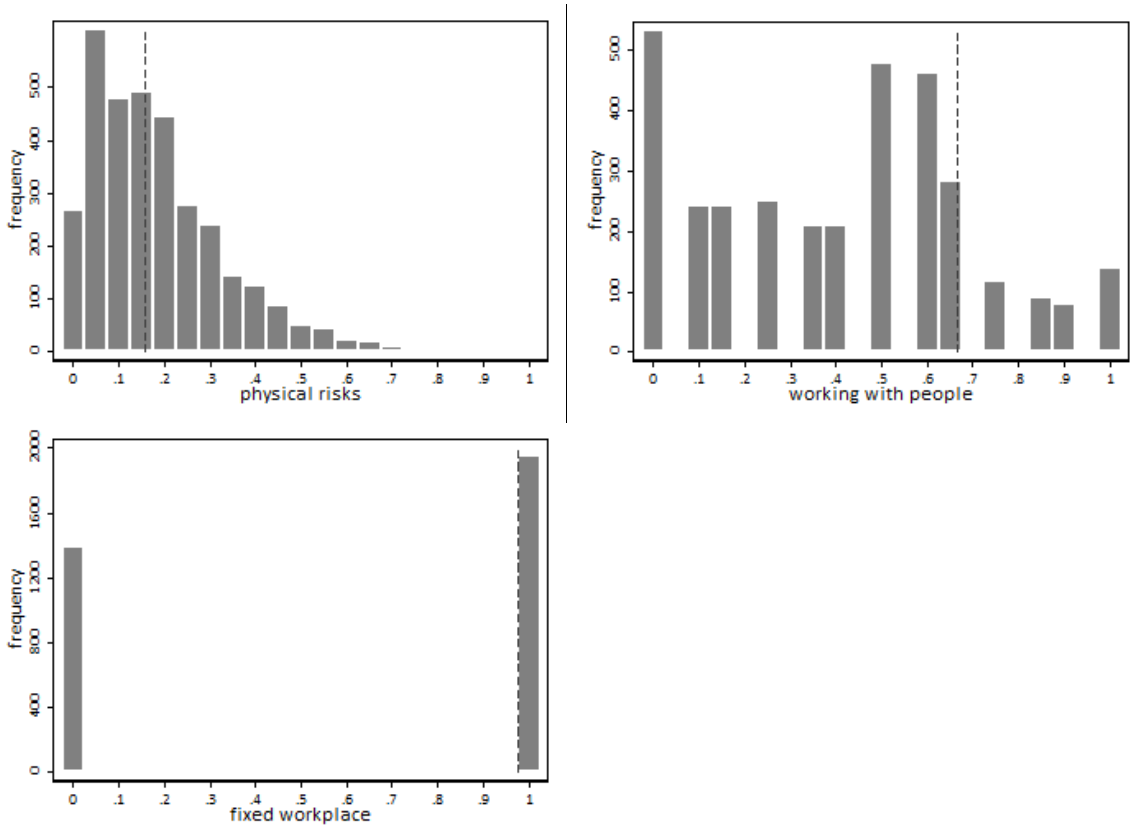

Figure I-5 Histograms of the three working conditions sub-dimensions (risks/hazards, dealing with people, fixed workplace)

Table I-5 Working conditions sub-dimensions (risks/hazards, dealing with people, fixed workplace), by gender, age categories and educational level

	Total	Gender			Age				Educational level		
		Men	Women		-34y	35-49	50+		Low	High	
Risks/hazards	0.19	0.21	0.16	***	0.20	0.18	0.18	**	0.24	0.13	***
Dealing with people	0.40	0.35	0.45	***	0.42	0.40	0.36	***	0.36	0.44	***
Fixed workplace	0.57	0.49	0.67	***	0.61	0.54	0.59	**	0.58	0.57	

Note: *p<0.050; ** p<0.01; *** p<0.001.

The employment conditions refer to the contractual arrangements between employer and employee. 'Career opportunities' equals to the score of respondents on the question whether they (strongly) (dis)agree on the statement that 'their job offers good prospects for career advancement'. The figure illustrates that most people agree with this statement, albeit not strongly. Young workers, males and higher educated people are more likely to agree with this statement than others.

The 'contract' type distinguishes between permanent and temporary contracts. Only 14% of all Belgian employees has a temporary contract. It is confirmed that

young workers (23%) are more likely to work in temporary contracts than older workers (7%).

The sub-dimension 'earnings' summarises all information on the earnings of employees, on the one hand the net earnings and on the other hand other payments in the wage basket. The EWCS-data confirm that earnings are higher amongst men, older (more experienced) workers and higher educated employees.

In Belgium, 70% of the employees perform full-time work and 30% part time work, expressed in the 0.70 score of the 'full-time work' sub-indicator. Part time work is a particularly gender related issue, with 48% of the females and only 14% of the males working in a part time contract.

The 'training' sub-indicator is constructed with answers on two questions dealing with training initiatives. The score averages the scores on training paid by the employer and on on-the-job training. Three out of ten Belgian employees have the 1-score, indicating they have undergone both formal and on-the-job training over the twelve past months. The EWCS-data confirm the 'Mattheus effect' in training efforts: the workers with the highest initial educational level get more training opportunities during their career than the workers with lower educational levels at the career start.

Five questions in the EWCS refer to work on 'unusual working hours'. People working normally in the evening or at night, in weekends or more than 10 hours a day have a positive score on this scale. The constructed sub-indicator takes the average score on the five questions. The figure illustrates that about half of all the employees do not work on any of these unusual working times. Males and higher educated workers are more than average expected to work on unusual hours.

Finally, 'working time flexibility' is an indication of the irregularity of the work schedule of employees. A higher score indicates the work schedule of employees changes quite often. Again, males and higher educated workers more often have to deal with these unpredictable changes in the work schedule.

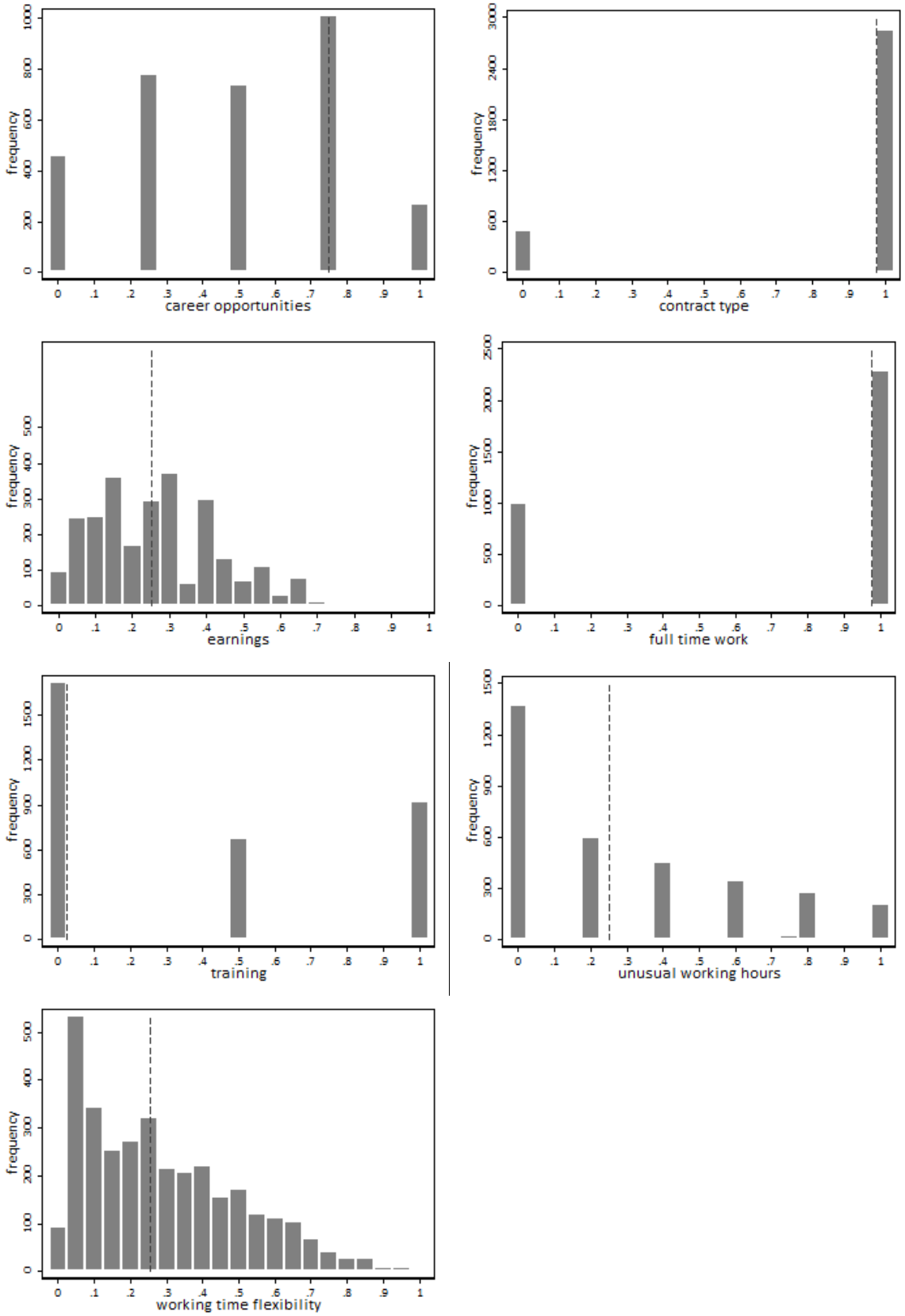

Figure I-6 Histograms of the seven employment conditions sub-dimensions (career opportunities, contract type, earnings, full-time work, training, unusual working hours, working time flexibility)

Table I-6 Employment conditions sub-dimensions (career opportunities, contract type, earnings, full-time work, training, unusual working hours, working time flexibility), by gender, age categories and educational level

	Total	Gender			Age				Educational level		
		Men	Women		-34y	35-49	50+		Low	High	
Career opportunities	0.49	0.52	0.46	***	0.54	0.49	0.41	***	0.46	0.53	***
Contract	0.86	0.87	0.85		0.77	0.90	0.93	***	0.84	0.89	***
Earnings	0.28	0.34	0.22	***	0.26	0.30	0.30	***	0.25	0.32	***
Full-time work	0.70	0.86	0.52	***	0.70	0.71	0.68		0.70	0.70	
Training	0.40	0.39	0.41		0.38	0.41	0.38		0.32	0.49	***
Unusual working hours	0.29	0.32	0.26	***	0.31	0.28	0.29	*	0.27	0.32	***
Working time flexibility	0.30	0.31	0.28	***	0.29	0.30	0.30		0.26	0.34	***

Note: * p<0.050; ** p<0.01; *** p<0.001.

Five sub-dimensions assess the quality of social relations at work. The score on 'say' indicates if employees are consulted in decision making at work. There is a remarkable difference on this sub-dimension related to the educational level of workers, giving more say to the higher educated.

'Supportive management' is an indicator on the support the worker gets from the supervisor. It is constructed taking the average score of four questions on the presence of supportive management principles. A high score means the supervisor provides a good planning and organisation of the work, feedback, respect and problem solving. The appreciation of this aspect at work is quite high, and the average score is 0.80.

'Social support' more generally assesses the support workers receive at work. It is constructed by taking account of answers on the questions on help and support of both manages and colleagues at work.

'Violence and harassment' is a binary scaled expression and indicates whether workers have been subjected to physical violence, bullying or sexual harassment at the workplace. The score of 0.11 indicates that 11% of all Belgian workers has suffered from one of these harassment forms.

Finally, the sub-dimension 'voice' refers to the opportunities to have a collective employee input in decision making in the company. This can be realised with an employee representation on the workfloor, or in meetings where one can express views about what happens in the organisation. Scores are higher amongst men, older workers and higher educated people. Although questions not explicitly refer to trade unions' role in organizing voice in the company, the different scores might be related to the uneven penetration of trade unions in the economy. Trade unions are particularly underrepresented in companies with female workers and youngsters.

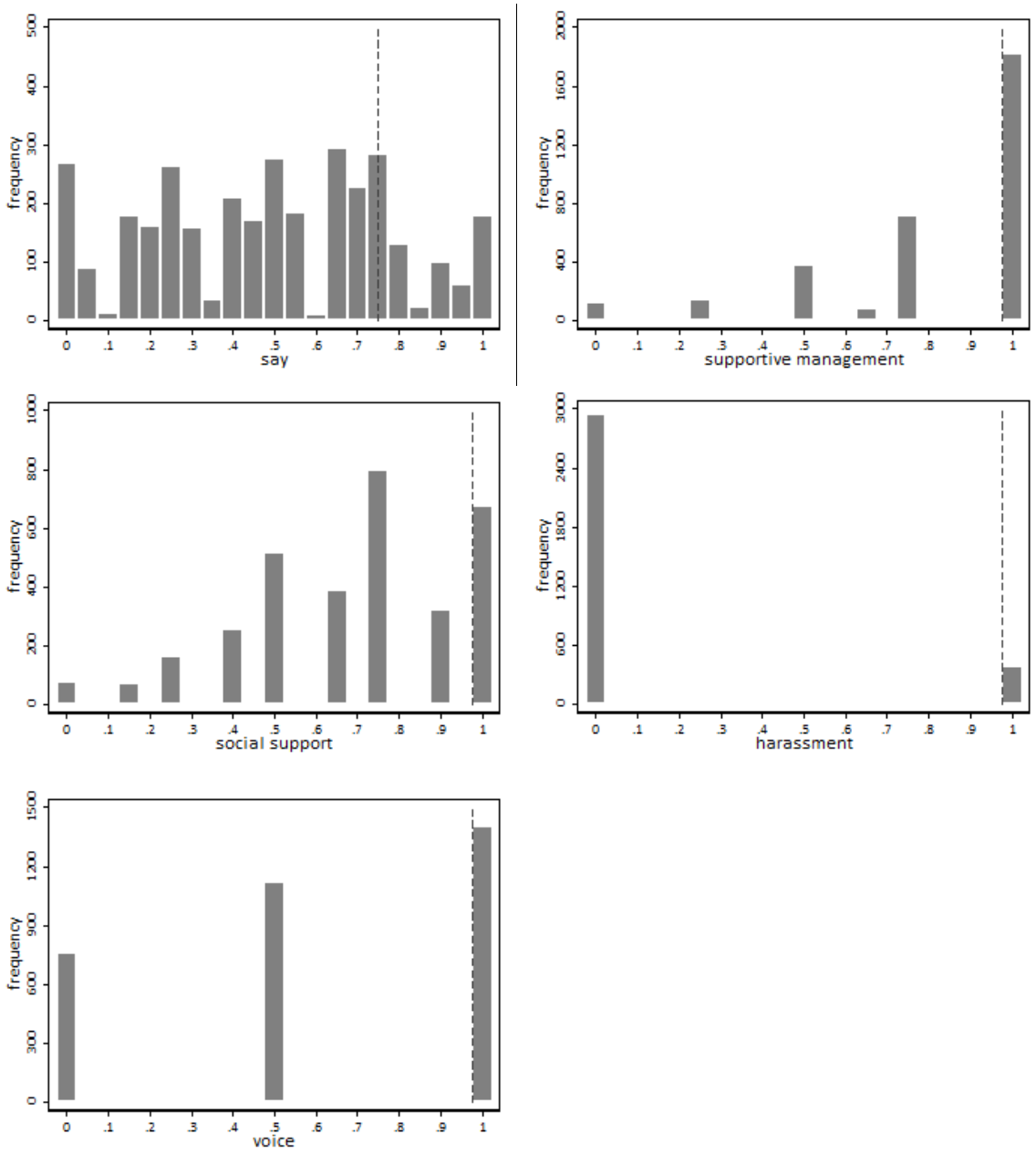

Figure I-7 Histograms of the five social relations sub-dimensions (say, supportive management, social support, violence and harassment, voice)

Table I-7 Social relations sub-dimensions (say, supportive management, social support, violence and harassment, voice), by gender, age categories and educational level

	Total	Gender			Age				Educational level		
		Men	Women		-34y	35-49	50+		Low	High	
Say	0.49	0.49	0.49		0.47	0.49	0.50	*	0.44	0.55	***
Supportive management	0.80	0.81	0.80		0.83	0.79	0.79	**	0.80	0.81	
Social support	0.68	0.68	0.67		0.68	0.67	0.67		0.66	0.69	***
Violence and harassment	0.11	0.10	0.12		0.11	0.12	0.09		0.11	0.11	
Voice	0.62	0.64	0.59	***	0.56	0.64	0.67	***	0.55	0.69	***

Note: * p<0.050; ** p<0.01; *** p<0.001.

3.2 Quality of work of self-employed people

The EWCS has targeted the survey to all those aged 15 years and over who are in employment. The Belgian survey has information on 4,000 working people. Five out of six workers questioned have an employment contract with an employer. One out of six workers (N=587) are self-employed workers. In this report we mainly focus on the quality of work of employees. This section discusses the scores on the 22 selected job quality indicators of the self-employed workers in relation to the scores of employees.

Self-employment presents an opportunity for the individual to set his or her own schedule, to work when they like, to answer to nobody and possibly even as a way to become rich (Blanchflower, 2000). From this perspective, we expect more say, autonomy and (worker) flexibility as important job characteristics in self-employed work.

This hypothesis is confirmed in the EWCS-data. Self-employed workers have more autonomy to decide how task are performed and when the work is scheduled. They work on more complex tasks and are less confronted with speed pressure. Self-employed have also a high score on say.

Table I-8 Quality of work sub-dimensions, by employment relationship

	Employment relationship		
	Employees	Self-employed	
Autonomous team work	0.34	0.16	***
Emotional pressure	0.49	0.56	***
Repetitive tasks	0.37	0.40	
Speed pressure	0.35	0.27	***
Task autonomy	0.69	0.88	***
Task complexity	0.69	0.76	***
Working time autonomy	0.38	0.71	***
Risks/hazards	0.19	0.17	*
Dealing with people	0.40	0.49	***
Fixed workplace	0.57	0.29	***
Career opportunities	0.49	0.62	***
Contract	0.84	0.00	***
Earnings	0.28	n.a.	
Full-time work	0.69	0.86	***
Training	0.39	0.21	***
Unusual working hours	0.29	0.49	***
Working time flexibility	0.30	0.45	***
Say	0.49	0.78	***
Supportive management	0.80	n.a.	
Social support	0.68	0.73	***
Violence and harassment	0.11	0.07	*
Voice	0.62	n.a.	

Note: * p<0.050; ** p<0.01; *** p<0.001.

The unfortunate downside of self-employment is that the individual can lose job, savings and home if the business fail (Blanchflower, 2000). Self-employed workers will have to work hard to find a diversified portfolio and are often dependent on own initiatives to guarantee future projects. An essential part of their job will be convincing clients to (keep on) work(ing) with them on future projects. This is reflected in the working conditions of self-employed workers. They less often have one fixed workplace and are quite often dealing with people who are not employees at the workplace. Self-employed workers also have to work on unusual working hours and according to flexible schedules.

3.3 Quality of work profiles on the Belgian labour market

In this paragraph we construct typical work quality constellations in Belgium. We use the scores of all employees on the selected 22 job quality sub-dimensions to develop this taxonomy of job types in Belgium. To assure that each sub-dimension has the same impact in this analysis, all sub-dimensions were dichotomised. This

dichotomisation is illustrated with rather arbitrary cut-off points in the figures presented earlier, and is discussed more in detail in a methodological annex.[2] The cluster analysis was performed using Ward's linkage and binary matching distances, with seven different clusters as suggested result.[3] The labels suggested in table I-9 are proposed for further reference.

It is important to note that cluster analysis should be thought of primarily as a summary of the observations. Also, as with many statistical techniques, the number of observations shrinks if a case has one or more missing values. The large sample size of 4,000 was necessary to obtain large enough clusters. Using all 22 indicators, including the delicate earnings variable, decreased the number of observations therefore markedly, from 3,343 (total sample of employees) to 2,387. The technique is further sensitive to the scale of variables, the number of variables, outliers, distance measurement, the definition of proximity (linkage), the computational algorithm of the statistical package and in some cases even the order of a dataset. Ward's linkage will typically provided a number of clusters of roughly equal sizes, choosing in each step for the solution which minimalises internal variance.

Employees in the first cluster have interesting scores on almost all quality of work sub-dimensions. They enjoy a lot of autonomy to work on complex tasks in team. The work environment has limited risks. Working conditions are very favourable: high wages, full-time work, training and career opportunities and a permanent contract. On top of that, they have a say on behalf of the work organisation, work together with a supportive manager, and are decently represented. On the negative side, these workers do have to cope with flexibility, as working schedules and places might be unpredictable. Anyhow, the overall balance is clearly positive. We might call this cluster the 'saturated job' cluster as workers in this cluster have higher levels of job factors across all the main dimensions of job quality (*cf.* Holman & McClelland, 2011). About 18% of Belgian workers are assigned to this cluster.

Cluster B is the second cluster with reasonable positive scores on most sub-dimensions. Nevertheless, most scores are a little bit less favourable than in the 'saturated jobs' cluster. These workers have a little bit less team work, complexity

2 Available with the authors.

3 It is important to note that cluster analysis should be thought of primarily as a summary of the observations. The technique is sensitive to the scale of variables, the number of variables, outliers, distance measurement, the definition of proximity (linkage), the computational algorithm of the statistical package and in some cases even the order of a dataset. Ward's linkage will typically provided a number of clusters of roughly equal sizes, choosing in each step for the solution which minimalises internal variance. The cut-of point can be determined beforehand, or determined by using one of many stopping rules which are generally based on the difference in within and between group variance at any step in the cluster analysis. Documented by Milligan (1985), the Calinski & Duda rules give the best results and were used in this case.

and autonomy. Wages are above average but lower than in cluster A, just as career and training opportunities. The positive element is that these workers do not have to cope with unpredictability, as they have a fixed workplace and work schedule. We can call this the group of employees with 'full-time balanced work'. About 13% of all employees are placed in this group.

Work in cluster C is labelled as 'work with limited career prospects'. On the one hand, part time work is a distinguishing characteristic of this group, with 54% of the employees not working full time. On the other hand, these workers have rather bad working conditions and not much career prospects. These workers not only lack a full-time job, but also have a big chance on a temporary contract, low pay, and no training or career opportunities. Taking these two characteristics together, we find a group of workers that are not considered as important for the company. The 'positive' characteristics of this group of workers also relate to unchallenging work packages: workers enjoy task autonomy in a work environment with limited risks and no speed pressure, and they work normal working hours according to a regular work schedule. Work organisations do not give opportunities for career advancement, but neither force these workers to overperform. That is why we consider work in this cluster as 'Work with limited career prospects'. The cluster analysis has assigned 21% of all employees in this cluster.

The next cluster of workers, with 11% of the Belgian employees, has a good salary and a full-time job, but faces rather unfavourable working time arrangements. They often have to work at unusual hours and changes in their work schedule regularly occur. It is the employer who decides about the time when they have to work, as working time autonomy is very limited. That is why we label this group as 'work on flexible and unusual hours'. Quite often, these workers also lack a fixed workplace and have to work on different locations. A final point of attention is the fact that these workers have few say or voice in the organisation of the work in the company.

A fifth cluster has typically 'emotionally demanding work'. Although these workers can work in team on complex issues, receive proper training opportunities and are represented at the workfloor, they have to cope with a lot of stressful work characteristics. These workers very often have to deal with people who are not employees at the workplace such as (sometimes angry) customers, passengers, pupils or patients. In their organisation, they do not feel supported by colleagues or management. And on top of that, they have to work on repetitive tasks and under speed pressure. Unsurprisingly this cluster has by far the biggest score on emotional pressure. This is not compensated by good working conditions, as career prospects are poor, full-time work rare and unusual working hours and changing work schedules frequent. We find about 13% of the Belgian workers in this cluster with emotionally demanding work.

Cluster F differs from other clusters because of the 'heavy repetitive work' of respondents in this cluster. Workers are asked to fulfill repetitive tasks. They have no autonomy nor say at work, and have to work in a risky environment. On the positive side, they are paid well in a full-time job, have a fixed workplace and a normal and stable working day schedule. 9% of the Belgian workforce performs this kind of heavy repetitive work.

Finally, cluster G may be labelled as the 'indecent work' cluster. Work in this cluster has bad scores for about every aspect of work quality and in that sense contrasts fully with the ILO decent work agenda. Workers are expected to perform simple repetitive tasks in a risky work environment, but have no say or autonomy on how to fulfill these tasks. Wages are very low, career opportunities nihil, training is not provided and part time temporary contracts probable. And the workers are not represented collectively to express their views. Not much to mention on the positive side here: these workers can go to the same plant following a regular daily schedule and do not suffer from emotional pressure as they have no contact with people from outside the company. In Belgium, 14% of the workers can be found in this cluster of 'indecent work'.

Table I-9 Presentation of the characteristics of the seven quality of work types on the Belgian labour market

Group	Label	(Share in employment)
A	Saturated jobs (legislators, senior officials and managers) *positive*: autonomous team work, no repetitive tasks, task autonomy, complex tasks, working time autonomy, limited risks, career opportunities, permanent contract, high wages, full-time work, training, say, supportive management, social support, little violence and harassment, voice *negative*: no fixed workplace, unusual working hours, working time flexibility	18%
B	Full-time balanced work (professionals, clerks) *positive*: no emotional pressure, no speed pressure, task autonomy, task complexity, no risks, no dealing with people, fixed workplace, career opportunities, permanent contract, good salary, full-time work, training, normal working hours, regular work schedule, supportive management, social support *negative*: no team work	13%
C	Work with limited career prospects (professionals, clerks & elementary occupations) *positive*: no repetitive tasks, no speed pressure, task autonomy, no risks, normal working hours, regular work schedule, no harassment *negative*: little team work, no fixed workplace, limited career opportunities, temporary contract, low wages, part time work, no training	21%
D	Work on flexible and unusual hours (professionals, plant and machine operators and assemblers) *positive*: good salary, full-time work *negative*: no team work, no task autonomy, no task complexity, no working time autonomy, no fixed workplace, unusual working hours, working time flexibility, no say, no supportive management, no voice.	11%
E	Emotionally demanding work (professionals) *positive*: autonomous team work, complex tasks, training, voice *negative*: emotional pressure, repetitive tasks, speed pressure, no working time autonomy, risk, working with people, limited career opportunities, part time work, unusual working hours, working time flexibility, no say, no supportive management, no social support, violence and harassment	13%

Table I-9 Presentation of the characteristics of the seven quality of work types on the Belgian labour market. Next

Group	Label	(Share in employment)
F	Heavy repetitive work (craft & related trades workers) *positive*: autonomous team work, no emotional pressure, not much work with people, fixed workplace, good salary, full-time work, training opportunities, normal working hours, regular work schedule *negative*: repetitive tasks, no task autonomy, no working time autonomy, risky work environment, no say, no social support	9%
G	Indecent work (clerks, service workers, shop and market sales workers and elementary occupations) *positive*: no emotional pressure, not much work with people, fixed workplace, regular work schedule *negative*: not much team work, repetitive tasks, no task autonomy, no complex tasks, no working time autonomy, risky work environment, no career opportunities, temporary contract, very low wages, part time work, no training, no say, no voice	14%

Figure I-8 summarises the share of the different clusters in the Belgian economy in a pie. Two clusters are characterised with a good to excellent quality of work. About one out of three Belgian employees enjoys 'saturated jobs' or 'full-time balanced work'.

Four clusters have at least one unpleasant element of the work quality, but to some extent this is complemented with a number of positive elements. These unpleasant characteristics may be found in the part time contract and limited career prospects, in the working time arrangements, in the emotional demands of the work, or in the heavy and repetitive character of the tasks. More than half of the Belgian workers are confronted with at least one particularly uninteresting element of the work quality.

Finally, one out of six workers is found in the last cluster with 'indecent work'. Whereas the former clusters all have some decent elements of the work quality, this is merely the case for these workers. This cluster is characterised with a bad score on almost every indicator on work quality.

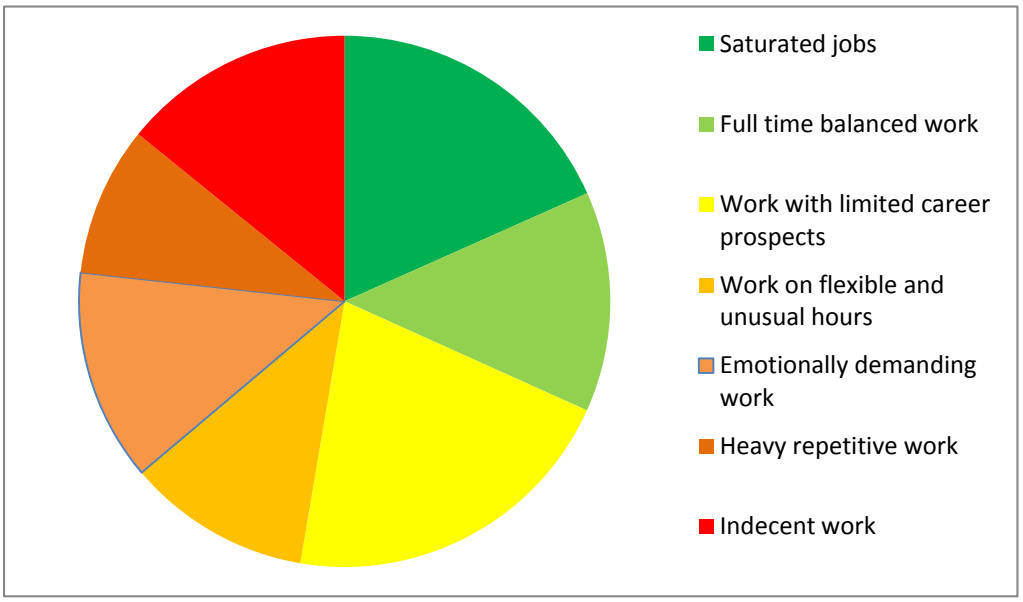

Figure I-8 Share of quality of work types in the Belgian economy

In the next paragraph, we will present some descriptive statistics on these seven clusters, and analyse to what extent good and bad quality work is found within particular groups of employees or segments on the Belgian labour market.

4. Distribution of seven types of work quality in Belgian economy

In this section, a descriptive analysis will present the distribution of the different types of jobs in the Belgian economy. Differences according to employee, organisational and regional characteristics are presented.

4.1 Employee characteristics

4.1.1 Gender

Table I-10 Distribution of quality of work types, by gender

	A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotionally demanding work	F Heavy repetitive work	G Indecent work	All employees	Self-employed
Male	65	51	40	68	40	72	45	53	66
Female	35	49	60	32	60	28	55	47	34
Total %	100	100	100	100	100	100	100	100	100
Total N	435	318	497	265	306	216	336	2,373	587

Men and women are not working in similar jobs. At first sight, men seem to enjoy a better quality of work than women. They are outnumbering women in the 'saturated jobs' cluster, whereas we find the opposite picture in the cluster with 'indecent work'.

There is a better gender balance when we look at the clusters with intermediate quality of work. Women are more often confronted with work with limited career prospects and emotionally demanding work, men with heavy repetitive jobs and flexible and unusual working hours.

4.1.2 Age

Looking at the age distribution in the different clusters, we conclude that age segmentation based on job quality is limited on the labour market. There is a small tendency towards more 'work on flexible and unusual hours' and more 'indecent work' for youngsters, and more 'saturated jobs' for older workers.

Table I-11 Distribution of quality of work types, by age categories

	Saturated jobs	Full-time balanced work	Work with limited career prospects	Work on flexible and unusual hours	Emotionally demanding work	Heavy repetitive work	Indecent work	All employees	Self-employed
-34	26	35	34	38	34	35	41	34	23
35-49	51	42	47	41	48	41	36	44	48
50+	24	23	19	21	18	24	23	21	28
Total %	100	100	100	100	100	100	100	100	100
Total N	431	317	495	263	305	215	333	2,359	579

4.1.3 Skill level

The distribution of all clusters according to skill level reveals important differences. Higher educated employees enjoy more 'saturated jobs' and 'full-time balanced work'. Two out of three workers in these two clusters have a bachelor or master degree, although the share of this group in the total employment is less than 50%. Lower educated employees more often perform 'indecent work' and/or 'heavy repetitive work'. Within these two clusters, only one out of four workers has a bachelor or master degree.

Table I-12 Distribution of quality of work types, by skill level

	Saturated jobs	Full-time balanced work	Work with limited career prospects	Work on flexible and unusual hours	Emotionally demanding work	Heavy repetitive work	Indecent work	All employees	Self-employed
Lower secondary education	10	7	16	13	14	19	21	14	10
Higher secondary education	27	31	35	44	36	56	56	39	39
Bachelor	26	38	29	21	34	16	18	27	18
Master	37	24	20	22	17	9	5	20	33
Total %	100	100	100	100	100	100	100	100	100
Total N	435	318	496	263	306	215	334	2,367	585

4.1.4 Occupational Group

We find people from different occupational group often in different quality of work clusters. In this sense, the occupational group seems to be a good predictor for the quality of work to be expected in his or her job.

Managers often have saturated jobs. They have a marginal share in all clusters except for the 'saturated jobs' cluster. Within this cluster with positive scores on almost every sub-indicator managers have a 20% share.

The second occupational group with a perspective on good quality work is technicians. Technicians 'perform mostly technical tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations.' We find engineers or supervisors in this occupational group. Their share is about 20% in the first two quality of work clusters, and considerably lower in all other clusters.

Professionals 'increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these activities.' Doctors, teachers and ict professionals are good examples of this kind of occupations. Professionals are represented in most decent quality work clusters, with a clear overrepresentation in 'emotionally demanding work'. The contact with clients, pupils or patients that is essential for these practitioners can explain their presence in the cluster of emotionally demanding work.

In the occupational group of clerical support workers, we find secretaries, clerks and the likes. These workers usually enjoy balanced work. They are overrepresented in the 'full-time balanced work'. Noteworthy is that there is also an important share of these clerical support workers with 'work with limited career prospects' and 'indecent work'.

Service and sales workers have a great chance on workability problems. They are found in clusters with particular problems (flexible and unusual hours, or emotionally demanding work) and especially often in the cluster with 'indecent work'.

The craft and trade occupational group has a big risk on 'heavy repetitive work'. As *e.g.* the construction workers have an important share in this occupational group, this is no surprise.

Plant and machine operators and assemblers by definition work in industrial plants, and have to adapt to the pace of machines. Quite often, Belgian machinery plants apply shift work. This can explain the overrepresentation of this occupational group within 'work on flexible and unusual hours'. The industrial work environment of these workers explains the second important quality of work cluster of these workers, 'heavy repetitive work'.

Finally, elementary occupations face the worst quality of work. They are poorly represented in the first two clusters, and quite often work in 'Work with limited career prospects', 'heavy repetitive work' and especially in 'indecent work'. Elementary occupations 'involve the performance of simple and routine tasks which may require the use of hand-held tools and considerable physical effort.' Cleaners, farm workers and bricklayers are examples of elementary occupations.

Table I-13 Distribution of quality of work types, by occupational group

	A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotionally demanding work	F Heavy repetitive work	G Indecent work	All employees	Self-employed
Managers	20	4	3	4	4	6	2	7	23
Professionals	21	24	26	22	34	10	8	22	25
Technicians and associate professionals	22	19	12	11	15	12	5	14	7
Clerical support workers	12	28	18	11	10	11	19	16	2
Service and sales workers	6	9	12	15	15	8	22	12	19
Craft and related trades workers	9	8	9	11	6	25	12	11	13
Plant and machine operators, and assemblers	5	4	6	18	9	14	10	9	4
Elementary occupations	4	4	12	7	6	13	18	9	3
Total %	100	100	100	100	100	100	100	100	100
Total N	433	314	491	263	306	212	331	2,350	582

4.2 Company characteristics

4.2.1 Sector

Table I-14 presents de division of the different clusters by activity sector. We find in each sector a dominant quality of work cluster. This suggests that the quality of work employees perform is determined by the activity of the company.

The precarious character of agricultural work is confirmed. Farmers and fishers are particularly often exposed to heavy repetitive work or precarious work. Industrial activities and construction work also offer heavy repetitive work to most workers, but also have more than average 'saturated jobs' for other employees.

Employees in trade and sale activities have a relative big risk to get 'indecent work'. This confirms the workability problems we detected within the occupational group of service and sales workers.

Transport workers are exposed to flexible and unusual hours. Health and education offer emotionally demanding work. And in public administration, we find flexworkers (from clusters C & D).

Table I-14 Distribution of quality of work types, by sector

		A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotionally demanding work	F Heavy re-petitive work	G Indecent work	All employees	Self-employed
A-C	Agriculture, forestry and fishing	2	2	1	2	0	3	3	2	3
D-E	Industrial activities	24	22	12	13	12	37	21	19	11
F	Construction	8	6	6	6	5	8	5	6	11
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	7	13	10	13	13	12	19	12	23
H	Transportation and storage	4	4	6	16	7	9	9	7	4
I-M, R-U	Other service activities	21	24	19	15	15	13	18	18	31
N-O	Public sector administration	13	9	13	14	6	7	10	11	4
P	Education	10	8	22	13	18	5	7	13	2
Q	Human health and social work activities	11	12	11	8	24	7	10	12	11
Total %		100	100	100	100	100	100	100	100	100
Total N		424	307	486	260	301	205	329	2,312	579

4.2.2 Organisational size

The medium and bigger sized enterprises seem to offer slightly more interesting work quality than smaller companies. Companies working with more than 100 employees offer more than average 'saturated jobs'. They have a share of 47% in this first quality of work cluster, although their share in the total employment is limited to 33%. They further also offer full-time balanced work and emotionally demanding work.

Within this group, the medium sized companies seem to outperform the biggest companies when it comes to the quality of work. First of all, the 'saturated jobs' cluster is by far the most important cluster for medium sized companies, and secondly there is also an important share of 'heavy repetitive work' in companies with more than 500 employees. On the other hand, the biggest companies succeed in minimalising their share in the cluster with 'indecent work'.

Companies with 10 to 99 workers have the characteristic of offering particularly often heavy repetitive work. In no other cluster, they surpass the share of 50% they have in this quality of work cluster. Other important types of jobs for these companies are the flex work types (of work with limited career prospects and work on flexible and unusual hours). The important share of flex work in the smaller companies is in line with the global picture of the economy with big companies outsourcing work to small companies in case they have to cope with fluctuations in production.

Workers in very small companies are very likely to get 'indecent work'. As the share of small companies is smallest in the 'saturated jobs' and biggest in the 'indecent work' cluster, it is suggested that workers will have the biggest workability problems in small companies.

Table I-15 Distribution of quality of work types, by organisational size

	A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotionally demanding work	F Heavy repetitive work	G Indecent work	All employees	Self-employed
1-9	16	18	27	23	20	23	36	23	88
10-99	37	44	48	46	40	50	43	44	9
100-499	29	20	16	18	21	13	15	20	1
500+	18	17	8	13	19	15	5	13	1
Total %	100	100	100	100	100	100	100	100	100
Total N	416	309	460	248	300	208	310	2,251	581

4.3 Macro level characteristics

We find all types of work distributed over all Belgian regions. Brussels has more than average work on flexible and unusual hours, which can related to the service economy around the capital. The Flemish labour market has slightly more indecent work, whereas the Walloon Region seems to offer more emotionally demanding work.

Table I-16 Distribution of quality of work types, by region

	A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotionally demanding work	F Heavy repetitive work	G Indecent work	All employees	Self-employed
Brussels	8	9	10	17	8	13	10	10	9
Flanders	70	66	68	55	58	67	72	66	58
Wallonia	22	25	23	28	34	20	18	24	32
Total %	100	100	100	100	100	100	100	100	100
Total N	435	318	496	265	306	215	337	2,372	587

4.4 Overall analysis on determinants of the seven quality of work clusters

By means of a logistic regression analysis we have tried to synthesise the determinants of being part of a particular cluster. All discussed characteristics have been put in models with being part of a particular cluster as independent variable. The overall picture remains. Age is not very important as a determinant for the quality of work. Other characteristics are much more related to the job quality of workers: gender, occupation, sector and company size. We also find significant differences in the presence of job quality types in the three Belgian regions.

Males have more chance on 'saturated jobs' than female workers. This kind of quality is reserved for managers and technicians, whereas operators, assemblers and elementary occupations rarely enjoy the 'saturated jobs'. Small companies less often offer this kind of work than bigger companies, and it appears that Flemish workers are more likely to work in this kind of jobs than other Belgian workers.

Not surprisingly, we find the opposite picture for the 'indecent work', with females, youngsters, 'lower' occupational groups and workers in small companies having more chance on this kind of precarious work. The regional dispersion, with Flanders having more 'indecent work' than Wallonia, is the only relationship not mirroring with the 'saturated jobs' cluster.

Full-time balanced work is often performed by technicians and clerical support workers. Again operators, assemblers and elementary workers are not offered this opportunity on a quite interesting job quality. Industrial workers have more full-time balanced work than workers in the transport and storage sector and officers in public administration.

Female service workers in small companies do have more than average chances to work with limited career prospects. This kind of work is particularly present on the Flemish labour market.

Work on flexible and unusual hours is a feature of the service sector in Brussels. Male workers in service and sales occupations and working as operator or assembler more likely have to be prepared on this flexible work.

Emotionally demanding work seems to be frequent for female professionals in big organisations in the public sector. And the profile of workers performing heavy repetitive work is the male agricultural or industrial worker in craft of elementary occupations.

Table I-17 Results of logistic regression models explaining the determinants of the seven different quality of work types in Belgium

	Cluster A Saturated jobs		Cluster B Full-time balanced work		Cluster C Work with limited career prospects		Cluster D Work on flexible and unusual hours		Cluster E Emotionally demanding work		Cluster F Heavy repetitive work		Cluster G Indecent work	
Male	ref		ref		ref		ref		ref		ref		ref	
Female	0.57	***	1.27		1.68	***	0.52	***	1.51	**	0.54	***	1.48	**
Aged 15-35	0.76	*	1.15		1.00		1.22		1.03		1.15		1.37	*
Aged 35-50	ref		ref		ref		ref		ref		ref		ref	
Aged 50-65	0.81		1.05		0.89		0.98		0.77		1.12		1.25	
Managers	3.76	***	0.57		0.48	*	0.35	*	0.52	*	0.97		0.51	
Professionals	ref		ref		ref		ref		ref		ref		ref	
Technicians	1.95	***	1.59	*	0.82		1.06		0.82		1.40		1.07	
Clerical support	0.90		1.88	**	1.03		0.85		0.41	***	1.20		3.43	***
Service and sales	0.77		0.79		0.68		1.70	*	0.76		1.27		3.44	***
Craft and related	0.90		0.67		1.23		1.23		0.58		2.77	**	3.09	***
Operators and assemblers	0.38	**	0.47	*	0.66		2.47	***	1.19		1.64		3.98	***
Elementary occ.	0.39	**	0.41	*	1.14		0.86		0.47	*	2.61	**	6.44	***
Agriculture	1.51		0.98		0.87		1.43		0.38		1.34		0.32	
Industry	Ref		ref		ref		ref		ref		ref		ref	
Construction	1.03		0.71		1.61		1.35		1.89		0.55	*	0.56	
Sale and trade	0.68		0.85		1.42		1.49		1.60		0.45	**	1.00	
Transport and storage	0.82		0.42	*	1.08		1.56		1.55		0.28	*	1.28	
Services	0.96		0.68		2.05	***	1.97	*	1.09		0.45	***	0.73	
Public administration	0.84		0.47	**	1.79	*	1.05		2.15	**	0.44	**	0.71	
Education	0.60		1.20		2.24	*	1.47		1.17		0.12	*	0.32	*
Health and social work	2.19		1.25		1.35		0.00		1.55		0.77		0.00	

Table I-17 Results of logistic regression models explaining the determinants of the seven different quality of work types in Belgium. Next

	Cluster A Saturated jobs		Cluster B Full-time balanced work		Cluster C Work with limited career prospects		Cluster D Work on flexible and unusual hours		Cluster E Emotionally demanding work		Cluster F Heavy repetitive work		Cluster G Indecent work	
1-10 employees	0.42	***	0.63		2.24	**	0.84		0.29	***	1.04		3.22	**
10-99 employees	ref		ref		ref		ref		ref		ref		ref	
100-499 employees	1.56	**	1.13		0.75		0.97		1.44	*	0.70		0.82	
500-more employees	1.32		1.23		0.66	*	1.03		1.92	***	1.10		0.48	*
Brussels	0.49	**	0.72		0.63	*	1.91	***	0.95		1.62	*	0.76	
Flanders	ref		ref		ref		ref		ref		ref		ref	
Wallonia	0.57	***	0.76		0.57	***	0.98		1.25		0.71		0.55	***
Constant	0.41	**	0.10		0.07	***	0.11	***	0.05	***	0.22	***	0.03	***

Note: The table presents the Exp(B) of seven different logistic regression models. When Exp(B) > 1, there is an above average chance that employees with the particular characteristics belong to the clusters. The '*' indicate whether this difference is of statistical significance (* $p<0.050$; ** $p<0.01$; *** $p<0.001$).

5. Outcomes of different quality of work types

5.1 Selection of outcome indicators in this volume

The analytical framework has stressed that outcomes of good or bad quality of work have to be analysed on different levels. Three different divides were introduced. The first divide makes a difference between individual, company and societal outcomes of job quality. On an individual level, a good job can enhance job engagement and a bad job cause health problems. On a company or meso level, good quality jobs will raise productivity level and limit worker mobility. On a macro level, society will be served by higher employment levels when inactives and unemployed are attracted by the higher quality of work. As the EWCS informs on the individual outcomes of individual workers, the most important outcome indicators constructed with EWCS-data are situated on the first level of an individual worker.

A second divide the conceptual model stressed is the importance of a balance between 'positive' and 'negative' outcomes of job quality. We have tried to keep this balance in the construction of these various indicators on job quality outcomes.

Table I-18 Summary of the outcome indicators

Dimension/sub-dimension	Information used	EWCS-questions used
Subjective security variables		
Job insecurity	I might lose my job in the next 6 months.	Q77a
Labour market security	If I were to lose my current job, it would be easy for me to find a job of similar salary.	Q77f
Job attitude		
Job satisfaction	Your job gives you the feeling of work well done/You are able to apply your own ideas in your work/You have the feeling of doing useful work/On the whole, are you satisfied with working conditions in your main paid job?/I feel 'at home' in this organisation/The organisation I work for motivates me to give my best job performance.	Q51h/Q51i/Q51j/ Q76/Q77d/Q77g
Sustainability	Do you think you will be able to do the same job you are doing now when you are 60 years old?	Q75
Absenteeism	Over the past 12 months how many days in total were you absent from work for reasons of health problems?	Q72
Presenteeism	Over the past 12 months how many days in total did you work when you were sick?	Q74b
Health variables		
Work related health risks	Do you think your health or safety is at risk because of your work?/Does your work affect your health, or not?	Q66/Q67
General health	How is your health in general?	Q68
Physical health	Over the last 12 months, did you suffer from: backache?; muscular pains in shoulders, neck and/or upper limbs?; muscular pains in lower limbs (hips, legs, knees, feet *etc.*)?	Q69c/Q69d/Q69e
Psychological health	Over the last 12 months, did you suffer from: depression or anxiety?; overall fatigue?; insomnia or general sleep difficulties?	Q69k/Q69l/Q69m

A third divide has to do with the type of outcomes, whether this refers to health or to other aspects. We constructed three different types of outcome indicators. Two indicators deal with feelings of (in)security about the labour market position of an individual worker. Four indicators inform on job attitudes. And four other indicators give more insight in the health situation of workers.

5.1.1 Subjective security variables

The first two indicators value the feelings of security a worker feels. Job insecurity might be interpreted as a negative expression of these feelings, as it refers to the anxiety of losing one's job in the next six months. Labour market security can be seen as the positive counterpart, it expresses the confidence of workers in finding another job in case the current job is lost.

From Table I-19, we see that there is a higher degree of job insecurity in men (0.31 *vs.* 0.27 for women), for younger employees (0.33 *vs.* 0.24 for employee aged over 50) and for the low educated (0.33 *vs.* 0.24 for the high educated). Target groups such as women and elderly employees thus seem to be rather well protected or at least have this feeling. Next, labour market security is not significantly different between men and women, while there are differences based on age and education. Especially employees aged over 50 do not expect to easily find a comparable position elsewhere in case they would lose their job. This might be related to the actual situation for older workers on the labour market, where older unemployed people do not find easily new employment.

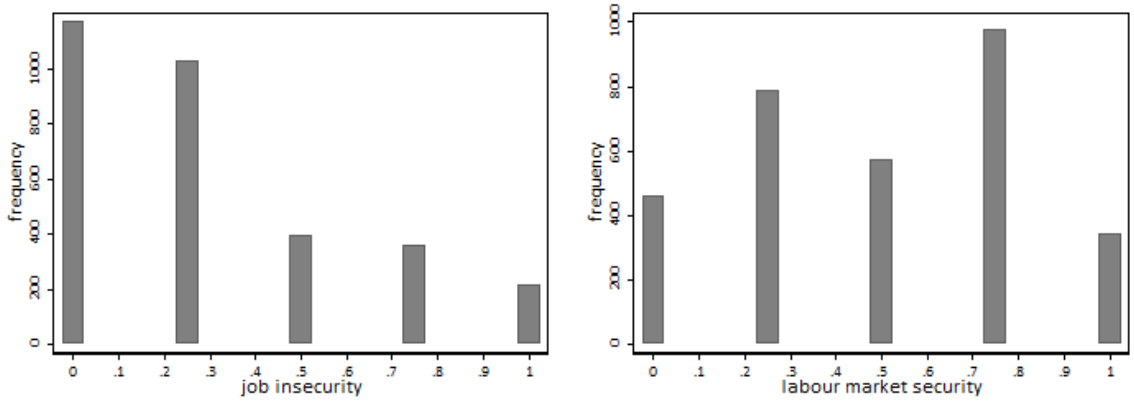

Figure I-9 Histograms of the two outcome indicators on subjective security (job insecurity, labour market security)

Table I-19 Subjective security outcomes (job insecurity, labour market security), by gender, age categories and educational level

	Total	Gender			Age				Education		
		Men	Women		-34	35-49	50+		Low	High	
Job insecurity	0.29	0.31	0.27	***	0.33	0.28	0.24	***	0.33	0.24	***
Labour market security	0.50	0.49	0.50		0.58	0.51	0.35	***	0.48	0.52	**

Note: *p<0.050; ** p<0.010; *** p<0.001.

5.1.2 Job attitude

We have selected four dimensions which can be bundled as outcomes related to job attitude: absenteeism, presenteeism, job satisfaction and sustainability. The first two measure in a straightforward manner the fraction of employees who were absent for eight or more days (the population mean and above) for absenteeism or who showed up at work despite being at least once for presenteeism. It is noteworthy that both items are not correlated in either way (r=0.061). Job satisfaction is a six item construct using the questions outlined above which were found to be related to a latent dimension using factor analysis. Sustainability is based on the answer of respondent that they do not think they will be able to do the job they do now until they are 60 years old.

In our scheme of socio-demographic variables, the most interesting finding is perhaps the insignificant difference between men and women for job satisfaction. Next, there is a linear effect of age, with older employees being more satisfied, and a positive effect of educational attainment on job satisfaction. Absenteeism is more present in women, with a percentage difference of 5% points. Older employees also show significantly more absenteeism. Employees with a higher educational attainment, finally, are less absent of work (19% *vs.* 25% for the low educated). Next, working while ill (presenteeism) is uncommon, as not even half of the working population (43%) has done this at least once. Men score significantly lower than women, the percentage differences being at 9%-points. There is no significant age difference, and but a slight indication that the higher educated go more often to work when ill (43% *vs.* 46% for the low educated), despite having an automatic first day sick leave for white collar employees provided in the labour regulations.

About 44% of all employees indicate they will not be able to do the same job until they are 60 years old. Men and women have different opinions on this, as men believe more often than women that their job is sustainable. Further, the young and lower educated have more than average doubt on the sustainability of their work.

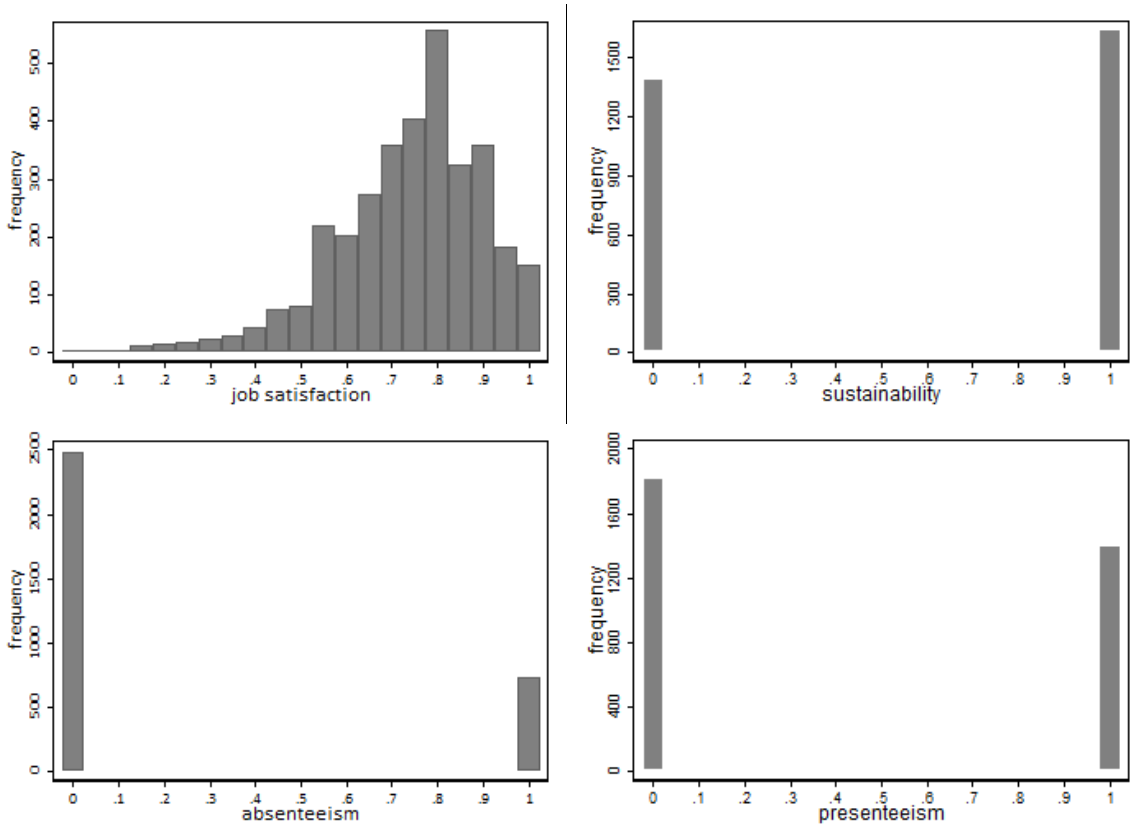

Figure I-10 Histograms of the four outcome indicators on job attitude (job satisfaction, sustainability, absenteeism, presenteeism)

Table I-20 Job attitude outcomes attitude (job satisfaction, sustainability, absenteeism, presenteeism), by gender, age categories and educational level

	Total	Gender			Age				Education		
		Men	Women		-34	35-49	50+		Low	High	
Job satisfaction	0.74	0.74	0.74		0.73	0.74	0.76	***	0.72	0.76	***
Sustainability	0.56	0.58	0.53	**	0.48	0.57	0.65	***	0.49	0.63	***
Absenteeism	0.22	0.20	0.25	**	0.18	0.23	0.27	***	0.25	0.19	***
Presenteeism	0.44	0.40	0.49	***	0.45	0.46	0.41		0.43	0.46	*

Note: * p<0.050; ** p<0.010; *** p<0.001.

5.1.3 Health outcomes

Three indicators were selected to assess the health of respondents. On the one hand, one question informs us on the (subjective) assessment of the general health of workers, and six other questions were used to construct dimensions of the physical and psychological health of workers. A fourth indicator indicates whether the respondents belief their health is at risk because of their work.

Work related health risks are rather uncommonly perceived (39%), but more so by men (41%) than by women (37%). There are no age differences in this respect. The lower educated do seem more risk prone, with an average score of 42% *vs.* 36% for the high educated.

General health, on average, is at a high level: 0.78 with the maximum score of 1 indicating 'very good health'. There is no significant gender difference, but there is a decrease in health for older employees. The health status of high educated employees is significantly better than it is for low educated. Physical health, being an index of three items (backache, muscular pain in upper body, muscular pain in lower body) with a higher value indicating better health, is lower in men than in women and decreases when aging. The higher educated have less physical issues than the low educated. Finally, psychological health, an index of three items (depression or anxiety, fatigue and insomnia) is better in men (0.80) than in women (0.77) and again decreases with age (from 0.81 for the young employee to 0.77 for employees aged over 50). Surprisingly, there is no significant difference based on educational attainment.

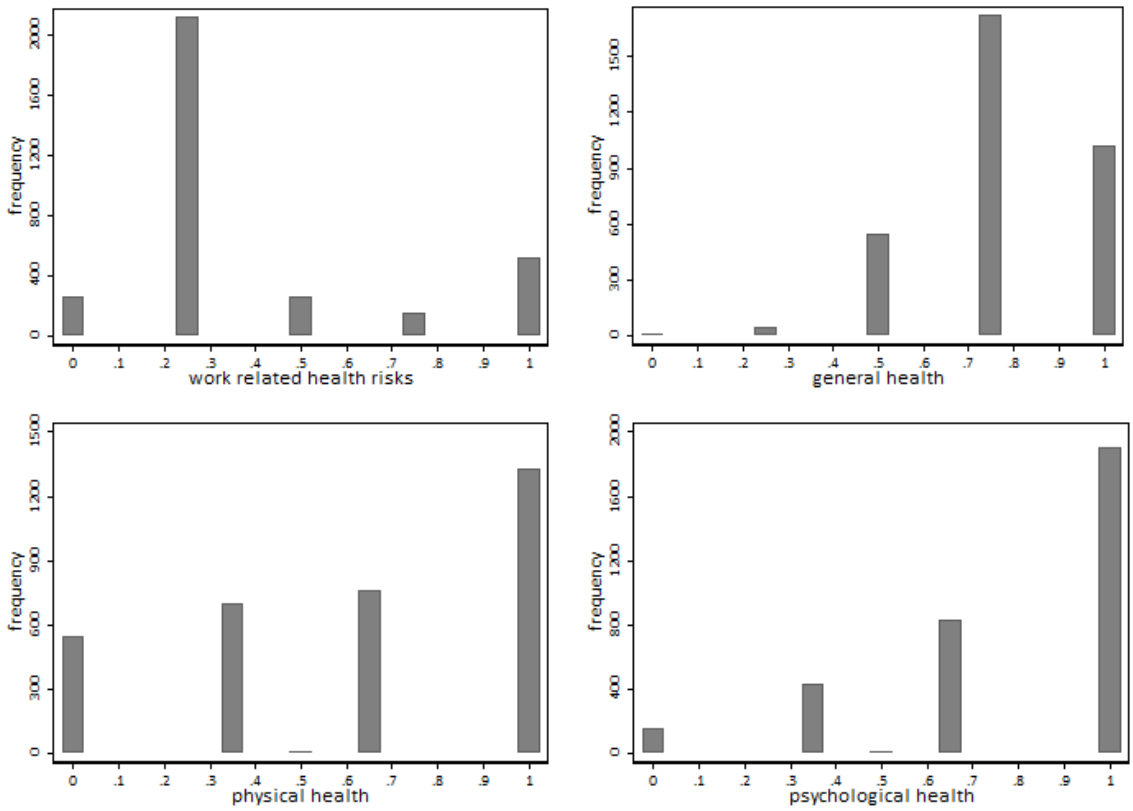

Figure I-11 Histograms of the four outcome indicators on health (work related health risks, general health, physical health, psychological health)

Table I-21 Health outcomes, by gender, age categories and educational level

		Gender			Age				Education		
		Men	Women		-34	35-49	50+		Low	High	
Work related health risks	0.39	0.41	0.37	***	0.39	0.39	0.40		0.42	0.36	***
General health	0.78	0.78	0.77		0.82	0.77	0.73	***	0.76	0.80	***
Physical health	0.62	0.64	0.60	**	0.68	0.62	0.53	***	0.58	0.67	***
Psychological health	0.79	0.80	0.77	***	0.81	0.78	0.77	**	0.79	0.78	

Note: * p<0.050; ** p<0.010; *** p<0.001.

5.2 Job quality outcomes for self-employed workers

Self-employed people are quite confident they will find enough projects in order to guarantee a job for themselves. Their job insecurity is significantly lower than the job insecurity of employees. Self-employed have also a higher job satisfaction, they believe more than employees it will be possible to do the same job until they are 60 years old, and they have much lower absenteeism rates.

Finally, the health outcomes are better for self-employed workers. Not only their general health, but also the physical and psychological health scores are far better within self-employed workers. And, when ill, they keep on working more frequently.

Table I-22 Job quality outcome indicators, by employment relationship

		Employment relationship		
	Total	Employees	Self-employed	
Job insecurity	0.27	0.29	0.19	***
Labour market security	0.49	0.50	0.47	
Job satisfaction	0.76	0.74	0.86	***
Sustainability	0.58	0.56	0.71	***
Absenteeism	0.20	0.22	0.07	***
Presenteeism	0.43	0.44	0.51	**
Work related health risks	0.39	0.39	0.38	
General health	0.78	0.78	0.81	***
Physical health	0.63	0.62	0.69	***
Psychological health	0.79	0.78	0.83	***

Note: * p<0.050; ** p<0.010; *** p<0.001.

5.3 Job quality outcomes of different quality of work clusters

In this paragraph, we relate the job quality outcomes of employees to the different quality of work clusters. As the relationship between quality of work and quality of work outcomes will be discussed in other chapters in this volume, we only briefly discuss these figures in this chapter.

Table I-23 shows how the clusters may have different levels of job quality outcomes. Higher scores point to more agreement with or a higher incidence of the statement. The èta² statistic explains how much of the variation in the population can be explained by the employee group. The figure would be 100% if an aspect only appears in one cluster and for all employees in that cluster. We learn that all outcomes vary significantly over the clusters, but the èta² values (around or below 5%) point to different degrees in which the clusters account for population variance. In general, from this preliminary view, the health variables are more connected to the clusters than the absenteeism/presenteeism questions and the job insecurity/labour market security questions.

Table I-23 Job quality outcome indicators, by quality of work type

	A Saturated jobs	B Full-time balanced work	C Work with limited career prospects	D Work on flexible and unusual hours	E Emotio-nally de-manding work	F Heavy repetitive work	G Indecent work	Total	Eta² (%)	p
Job insecurity	0.24	0.23	0.28	0.30	0.28	0.33	0.36	0.29	2.00	***
Labour market security	0.55	0.49	0.51	0.48	0.53	0.46	0.46	0.50	1.11	***
Job satisfaction	0.80	0.78	0.76	0.69	0.69	0.72	0.64	0.74	11.49	***
Sustainability	0.63	0.76	0.61	0.50	0.32	0.56	0.50	0.56	1.56	***
Absenteeism	0.18	0.18	0.22	0.25	0.35	0.25	0.24	0.22	1.58	***
Presenteeism	0.51	0.43	0.47	0.52	0.56	0.42	0.45	0.48	0.76	**
Work related health risks	0.36	0.29	0.33	0.44	0.56	0.42	0.40	0.39	7.07	***
General health	0.80	0.81	0.79	0.76	0.71	0.77	0.77	0.78	3.03	***
Physical health	0.66	0.71	0.64	0.56	0.41	0.59	0.59	0.62	5.42	***
Psychological health	0.78	0.82	0.79	0.74	0.63	0.81	0.81	0.79	3.96	***

Note: * p<0.050; ** p<0.010; *** p<0.001.

As health problems seem to be to some degree connected to the typology of job quality, we first look at these figures. The evident hypothesis is that best quality jobs have the best health outcomes and indecent work is leading to the most problematic health situation. There is no strong support for this hypothesis as most health indicators for these two extreme clusters are quite often not very different from each other. Surprisingly it is in two intermediate clusters that we find respectively the best and worst health outcomes.

The health outcomes point at one particular quality of work with very problematic relative health outcomes. The workers with 'emotionally demanding work' have by far the highest score on work related health risks, and also register the worst scores on the three different health indicators. Figure I-12 illustrates this relationship. Workers who are dependent on demands of other people suffer more from sleep problems than other workers.

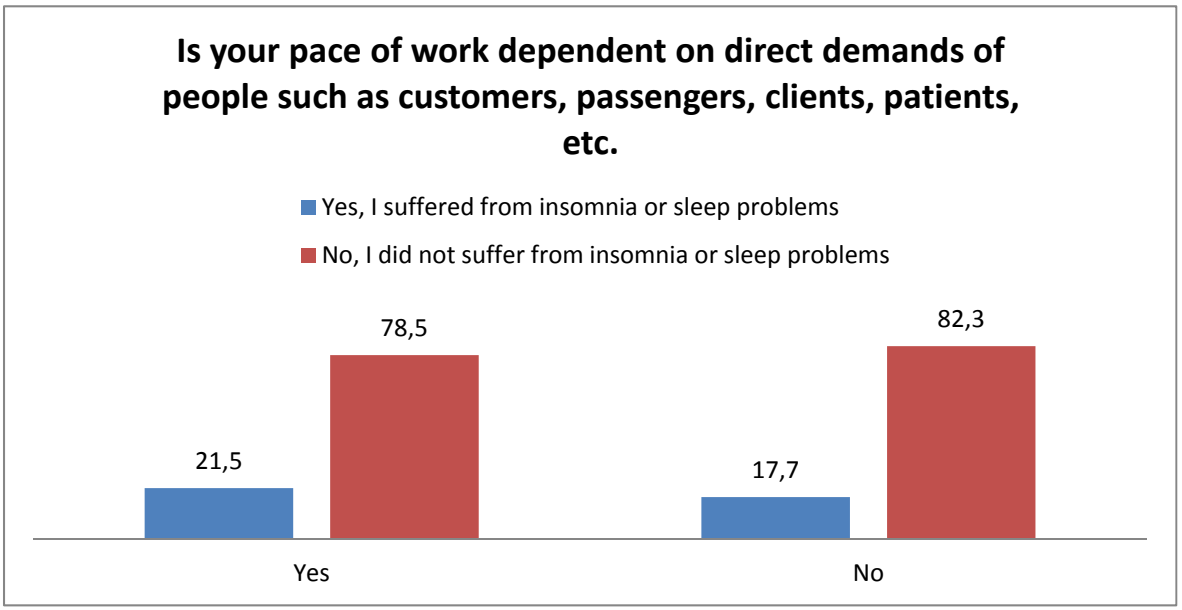

Figure I-12 Share of employees that suffered from insomnia or sleep problems, according to the dependency of work pace on demands of other people

Workers with 'full-time balanced work' seem to have the best health outcomes. On every indicator, they have the best score. This suggests that the 'saturated jobs', with challenging work and extremely good working conditions, is not the best work for workers' health. The 'next best' work with rather moderate expectations for the worker seems to be a better choice when it comes to optimizing workers' health outcomes.

Healthy work seems to be an important determinant for sustainability. We find the best score on the question if 'you think you will be able to do the same job you are doing now when you are 60 years old' in the cluster with 'full-time balanced work' and the worst score in the group with 'emotionally demanding work'.

Regarding the effect on job attitudes and the subjective security of workers, we find that the 'saturated jobs' offer equally good outcomes as 'full-time balanced work'. An example of this relationship is presented in Figure I-13. Social support, a discriminatory element of the two best work quality clusters, is very important for workers. Workers who receive always or most of the time support of their manager are satisfied with the working conditions, whereas workers who rarely or never receive social support are not satisfied with their working conditions.

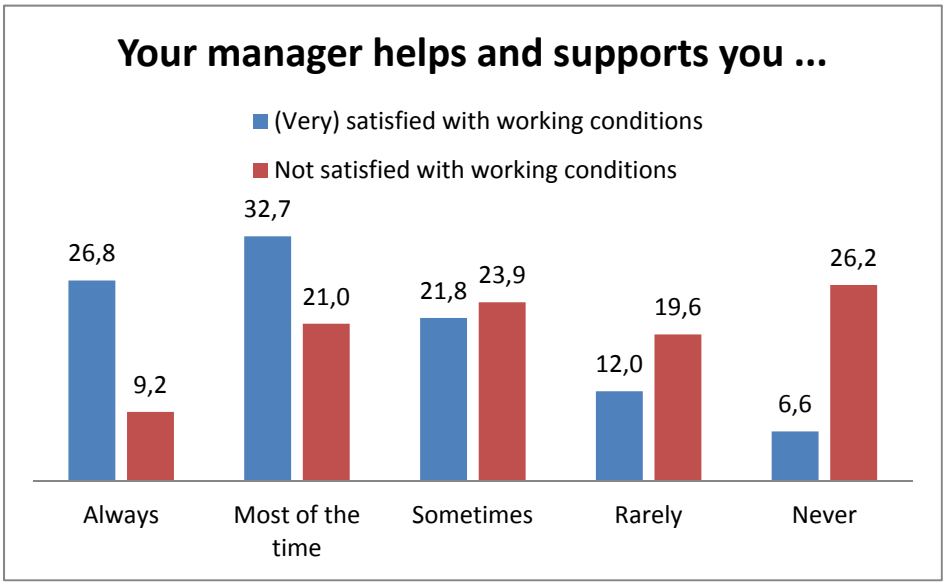

Figure I-13 Share of employees that is satisfied with the working conditions, according to the support they receive from their manager

Finally, we also find 'indecent workers' in the least comfortable situation, expressing by far the highest job insecurity and lowest job satisfaction scores.

6. Putting Belgian quality of work in perspective. Comparing Belgium with other European countries

Through (a new) cluster analysis we obtained six configurations of job quality components amongst EU member states.[4] These clusters cannot be ordinally ranked, since many job quality components can have different job quality outcomes depending on a cultural or economical setting: for example, part time work should not be harmful when it is voluntary, as is frequently the case in the Netherlands. Speed pressure can be low when demand diminishes or when capital intensity is low, pointing to a bad economical context. It may also mean that the job is

4 Cluster analysis used squared Euclidian distances and Ward's linkage. Variables excluded were earnings, as within each country a relative scale of income is used. Technically, a seven cluster solution has slightly better Duda-Hard statistics, though the only difference being that Malta is separated from cluster 1.

not challenging, while, in contrast, too much speed pressure will wear out the employee. Therefore, the clusters describe countries that score similarly on many job quality components, so that the configuration as a whole can be interpreted. Looking at Table I-24 (summarizing the characteristics of the different country clusters), we see a striking resemblance between the configurations found here and common welfare state typologies (Esping-Andersen, 1990).

Table I-24 Presentation of the characteristics of the quality of work characteristics of the six country clusters

Cluster	Countries
(1)	*Czech Republic, Estonia, Latvia, Malta, Poland, Slovenia, Slovakia (new member states)* In general, average scores on most job quality components, with a high degree of full-time work but also frequently unusual working hours. Speed pressure and emotional pressure are on the lower end.
(2)	*Bulgaria, Spain, France, Italy, Lithuania, Hungary, Portugal, Romania (Mediterranean welfare states + new member states)* More extreme scores, *e.g.* bad career perspectives and few training, restricted say and voice, but also below average speed pressure and working time flexibility.
(3)	*Greece, Cyprus (Mediterranean welfare states)* Low scores for autonomous team work, voice, task complexity, task autonomy, working time autonomy and working time flexibility. Training is behind other clusters but supportive management and social support are at a high level.
(4)	*Denmark, Finland, Sweden (social democratic welfare states)* Extreme scores which are opposed to the scores in cluster 3. A high degree of autonomous team work, good career perspectives and training, low emotional pressure, complex tasks, task autonomy, working time autonomy, voice, but also working time flexibility, repetitive tasks and a marked degree of part time work.
(5)	*Ireland, the Netherlands, UK (liberal welfare states)* Mirroring cluster 4 to a large extent, but with even less full-time work, fewer permanent contracts and less voice.
(6)	*Belgium, Germany, Luxembourg, Austria (corporatist welfare states)* A high degree of permanent contracts but a marked degree of part time work, good career perspectives and task complexity, low levels of social support and say, more repetitive tasks and a high degree of emotional pressure.

The Scandinavian countries Denmark, Finland and Sweden are clustered in one group of countries. On a long list of indicators they have the most interesting quality of work scores. Especially the job content of Scandinavian workers is interesting. They have a lot of autonomy to work on complex issues, quite often in teams. Emotional pressure seems to be limited to low levels in these economies. These economies offer a lot of autonomy on how to work, but expect the workers to remain flexible when it comes to working on unusual working hours and on unexpected work schedule changes. Voice and say are important characteristics of the social welfare state in the Nordic countries, confirmed in their high scores on these

two social relations indicators. Finally, training is far more offered in this cluster than elsewhere.

The two Anglo-Saxon countries are clustered with the Netherlands in a type of work mirroring the big share of service work in the economy. Working with people is an important characteristic, with high scores for dealing with people outside the company, a very decent level of social support of colleagues, and some risk on harassment (although emotional pressure seems to be limited). The share of part time work is high, but this is not hindering these companies in offering more career opportunities than elsewhere. These individual chances, combined with other flexible characteristics of the employment relationship, relate to the liberal vision on the welfare state in these countries.

A big group of Mediterranean countries have an odd profile on behalf of the working conditions. Dealing with (sometimes angry) people from outside the company rarely happens, and workers usually work in the same fixed workplace. Nevertheless, the workers are in this workplace more than average exposed to different hazards. Career and training opportunities in these countries are limited. Some indications of the content of work suggest that also on the job learning will be limited: speed pressure is low, team work rarely occurs and repetitive work part of the job. Collective representation of employees is nowhere lower than in this cluster. We find Bulgaria, Romania, Hungary, Lithuania, France, Italy, Spain and Portugal in this cluster.

Another big cluster groups other new Member States: Czech Republic, Slovakia, Poland, Estonia, Latvia, Slovenia and Malta. To some extent, the profile is similar to the former cluster, albeit mostly less extreme. Speed pressure is low, dealing with people is not that important, and workers have a full-time contract and a fixed workplace. Furthermore, these countries are also characterised by low 'voice' scores.

Cluster 3, with Greece and Cyprus, is a group apart because of some extreme scores on behalf of working conditions. On the one hand, these countries offer temporary countries with not much training opportunities. On the other hand, workers get a typical workweek and do not have to expect much last minute changes in this schedule. They also can fall back on good social contacts on the workfloor, with high scores for social support and supportive management. The job design of Greece and Cypriot workers is having particular workability risks as speed pressure is very high and autonomy very low. The high score on emotional pressure might be related to this.

Finally, we have a cluster with corporatist welfare states. We have Belgium linked with Germany, Luxembourg and Austria in this group. This seems to be the group with 'average' countries. A lot of indicators might score statistically different than

the European average, but in absolute terms they are quite often near this average. Important difference may be noted on the high degree of permanent contracts. We also find surprisingly low scores on social relations in this cluster. Workers have not much to say on how the company organises the work, and support by management and especially colleagues is quite low. This lack of social support may be connected to the fact that these countries register the highest harassment levels.

7. Conclusion

Based on the scores of all employees on 22 job quality sub-dimensions we developed a taxonomy of job quality on the Belgian labour market. Seven types of jobs were distilled, each of them typified with a particular job quality constellation. Two clusters are characterised with a good to excellent quality of work. About one out of three Belgian employees with 'saturated jobs' or 'full-time balanced work'.

More than half of the Belgian working population is part of a cluster characterised with least one unpleasant element of the work quality. These workability problems may be found in the part time contract and limited career prospects, in the working time arrangements, in the emotional demands of the work, or in the heavy and repetitive character of the tasks.

Finally, one out of six workers is found in the last cluster with 'indecent work'. Whereas the former clusters all have some decent elements of the work quality, this is not the case for these workers. This cluster has a bad score on almost every indicator on work quality.

The type of job quality of a worker is determined to a large extent by the occupational group. Managers and technicians can expect a good quality of work. All other occupational groups have their particular workability problems. We find 'emotionally demanding work' for professionals and 'heavy repetitive work' for craft and trade occupations. Elementary occupations and service and sales workers seem to have the biggest workability problems and have an overrepresentation in flexible work clusters ('work with limited career prospects' or 'work on flexible and unusual hours'), 'emotionally demanding work' and 'indecent work'. Apart from occupation, the activity of the company and the educational level of the worker determine the particular job quality type of a worker.

Our conceptual model assumes a relation between the quality of work and workers' well being and health. This relationship is confirmed in our analyses. Health problems are connected to the typology of job quality. The evident hypothesis is that best quality jobs have the best health outcomes and indecent work is leading to the most problematic health situation. There is no strong support for this hypothesis as most health indicators for these two extreme clusters are quite often not very different from each other. Surprisingly it is in two intermediate clusters that we find respectively the best and worst health outcomes.

The health outcomes point at one particular quality of work with very problematic relative health outcomes. The workers with 'emotionally demanding work' have by far the highest score on work related health risks, and also register the worst scores on the three different health indicators.

Workers with 'full-time balanced work' seem to have the best health outcomes. This suggests that the 'saturated jobs', with challenging work and extremely good working conditions, is not the best work for workers' health. The 'next best' work with rather moderate expectations for the worker seems to be a better choice when it comes to optimizing workers' health outcomes. Further, healthy work seems to be an important determinant for sustainability. We find the best score on the question if 'you think you will be able to do the same job you are doing now when you are 60 years old' in the cluster with 'full-time balanced work' and the worst score in the group with 'emotionally demanding work'.

The clustering of all European countries according to their quality of work did not classify one group of countries as 'best quality work countries'. The Scandinavian countries offer interesting job content for their working population. Voice and say for workers are two other important characteristics of this Nordic model. Three countries in the 'liberal welfare state' model offer more career opportunities for their workers, dealing a lot with people outside the company and guaranteeing good social relations within the company. Belgium is part of a cluster with Austria, Germany and Luxembourg. These countries cannot be typified by extremely good quality of work characteristics, except for the big number of workers with a permanent contract. This cluster seems to be the 'European average' cluster and has notably problems with social relations at work. Workers have not much to say on how the company organises the work, and support by management and especially colleagues is quite low. This lack of social support may be connected to the fact that these countries register the highest harassment levels.

CHAPTER II
OLDER WORKERS AND WORK SUSTAINABILITY

Patricia Vendramin, Gérard Valenduc

1. The challenge of work sustainability for active ageing

1.1 Employment rate of older population in Belgium and in Europe

In Belgium, the activity rate of persons aged 55-64 is 37.2% and their employment rate is 35.3% (LFS 2009). Although the employment rate of the 55-64 population increased during the past five years (from 30.0% in 2004 to 35.3% in 2009) it remains far below the level of 50% fixed by the Stockholm and Barcelona targets (European Commission, 2010, p. 66). In comparison with the neighbouring countries, Belgium lags far behind: the employment rate of 55-64 persons is 57.5% in UK, 56.2% in Germany, 55.1% in the Netherlands, 38.9% in France, and 38.2% in Luxembourg. The average of EU-27 is 46%. Only three countries are doing worse than Belgium in relation to the 50% target: Malta, Hungary and Poland.

As in most EU Member States, there are still substantial differences between male and female employment rates among older people. In Belgium, in 2009, the employment rate of the male population aged 55–64 is 42.9%, and that of the female population in the same age category is 27.7%. During the past five years, the male employment rate increased by 3.8 percentage points, while the female employment rate increased by 5.8 percentage points. At the EU-27 level, the male employment rate of the 55-64 population is 54.8%, while the female rate is 37.8%.

This gender gap is partly due to lower levels of female participation in employment in general, the lower skills levels of older women, and still lower statutory retirement ages for women compared to men in many Member States (European Commission, 2007, p. 84). However, the slight increase in the employment rates of seniors is largely due to the increased participation of women in the labour market. This, in turn, is due to the entrance to the labour market of cohorts of women with higher employment rates than older cohorts of women.

At the Belgian level, the policy goal to increase employment rates among older workers (55+) constitutes a common background of a set of policy measures included in the Solidarity Pact between Generations, which was negotiated by the

federal government and the social partners at the end of 2006 and which is currently being evaluated. The Pact however recognises that the improvement of working conditions of ageing workers is a precondition for achieving higher employment rates among the 55+ population (Moulaert, 2006). This need for improving working conditions of ageing workers was already stressed in the OECD report on ageing and employment policies in Belgium (OECD, 2003) and in the report 2004 of the Higher Council for Employment (CSE, 2004).

Federal authorities have set up several institutional settings in order to support the improvement of working conditions of ageing workers,[5] for instance:

- the Fund for professional experience, created within the federal administration of employment (SPF/FOD Employment and social dialogue), in order to support concrete projects of workplace improvements for 45+ workers;
- the co-financing of European Social Fund projects (2000-2007 programme) addressing intergenerational relationships at work and quality of employment of ageing workers;
- the PREVENT campaign 'Age and health at work', included in a European Leonardo project;[6]
- the publication, by SPF/POD Employment, of information material entitled 'Tools to understand ageing at work', as an outcome of the CAPA research project.

1.2 Hypothesis on the preconditions to active ageing

Research in different fields has paid attention to the preconditions that can support an increased employment rate of old persons. Regarding work sustainability, the first key dimensions relate to working conditions. For years the production system has functioned with a younger age structure. This becomes clear when the age distribution of certain work-related constraints or demands are examined (Molinié, 2003). According to various scientific findings, three types of constraints might make older workers more vulnerable (Marquié *et al.*, 1998): physical demands, night schedules, and intense time pressure. However, the results of the preceding EWCS show that the exposure of oldest workers to various physical demands is not much lower than for the rest of the population (Villosio, 2008). As for working time, shift work and night work are ill tolerated by part of the elderly. There are two aspects to the problems linked to these work schedules of an irregular nature: biological aspects (sleeping and eating times are desynchronised from a normal functioning of the body) and social aspects (working rhythms are disconnected with the general pace of life in society). Over the years, the increasing intolerance to such types of working hours may explain the wish of ageing workers to return to standard working hours and better working conditions. Older workers

5 www.emploi.belgique.be/touteslesgenerations (in French); also in Dutch.
6 www.ageingatwork.eu.

can be retained in case they can avoid tiring or painful positions, non-standard working hours, work rhythms and short deadlines and frequent changes (Molinié & Volkoff, 2006). In Belgium, the CAPA survey (2004-2006) confirms that maintaining older workers in the active life depends less on a change in the actual behaviour of older workers (*cf.* stereotypes) than on the working conditions of older workers (CAPA, 2006; Lamberts, 2004; Bertrand *et al.*, 2005).

Working conditions and health are closely linked. Comparative analyses have shown the relations between organisational models and health (Valeyre, 2006). While new organisational models took place, potentially more favourable to workers' well-being, the surveys on working conditions and occupational risks demonstrate a deterioration of working conditions and health problems. The previous EWCS indicates a slow but continuous deterioration of working conditions (painful positions, exposure to risks, high speed, short deadline, atypical working time, ...). Such trends induce an increased number of work related health problems, both of infra-pathologic (general tiredness, back pain, headache) and psychosocial kind.

Well-being at work is another dimension that contributes to the work sustainability. It concerns objective dimensions, such as quality of the working environment and working time management, and subjective dimensions, such as job satisfaction, work atmosphere and social relations at work. Existing surveys highlight that ageing workers are exposed to increased risks of deterioration of various components of their well-being at work.

Stereotypes of older workers play a role in the final decision of early retirement. Recent Belgian psycho-sociological research (Gaillard & Desmette, 2010; Desmette & Gaillard, 2008; CAPA, 2006) demonstrates the effect of stereotypes (regarding their motivation and ability to work, learn, and develop) on older workers. Early retirement intentions were lower when older workers were confronted with positive stereotypic information than when they were confronted with negative stereotypic information or with the absence of information regarding ageing workers on the labour market. In Germany, a survey of enterprises, conducted at the end of 2006 by the Regional Chamber of Industry (IHK, 2007) and commerce in Osnabrück, examines the reasons for the low employment rate of the elderly from an enterprise point of view. It also analyses what human resources manager think about older people (above 50 years old). Human resource managers consider old people to be able to perform as well as the younger. Older people are appreciated by employers for the following virtues: experience, autonomy and consciousness for quality as well as discipline and loyalty. The older fall behind in human resource managers' perception if it comes to flexibility, the ability to work in teams and willingness to learn. Physical capacity and creativity are associated with young people by most firms. Passos *et al.* (2010), in Portugal, analyse the stereotypes associated to age categories and they show how experience was associated to the older generation at work (50+) and innovation to the younger generation (<30).

Time preference and specific demands regarding the conciliation between working time and non-working time are important for all workers, but with specificities at the different ages of life. Much research demonstrates that the wish to leave the labour market earlier is also due to a desire of free time, a search of reconciliation between occupational and private obligations. The desire to reduce the working time is significant for ageing workers. Many surveys illustrate such attitudes. The survey Chronopost/Ipsos 'work at the different ages of life' conducted in France in 2005 (Delay *et al.*, 2005) puts the emphasis on the importance of the desire of free time in the wish to leave the labour market earlier. In Hungary, one of the key topics of the survey 'Turning points of the life course 2001-2004' (Kaptany *et al.*, 2005) is getting retired or, more broadly, ageing. The vast majority of people aged 46 or more (63%), does not want to work till the time of reaching the official retirement age. The main reasons for the intention to retire earlier were: being tired (40%), need for more time for the family (23%), deteriorating health (9%), finding way out of unemployment (6%), and desire for having more free time (6%). In Germany, the Bertelsmann Stiftung survey (Prager & Schleiter, 2006) 'Getting older – staying active' examines the opinion of employees (35 to 55 years old) regarding the pension reform and the parallel increase of the retirement age. The most important precondition for workers to stay active until the age of 65 is an improved reconcilability of occupational and private obligations (75%). 72% see a need to take up functions that are less dangerous for their health. 70% of employees desire more recognition from their superiors for the work they do, to be able to maintain commitment and motivation for their current occupation until retirement. Also 70% believe that it is necessary to reduce the weekly working time at a certain age. 66% see the overtaking of new challenging functions in the company as a precondition to keep working until the age of 65. 3% cannot even imagine working until the age of 65. The majority of German employees want to reduce their working time at the end of their gainful lives: 47% would like to work part time and 19% preferred to switch between work and free time. 21% want to continue working full time, 11% plan to stop working completely and 2% do not know.

All these studies and surveys raise some key topics that will be examined in the data analysis, notably working conditions and quality of work as a whole, health problems, well-being at work, age discrimination and time preferences. The Belgian EWCS 2010 survey provides a unique opportunity to draw a comprehensive approach on all these topics.

2. Description of employment of older workers

2.1 The characteristics of the older workforce in Belgium

The EWCS 2010 data allows for shaping a profile of Belgian ageing workers, according to employment conditions, occupational groups and sectoral distribution. The age categories in this report are the <35 years old, the 35-49 years old and the ≥ 50 years old. 'Older workers' or 'ageing workers' will therefore refer to the '50+' category.

Table II-1 Distribution of employment conditions by age

Employees only	<35	35-49	50+	All employees	50+Male	50+Female
Type of contract						
Indefinite contract	78	90	93	87	94	92
Fixed term contract	14	7	3	8	3	3
Other	8	3	4	5	3	5
Total %	100	100	100	100	100	100
Private/public						
Private sector	66	60	56	61	*62*	48
Public sector	26	30	33	29	28	*39*
Join private-public, NGO, other	8	10	11	10	10	*13*
Total %	100	100	100	100	100	100
Size of the establishment						
1-9	28	21	22	24	18	*28*
10-99	46	46	40	44	41	*39*
100-499	15	21	23	19	*26*	19
500+	11	12	15	13	*15*	14
Total %	100	100	100	100	100	100
Total N	1,087	1,488	722	3,297	415	307
All respondents	<35	35-49	50+	All sample	50+Male	50+Female
Status in employment						
Self-employed without employees	6	10	11	9	*13*	8
Self-employed with employees	5	6	7	6	*9*	4
Employed	86	83	79	83	76	*83*
Other	3	1	3	2	2	5
Total %	100	100	100	100	100	100
Total N	1,262	1,787	916	3,965	546	370

In comparison to younger age categories, 50+ workers are more represented in larger establishments (workplaces), more represented in the public sector and more likely to have an indefinite contract. Gender differences are important

among the 50+: the over-representation of the public sector among 50+, and to a lesser extent of the category NGO and others, is due to the female employment structure of older workers. Finally, 18% of the 50+ workers (mainly male) are self-employed versus 11% for those below 35 and 16% for the median age category.

The next table (II-2) shows the age distribution of workers according to categories of occupations (ISCO classification).

Table II-2 Occupational categories by age-Employees

	<35	35-49	50+	All employees	50+ Male	50+ Female
ISCO 08-1						
Managers	*6*	9	8	8	*11*	(4)
Professionals	21	23	22	22	16	*31*
Technicians and associate professionals	13	13	14	13	13	16
Clerical support workers	13	15	18	15	15	*21*
Service and sales workers	17	11	10	13	9	11
Craft and related trades workers	11	11	10	10	*15*	(3)
Plant and machine operators, and assemblers	9	9	8	9	12	(3)
Elementary occupations	10	10	10	10	10	11
Total %	100	100	100	100	100	100

Not included: armed forces, agricultural, forestry and fishery workers (too small numbers).
The numbers between brackets are unreliable (too small numbers).

The distribution of 50+ workers is rather close to the average of all employees. There are only small differences regarding clerical support workers and service and sales workers. Again, the main differences concern gender among older workers. Male 50+ workers are over-represented among managers, as well as among craft workers and industrial operators. Female 50+ workers mainly concentrate among professionals (this category includes teachers and nurses), and clerical support workers (both categories gather 52% of female 50+ workers, against 31% of male). Within the category service and sales workers, there are for instance personal care workers and retail trade workers, and within elementary occupations, for instance cleaners.

The next table (II-3) shows the distribution of employment according to age, in the aggregated sectoral categories suggested in Chapter I.

Table II-3 Sectoral distribution of employee employment by age

	<35	35-49	50+	All employees	50+ Male	50+ Female
NACE rev2-1						
B-E Industrial activities	18	20	17	19	*22*	8
F Construction	7	7	5	6	8	(1)
G Wholesale and retail trade, repair of vehicles	15	13	11	13	11	10
H Transportation and storage	6	13	9	8	14	(2)
I-M, R-U Business services and other service activities	24	18	16	19	11	21
N-O Public administration	9	5	12	8	*20*	11
P Education	10	15	16	14	11	*23*
Q Health and social work	11	13	13	12	(5)	*23*
Total %	100	100	100	100	100	100

Not included: agriculture (A-C) (too small numbers).
I-M= hotels and catering (I), information and communication (J), finance and insurance (K), real estate (L), specialised scientific and technical activities (M).
R-U= recreational and cultural activities (R), other service activities (S), activities of households (T), extra-territorial bodies (U).
The numbers between brackets are unreliable (too small numbers).

As regards 50+ workers in comparison with younger categories, older workers are proportionally less represented than the younger in wholesale and retail trade and repair (G), in business services and other services activities (I-M R-U), whilst they are more represented in public administration and education (N-P). Belgium is known as a service intensive economy: 75% of employees work in the service sector; this percentage is slightly higher for 50+ workers: 78%.

Again, the most important differences concern the distribution of male and female 50+ workers. 30% of male 50+ workers are employed in manufacturing industries (B-E) and construction (F), against only 9% of 50+ women. Female workers are largely over-represented in business services and other service activities (I-M R-U), in education (P) and in health and social work (Q), while male workers are over-represented in transport and storage (H), and public administration (NO).

As a concluding comment of this rough description of the 50+ workforce in Belgium, the gender issue has to be stressed. There are wider gaps between women and men among 50+ workers, than between older and younger workers. The distribution of employment according to occupations and to sectors is quite different for women and men. Therefore, gender matters in any analysis concerning 50+ workers.

2.2 Older workers and working time

Several above-mentioned studies underline that ageing workers often wish to reduce their working hours. Some collective agreements at the sectoral level (health, education, public administration) organise working time reduction schemes after 50 or after 55. The examination of Q18 (how many hours per week are you really working) and Q19 (provided you could make a free choice regarding you working hours and taking into account the need to earn a living, how many hours per week would you prefer to work at present) gives a picture of wished working hours versus real working hours among 50+ workers (Table II-4).

Among all 50+ employees, 26% wish to work less hours a week as currently, 64% wish to work the same amount of weekly hours and 10% wish to work more.

Table II-4 Real working hours and wished working hours per week among 50+ employees

	Men		Women	
	Reality	Wish	Reality	Wish
Working hours per week				
<18 (less than half-time)	1	2	7	7
18-20 (about half-time)	3	4	17	*22*
21-29	3	4	14	*13*
30-32 (about 3/4 or 4/5 time)	9	*15*	13	*21*
33-35	7	*10*	6	6
≥36 (about full time)	*77*	*65*	*43*	*31*
Total %	100	100	100	100

This table clearly indicates a working time reduction aspiration among 50+ workers, but these wishes differ for men and women. Most men are working full-time (77%) but only 65% would wish to keep on working full time. They mainly wish short working time reductions, between 3/4 time and full time. Among women, the wishes concern stronger reductions: only 31% of women wish to work full-time and 56% of women wish to work between 18 and 32 hours a week (from half time to 4/5 time).

The results in Table II-5 provide a picture of individual working time preferences of women and men above 50 years old.

Table II-5 Individual wishes of either reduction or increase in weekly working hours among 50+ employees

Wished changes in working hours per week	Men	Women	Men + women
Wished reduction in working hours per week			
More than 12 hours reduction	6	8	
From 9 to 12 hours reduction	5	6	
From 5 to 8 hours reduction (between one half day and one day)	8	11	
From 1 to 4 hours reduction (up to one half day)	5	2	
Sub-total wishes of reduction	*24*	*27*	*26*
No change in working hours per week	*67*	*61*	*64*
Wished increase in working hours per week			
From 1 to 4 hours increase (up to one half day)	3	3	
From 5 to 8 hours increase (between one half day and one day)	4	5	
More than 8 hours increase (more than one day)	2	4	
Sub-total wishes of increase	*9*	*12*	*10*
Total %	100	100	100

This table confirms the gender differences in the group of older workers. 14% of women, against 11% of men, wish to reduce their weekly working hours by more than 8 hours (or one day per week). Conversely, 9% of women, against 6% of men, wish to increase their working hours by more than 4 hours (or one half day). This wish for increased working hours could be partly explained by the unequal gender distribution of involuntary part-time work. Numbers are however too small to correlate part-time work and wishes for increased working hours, and confirm this hypothesis.

2.3 The place of 50+ workers in the typology of quality of work

In Chapter I, seven types of quality of work are developed through cluster analysis. Various tables in section 3.1 of Chapter I indicate the breakdown of younger and older, men and women, and other variables, within each of the seven types of quality of work. In this paragraph we check how the different types of quality of work are distributed within the same age category. The next Table (II-6) shows the results of this analysis, for the age categories <35 years, 35-49 years and ≥ 50 years. The same table also distinguishes women and men among the category of 50+ workers.

Table II-6 Breakdown of types of quality of work within age categories

	<35	35-49	50+	All employees	50+ Male	50+ Female
Types of quality of work						
Saturated jobs	14	21	20	18	26	14
Full-time balanced work	14	13	14	13	11	19
Work with limited career prospects	21	22	18	21	16	22
Work on flexible and unusual hours	12	10	11	11	13	8
Emotionally demanding work	13	14	11	13	8	14
Heavy repetitive work	9	8	10	9	13	7
Indecent work	17	12	15	14	13	17
Total %	100	100	100	100	100	100

The first finding of this analysis is that there are only slight differences between 50+ workers and other workers in the distribution of the seven types within age categories. The type 'saturated jobs' is more represented among 50+ than among the younger (<35). 'work with limited career prospects' and 'emotionally demanding work' is slightly less frequent among older than among other age groups. 'Indecent work' is slightly more represented among the older and the younger than in the middle aged group.

A second group of findings concerns the gender analysis. Again, among 50+ workers, the differences between women and men are meaningful. Among male 50+ workers, the most represented type is 'saturated jobs' (with one out of four aged worker). Among female 50+ workers, work with limited career prospects is prevalent. Compared to men, 50+ women are less represented in 'work on flexible and unusual hours' and 'heavy repetitive work', while they are more represented than men in the types 'full-time balanced work', 'emotionally demanding work' and 'indecent work'. Differences in percentage points are higher between 50+ women and 50+ men, than between age categories, for almost all types of quality of work.

3. Work sustainability

The section on work sustainability is mainly based on an analysis of the answers to Q75 in EWCS 2010. The question was 'Do you think you will be able to do the same job you are doing now when you are 60 years old?'. The three possible answers were 'Yes, I think so', 'No, I don't think so' or 'I wouldn't want to'. Precautions have to be taken concerning the third answer, because the translations in Belgian Dutch and Belgian French were different from the original English formulation. In French, the third answer was 'NO, I wouldn't want to' (there is no NO in

English). In the Dutch questionnaire, the third answer was preceded by an indication for the interviewer: 'Do not suggest', and there was also a NO in the answer. For more comments, please refer to the report on post-test interviews.

This question can be interpreted as an indicator whether the current job is considered to be sustainable in the long term or not – 'long term' depending obviously on the age of the interviewee. The overall results of this question for all employees are presented in Figure II-1.

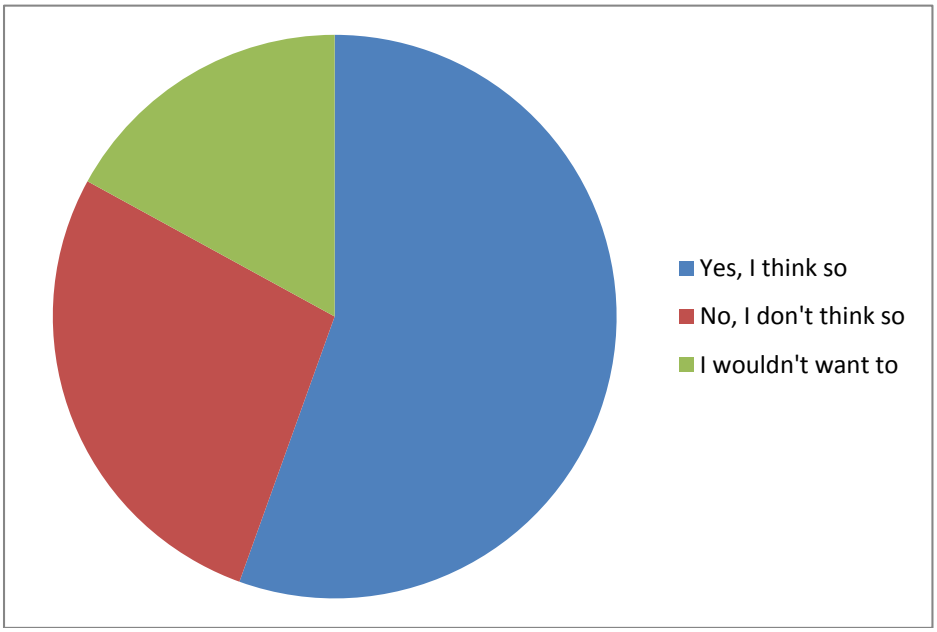

Figure II-1 Distribution of answers to Q75

3.1 Distribution of Q75 answers by socio-demographic variables

The distribution of answers by gender (Figure II-2) indicates that women are less likely than men to consider that they would be able to do their current job when they will be 60 years old, and this gender gap of 5.5 percentage points is distributed into inverse gaps of 3.5 points 'I don't think so' and 2.0 points 'I wouldn't want to'.

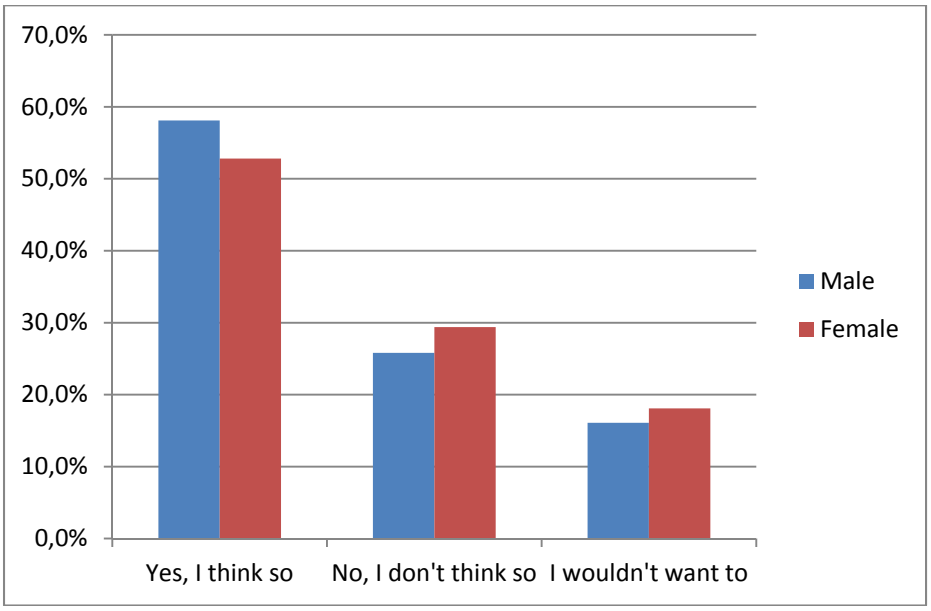

Figure II-2 Distribution of answers to Q75 by gender

The distribution by age categories (Figure II-3) indicates clearly that positive answers increase with age, and negative answers decrease with age. However, this result does not necessarily mean that the jobs of older workers are more sustainable than jobs of the younger. It means that older workers are more likely to consider that they will be able to continue their current job until 60 years old, taking into account that 'until 60' means within one to ten years for 50+ workers, while it means within decades for the younger. However, it is worthwhile to note that less than one young worker out of two thinks being able to do the current job at 60 years.

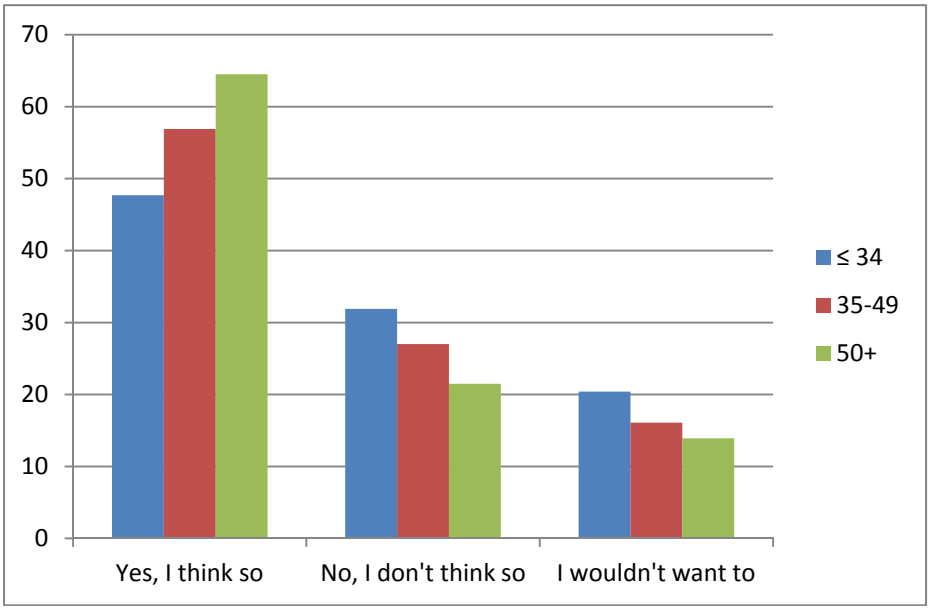

Figure II-3 Distribution of answers to Q75 by age category

The distribution of answers by education level (Figure II-4) shows a quasi-linear relationship between education level and positive opinion about the ability to make the current job when 60. Although two thirds of the master degree holders share this positive opinion, less than half of low-skilled workers (lower secondary education) think so.

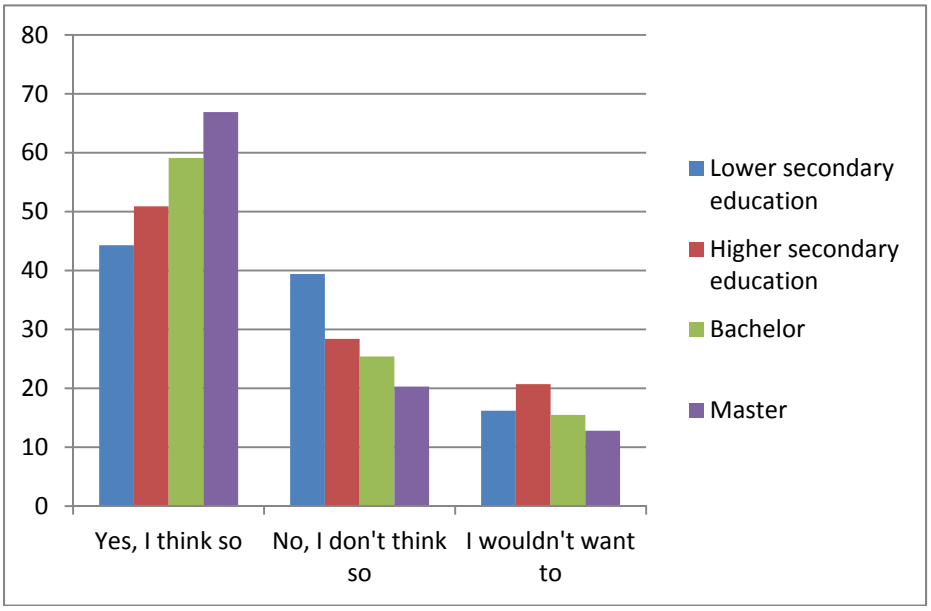

Figure II-4 Distribution of answers to Q75 by education level

3.2 Distribution of Q75 answers by characteristics of employment

There are almost no differences in the distribution of answers in relation to private sector, public sector, joint private/public organisations, or non-profit sector. Only those working in the non-profit sector are slightly more numerous than the average to answer 'yes' or 'no', while they are very few in the third answer (I wouldn't want to).

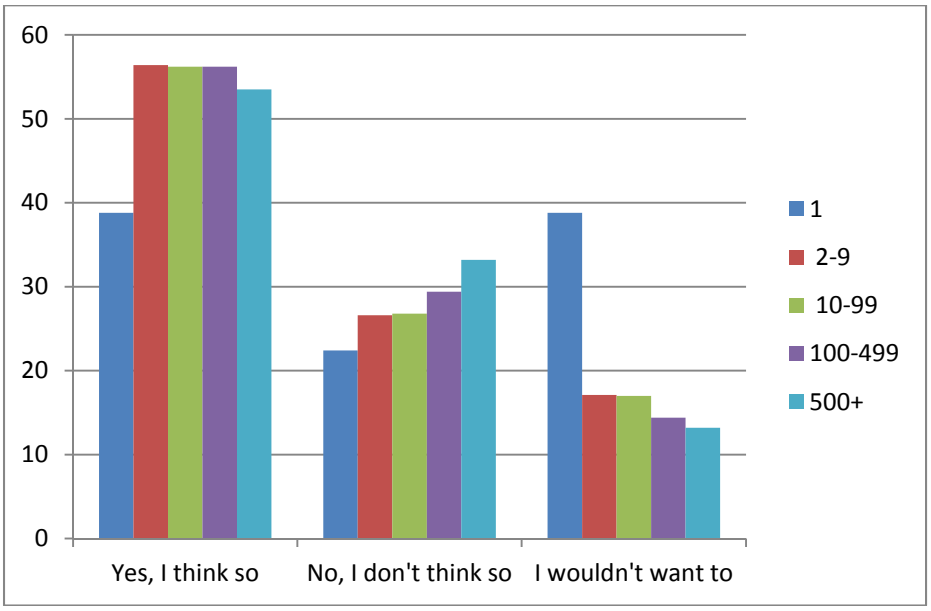

Figure II-5 Distribution of answers to Q75 by size of the workplace

The results by size of the workplace (Figure II-5) reveal the particular case of workers who work alone at their workplace. Although it is not a large group (N=81), they sharply distinguish themselves by a low percentage of positive answers and a particularly high percentage of 'No, I wouldn't want to'. At the other end of the size scale, those who are working in large workplaces (>500 workers) are more likely to think they will not be able to do the same job until 60. The size scale relates to the size of the workplace/establishment, not the size of the company.

The distribution of answers by occupational category brings some interesting findings (Table II-7).

Table II-7 Distribution of employee answers to Q75 by occupational category

	Yes, I think so	No, I don't think so	I wouldn't want to	Total %	Yes, I think so Male	Yes, I think so Female
ISCO 08-1						
Managers	61	24	15	100	62	53
Professionals	59	26	14	100	66	55
Technicians and associate professionals	63	26	12	100	65	60
Clerical support workers	66	19	15	100	69	64
Service and sales workers	48	31	21	100	52	46
Craft and related trades workers	47	35	18	100	46	48
Plant and machine operators, and assemblers	53	24	22	100	54	ns
Elementary occupations	37	38	25	100	48	29
Total	*56*	*27*	*17*	*100*	*58*	*52*

ns= Not significant (too small numbers).

The positive answers are more frequent among clerical support workers, technicians and associate professionals, managers and professionals, who stand above the average of positive answers. Conversely, only a minority of service and sales workers (48%), or craft and related trades workers (47%) think they will be able to do their current job when 60. The score of elementary occupations is particularly low (37%); in this occupational category, those who do not think to be able get the higher score (38%). The types of occupations appear as an important factor of job sustainability.

The two left columns of this table distinguish the percentage of positive answers of male and female workers. In almost all occupations, men are more likely than women to think they can still do their current job when 60. The gap is particularly wide for elementary occupations, at the detriment of women. Another occupational group is characterised by an important gender gap: professionals (the category that includes teachers). Manual occupations and service/sales occupations appear less sustainable than intellectual and clerical occupations, and this difference is wider among women than among men.

The distribution of answers by sector indicates in which sectors work can appear to be more or less sustainable (Table II-8). Concerning the positive answers, there are only little differences (2 percentage points to the average) between sectors. The distribution of the two kinds of negative answers varies from a sector to

another. For instance, the negative answer 'I don't think so' is higher than the average in the construction sector and in health/social work.

Table II-8 Distribution of employee answers to Q75 by sector

	Yes, I think so	No, I don't think so	No, I wouldn't want to	Total %	Yes, I think so Male	Yes, I think so Female
NACE rev2-1						
B-E Industrial activities	58	25	17	100	60	52
F Construction	54	34	13	100	52	ns
G Wholesale and retail trade, repair of vehicles	54	27	20	100	55	52
H Transportation and storage	58	24	18	100	57	ns
I-M, R-U Business services and other service activities	56	25	19	100	62	51
N-O Public administration	54	28	18	100	51	58
P Education	54	28	18	100	65	48
Q Health and social work	56	33	11	100	66	53
Total	*56*	*27*	*17*	*100*	*58*	*52*

Not included: agriculture (A) (too small numbers).
I-M= hotels and catering (I), information and communication (J), finance and insurance (K), real estate (L), specialised scientific and technical activities (M).
R-U= recreational and cultural activities (R), other service activities (S), activities of households (T), extra-territorial bodies (U).
ns= not significant (too small numbers).

Finally, the collected data also allow for a breakdown of answers in the three Belgian regions. However, as already mentioned at the beginning of this section, this regional comparison is biased by the fact that the third answer ('No, I wouldn't want to') was not proposed in the same way to Dutch and French speaking respondents: the Flemish (Dutch) questionnaire recommends the interviewer not to suggest directly this third answer. This is quite visible in the results of Figure II-6: the score of this third answer is particularly low in Flanders. Taking this precaution into account in the interpretation of the results, Figure II-6 shows few differences between Regions concerning the answer 'I don't think so'. The Brussels Region is characterised by a lower score of positive answers and a higher score of 'I wouldn't want to' (even in comparison with Wallonia only).

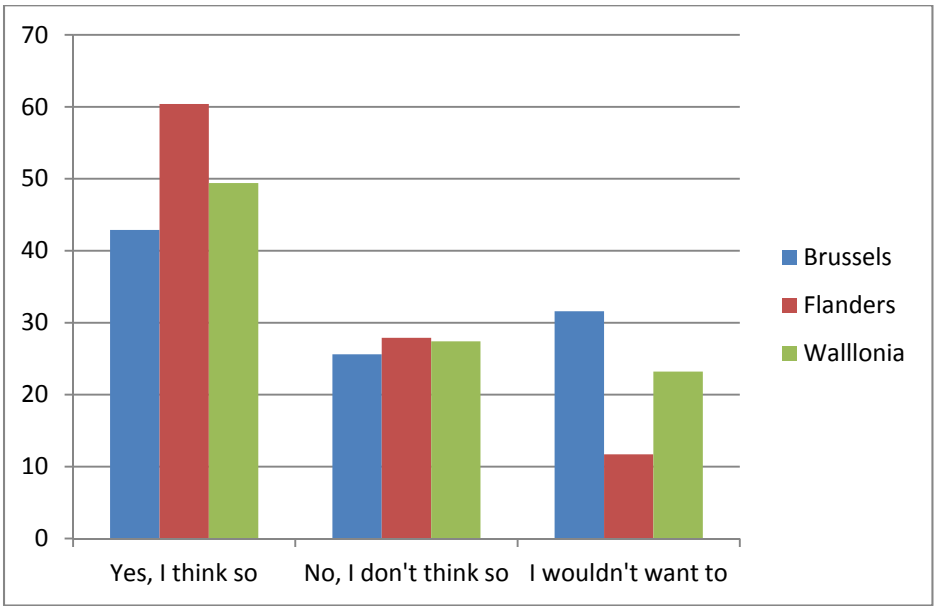

Figure II-6 Distribution of answers to Q75 by region

3.3 Distribution of Q75 answers regarding work/life balance and conciliation between working time and personal time

Work sustainability not only depends on the characteristics of work, but also on the ability to conciliate work with personal or family engagements, when ageing. Before considering the impacts of factors related to work/life balance on work sustainability, some additional descriptive data concerning conciliation over age can be summarised, using the answers to Q41 and Q43 (Table II-9).

These data show that 50+ workers have rather better opportunities than younger and middle aged workers to conciliate working time with personal or family commitments or needs. However, the differences are quite reduced and situation rather similar: the percentage of workers considering that work does not fit in well with personal or family commitments is 14% for 50+ workers, 16% for mid-aged and 16 for the younger. Opportunities to make small arrangements are however easier when age increases: 70% of the older workers, 64% of the mid-aged group and 61% of the younger age group declare that is it not difficult to have such small arrangements about working time.

Table II-9 Conciliation and working time arrangements of employees by age

	<35	35-49	50+
Q41: In general, do your working hours fit in with your family or social commitments outside work, ...			
Very well	38	37	43
Well	46	47	43
Not very well	13	12	11
Not well at all	3	4	3
Total %	100	100	100
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, ...			
Not difficult at all	*29*	29	37
Not too difficult	*32*	35	33
Somewhat difficult	*21*	21	15
Very difficult	*18*	15	15
Total %	*100*	100	100

Answers to Q75 are linked to conciliation issues (Table II-10). Those for whom working hours do not fit well in with other commitments are much less likely to think they can still do their current job when 60 years old (35% versus 54% for the average of all employees), and much more likely to choose one of the negative answers. The difficulty to take small working hours arrangements also influences negatively the sustainability of work.

Table II-10 Distribution of answers to Q75 by negative answers to Q41 and Q43

	Yes, I think so	No, I don't think so	I wouldn't want to	Total %
Average of all employees	54	29	17	100
Working hours fitting in with family or social commitments Answers: *'not very well'* + *'not well at all'*	35	40	25	100
Taking a couple of hours during working time to care of personal or family matters Answers: *'very difficult'* + *'somewhat difficult'*	43	33	24	100

4. Job quality dimensions and job sustainability

The twenty-two sub-dimensions in the table above define the quality of work. They are distributed into four main dimensions. Each sub-dimension is an indicator composed by a set of variables (see Chapter I for an extensive presentation of these sub-dimensions).

Seven sub-dimensions refer to job content characteristics. These indicators vary significantly on the sustainability factor (able to do the same job when 60 years old).

'Emotional pressure', 'repetitive tasks' and 'speed pressure' have higher scores for the group who don't think to be able to do the same job when 60 years old. 'Emotional pressure' refers to the dependency of the workpace on other people, and on different expressions of the emotional pressure of the work context. This indicator is higher (0.52) for those who think they won't be able to do the same job until 60 years old. It is 0.47 for those who believe they can do their job until 60.

Table II-11 Sub-dimensions of job quality by Q75 (able to do the same job when 60 years old). All employees in the age category 50+

	Mean	Yes, I think so	No, I don't think so	No, I wouldn't want to	Sig.
Job content					
Autonomous team work	0.35	0.34	0.36	0.34	
Emotional pressure	0.49	0.47	*0.52*	0.51	***
Repetitive tasks	0.37	0.34	*0.40*	0.43	***
Speed pressure	0.35	0.32	*0.39*	0.38	***
Task autonomy	0.70	*0.72*	0.68	0.66	**
Task complexity	0.70	0.70	0.71	0.65	***
Working time autonomy	0.38	*0.42*	0.35	0.35	***
Working conditions					
Risks	0.19	0.15	*0.24*	0.22	***
Dealing with people	0.57	0.60	0.55	0.54	***
Fixed workplace	0.40	0.38	0.43	0.41	*
Employment conditions					
Career opportunities	0.49	*0.54*	0.44	0.43	***
Contract	0.86	0.88	0.86	0.82	**
Earnings	0.29	0.29	0.28	0.27	*
Full-time work	0.70	0.72	0.69	0.65	**
Training	0.41	0.42	0.41	0.38	
Unusual working hours	0.30	0.28	0.32	0.29	***
Working time flexibility	0.30	0.29	0.33	0.30	***
Social relations					
Say	0.50	*0.54*	0.47	0.41	***
Supportive management	0.80	*0.83*	0.77	0.75	***
Social support	0.68	0.71	0.66	0.61	***
Violence and harassment	0.11	0.07	*0.16*	0.17	***
Voice	0.63	0.65	0.60	0.59	**

* p<0.05; ** p<0.01; *** p<0.001.

The indicator 'repetitive tasks' scores the employees who answer that their job involves short tasks of less than 1 or 10 minutes. As regards job sustainability, the indicator is higher (0.40) for those who think there job is not sustainable than for those who think there job is sustainable (0.34).

The indicator 'speed pressure' summarises the information on high speed work, the external control of pace and the lack of time to get the job done. The average varies from 0.39 (not sustainable job) to 0.32 (sustainable job).

'Task autonomy' and particularly 'working time autonomy' have also an impact on the assessment of the sustainability of the job but in the positive direction. 'Task autonomy' sums up the scores of respondents on three questions referring the ability to choose or change the order of tasks, the work methods and the speed of work. 'Working time autonomy' expresses to what extent the employee can decide to work individually when the work is performed. Having people under supervision is also part of this sub-dimension. The averages are higher for those who think their job is sustainable until 60 years old, 0.72 for 'task autonomy' and 0.42 for 'working time autonomy'. They are lower for the opposite group, respectively 0.68 and 0.35.

The sub-dimensions 'autonomous team work' and 'task complexity' do not seem to have an impact on the assessment of job sustainability.

As regards the dimension concerning working conditions, the main variation in the averages concern the indicator 'risks'. This indicator summarises the scores on questions dealing with a variety of exposures for employees at work. Some questions refer to work related musculoskeletal disorders, other to biochemical risks and a third group of questions ask for exposure to ambient risks (such as high of low temperatures). The average for all employed in the age category 50+ is 0.19 but 0.24 for those who don't think they will be able to do the same job when 60 years old and 0.15 for those who think they will still be able.

In the group of indicators concerning employment conditions, the more significant variation within averages concerns the sub-dimension 'career opportunities'. This indicator equals to the score of respondents on the question whether they (strongly) (dis)agree on the statement that 'their job offers good prospects for career advancement'. The average for all employees in the age category 50+ is 0.49 but 0.44 for those who don't think they will be able to do the same job when 60 years old and 0.54 for those who think they will still be able.

The sub-dimensions concerning social relations show a positive effect of all indicators on the assessment of job sustainability.

Table II-12 compares the variation in the averages for men and women of the age category 50+ by two possible answers to question 75 (able or not to do the same job when 60 years old). There are some significant differences among men and women. Most of the indicators concerning social relations seem to have more impact on the negative evaluation of the sustainability of job in the case of women. This is also the case for 'career opportunities', 'unusual working hours' and 'work-

ing time flexibility' and 'emotional pressure'. Furthermore, women intend not doing the same jobs until 60 when they have good earnings. Repetitive tasks are for men an important reason to assess a job as not sustainable.

Table II-12 Sub-dimensions of job quality by Q75 (able to do the same job when 60 years old). All employees in the age category 50+. Male and female

	Mean	Male		Female		Sig.
		Yes, I think so	No, I don't think so	Yes, I think so	No, I don't think so	
Job content						
Autonomous team work	0.35	0.35	0.38	0.33	0.34	
Emotional pressure	0.49	0.45	0.46	0.51	*0.58*	***
Repetitive tasks	0.37	0.33	*0.43*	0.34	0.37	***
Speed pressure	0.35	0.34	0.43	0.29	0.36	***
Task autonomy	0.70	0.69	0.65	0.75	0.71	**
Task complexity	0.70	0.71	0.73	0.69	0.69	***
Working time autonomy	0.38	0.43	0.37	0.39	0.33	***
Working conditions						
Risks	0.19	0.17	0.27	0.13	0.21	***
Dealing with people	0.57	0.34	0.38	0.43	0.49	***
Fixed workplace	0.40	0.50	0.50	0.72	*0.59*	*
Employment conditions						
Career opportunities	0.49	0.56	0.50	0.52	*0.39*	***
Contract	0.86	0.89	0.86	0.87	0.86	**
Earnings	0.30	0.31	0.33	0.26	0.32	***
Full-time work	0.70	0.86	0.88	0.55	0.50	**
Training	0.41	0.41	0.40	0.43	0.41	
Unusual working hours	0.30	0.32	0.36	0.23	*0.32*	***
Working time flexibility	0.30	0.31	0.33	0.26	*0.32*	***
Social relations						
Say	0.50	0.53	0.49	0.55	*0.45*	***
Supportive management	0.80	0.83	0.77	0.84	*0.77*	***
Social support	0.68	0.70	0.67	0.72	*0.65*	***
Violence and harassment	0.11	0.07	0.13	0.07	*0.18*	***
Voice	0.63	0.67	0.63	0.62	0.57	**

* p<0.05; ** p<0.01; *** p<0.001.

5. Job quality outcomes and job sustainability

The analytical framework put forwards a selection of outcome indicators of good or bad quality of work. These indicators are situated at the individual level and balanced between 'positive' and 'negative' outcomes of job quality (see Chapter I).

As regards job quality outcomes, health variables appear as to be important in explaining the perception of job sustainability (Table II-13). 'General health', on average, is at highest level for those who think their work is sustainable (0.81),

with the maximum score of 1 indicating 'very good health'. The score decreases to 0.73 for those who think they don't be able to do the same job when 60 years old.

Table II-13 Job quality outcomes indicators by Q75 (able to do the same job when 60 years old). All employees in the age category 50+

	Mean	Yes, I think so	No, I don't think so	No, I wouldn't want to	Sig.
Security variables					
Job insecurity	0.29	0.27	0.31	0.32	***
Labour market security	0.50	0.48	*0.54*	0.53	***
Job attitude					
Job satisfaction	0.74	*0.78*	0.71	0.67	***
Absenteeism	0.23	0.19	*0.29*	0.26	***
Presenteeism	0.43	0.41	0.48	0.51	
Health variables					
Work related health risk	0.40	0.33	*0.50*	0.47	***
General health	0.78	*0.81*	0.73	0.75	***
Physical health	0.61	*0.69*	0.50	0.54	***
Psychological health	0.78	*0.83*	0.72	0.72	***

* p<0.05; ** p<0.01; *** p<0.001.

'Physical health', being an index of three items (backache, muscular pain in upper body, muscular pain in lower body) with a higher value indicating better health is also significantly perceive as better amongst those who declare that their job is sustainable, 0.69 versus 0.50 for those who declare that their job is not sustainable. 'Psychological health', an index of three items (depression or anxiety, fatigue and insomnia) is also better for the group that considers the current job as sustainable (0.83). 'Work related health risks' is constructed with two items (health and safety at risk because of work, work affects health) with a higher value indicating higher exposure to health effects. These variables show also important differences between the scores of those who consider their job as sustainable (0.33) and those who declare the opposite (0.50).

As regards job attitude variables, the score of 'job satisfaction' (an index of five variables) is higher (0.78) for those who find their job sustainable (0.78 versus 0.71) while the score of 'absenteeism' is higher for those who don't consider their job as sustainable (0.29 versus 0.19). People in this latter category also report that they go to work more often during illness.

'Labour market security' has a higher score of workers who think they will not be able to do the same job until 60 years old.

There are differences between males and females as regards job quality outcome indicators in general. However, what we are trying to catch in Table II-14 is the gender difference in the sustainability of a job. Most indicators have a similar ef-

fect on men and women, except for 'job insecurity' and 'physical health'. The degree of 'job insecurity' for men is higher for those who think that their job is not sustainable (0.36) than those who have the opposite opinion (0.28), for women, there are very few differences between these two sub-groups. If 'physical health' has quite the same score for men and women when their declare that their job is sustainable, there are differences among those who declare that they won't be able to do the same job when 60 years old, with a score of 0.53 for men and 0.47 for women (a higher value indicating better health).

Table II-14 Job quality outcomes indicators by Q75 (able to do the same job when 60 years old) and gender. All employees in the age category 50+

	Mean	Male		Female		Sig.
		Yes, I think so	No, I don't think so	Yes, I think so	No, I don't think so	
Security variables						
Job insecurity	0.29	*0.28*	*0.36*	*0.24*	*0.25*	***
Labour market security	0.50	0.48	0.53	0.47	0.54	***
Job attitude						
Job satisfaction	0.74	0.77	0.77	0.78	0.71	***
Absenteeism	0.23	0.17	0.26	0.21	0.32	***
Presenteeism	0.43	0.39	0.44	0.44	0.52	***
Health variables						
Work related health risk	0.40	0.34	0.52	0.31	0.48	***
General health	0.78	0.81	0.74	0.81	0.73	***
Physical health	0.61	*0.69*	*0.53*	*0.68*	*0.47*	***
Psychological health	0.78	0.84	0.74	0.82	0.70	***

* p<0.05; ** p<0.01; *** p<0.001.

6. Conclusions

The report confirms that quality of work is a key issue for any policy aiming at increasing the employment rate of older workers. The ECWS-2010 results allow for fine-tuning the picture of employment and working conditions of ageing workers, and to develop more targeted insights on the various aspects of the improvement of quality of work for them.

The description of employment of 50+ workers (paragraph 2) emphasises the gender differences among older workers, as well in occupational structures as in sectoral distribution. These gender differences are more acute among older workers than within younger generations. The preference for working less hours a week is rather widespread among 50+ workers, but it takes different forms for women and men. The breakdown of the typology of quality of work (Chapter I) by

age category shows little differences between 50+ workers and other workers. However, among 50+ workers, the differences between men and women are important. Among male 50+ workers, the most represented type is 'saturated jobs' (one out of four aged worker). Among female 50+ workers, work with limited career prospects is prevalent. In comparison with men, 50+ women are less represented in the types 'work in flexible and unusual hours' and 'heavy repetitive work', while they are more represented than men in the types 'full-time balanced work', 'emotionally demanding work' and 'indecent work'. Differences in percentage points are higher between 50+ women and 50+ men, than between age categories, for almost all types of quality of work.

The analysis of the answers to Q75, concerning the sustainability of the current job, reveals clear relationships with the educational level. As regards relationships with occupational and sectoral characteristics, gender differences are again important among the 50+ workers. Opinions on the sustainability of the current job are clearly linked to conciliation issues. Those for whom working hours do not fit well in with other commitments are much less likely to think they can still do their current job when 60 years old. The difficulty to take shorter working hours arrangements also influences negatively the sustainability of work.

The analysis of correlations between job quality dimensions and job sustainability reveals some meaningful features. While 'emotional pressure', 'repetitive tasks' and 'speed pressure' have higher scores among those who don't think to be able to do the same job when 60, 'task autonomy', 'working time autonomy' and mainly 'career opportunities' are favourable factors of job sustainability. In the area of working conditions, higher scores in exposure to risks is correlated with lower scores in job sustainability. Again, there are some significant differences among men and women. Most of the indicators concerning social relations seem to have more impact on the negative evaluation of the job sustainability by women. This is also the case for 'career opportunities', 'unusual working hours', 'working time flexibility' and 'emotional pressure'. For men, repetitive tasks seem to be more correlated with a negative assessment of job sustainability.

As regards job quality outcomes, health aspects appear as the most explicative variables of the perception of job sustainability. Good scores in general health, physical health and psychological health are correlated with better scores in job sustainability, while work-related health risks are correlated with lower scores in job sustainability. Job satisfaction is another important outcome, positively correlated with job sustainability. Regarding the differences between men and women, 'job insecurity' and 'physical health' are the most 'gendered' outcomes. Insecurity has a more negative impact on job sustainability for men than for women, while good physical health has a more positive impact for men than for women. Besides these two outcomes, the results for women and men go in the same direction.

Nevertheless, this analysis of job sustainability is limited by the fact that the EWCS-survey only concerns workers at work. The opinions of the 50+ workers who are unemployed or who have left the labour market through anticipated re-

tirement are not reflected in the survey. Although the overall scores of quality of work of the 50+ employed workers are not so bad, we do not know what the scores would have been if the opinions of the 'dropouts' had been surveyed.

CHAPTER III
IMPACT OF WORK ON HEALTH

Isabelle Hansez

1. Introduction

Nowadays occupational stress remains an important topic for scientists in occupational psychology but also for practitioners who have to cope with increasing problems in relation to stress, burnout, health problems and absenteeism in work environments. Numerous authors are quick to see the increase in stress, burnout and more generally health problems as the price to be paid for a maximum increase in performance of the production tool. Such an increase could be sustained over a limited period of time, in the face of a sudden crisis or emergency or of a risk, but would end up in the long term wearing out the individual and the organisation (*e.g.* De Keyser & Hansez, 2002). As stated by Cartwright, Cooper and Murphy (1996), 'profit is a clear indication of the success and the financial health of an organisation at a given time. However, it is not necessarily a good predictor of future performance, unless it takes into account the ability of the organisation and of its personnel to maintain and possibly increase the level attained (p. 17)'. The phenomenon of stress would therefore be linked to the far-reaching transformations that have occurred in the work environments (*e.g.* Ladipo & Wilkinson, 2002). From the point of view of international competitiveness, the constraints related to companies' profitability are often very substantial in terms of tension and flexibility. Generally speaking, we are witnessing work intensification. Time constraints, in particular, have been recognised for years in Europe as increasing (*e.g.* European Foundation for the Improvement of Living and Working Conditions, 1997). The work context has changed rapidly. We are currently in front of a predominantly tertiary sector with all the demands that that implies, for example, in terms of customers or human contacts and 'just in time management', *etc.* We are also in a context of an economy that surpasses the traditional framework of 9 hours' work and naturally extends to 24 hours, implying practices of flexibility that are not always beneficial to the worker. Very often all these practices are associated at the same time with downsizing and consequently job loss. They are

known to lead to terrible effects on workers in terms of depression, burnout, alcoholism and even suicide (Hansez & De Keyser, 2003).

Alongside this international context of competitiveness of companies, the emergence of positive psychology as a separate scientific trend underlines the importance of the positive status of individuals in the explanation of the psychological phenomena studied. This new scientific trend overturns the scientific tradition in psychology. In fact, Myers (2000) calculated that negative emotions outnumber positive emotions by a ratio of 14 to 1. This new trend has gained ground fast in the specific field of stress at work. Since the early 2000s, a new model of stress at work, 'Job Demands Resources (JDR) Model' (*e.g.* Demoureti, Bakker, Nachreiner & Schaufeli, 2001; Bakker, Demoureti, Taris, Schaufeli & Schreurs, 2003) has appeared in the scientific literature as an alternative to the models of Karasek (1979) and Siegrist (2001). More recently, and alongside the emergence of positive psychology, Schaufeli and Bakker (2004) have introduced the idea of distinguishing between two different processes of reaction by the worker to his working conditions. These authors suggest that that employee psychological well-being is related to a wide range of workplace variables that can be conceptualised as either job demands or job resources. These two sets of working conditions may each evoke a different process. First, job demands may exhaust employee's mental and physical resources and may therefore lead to the depletion of energy and to health problems (health impairment hypothesis). Second, the presence of adequate job resources reduces job demands, fosters goal accomplishment and stimulates personal growth and development. In turn this may lead to a stronger dedication to one's work (engagement) and thus to lower intention to leave the organisation (motivational hypothesis). This chapter will use this new conceptual framework distinguishing between job demands and job resources in order to analyse which working conditions or job quality components will determine health outcomes and psychological well-being and to discuss existing view and new points of attention in the prevention of psychosocial risks and well-being at work.

In Belgium, a well-established legal framework is supporting a strong policy in respect to working conditions and well-being at work, *e.g.* the law of 4 August 1996 on well-being of workers in the performance of their work and the law of 11 June 2002 relating to protection from violence, moral harassment (bullying) and sexual harassment at the workplace but also the revisions introduced in 2007 (law of 10 January 2007 and 6 February 2007).

Belgium has also a long tradition of research in the field of working conditions, job stress and health outcomes. The Belgian Science Policy has supported several main scientific programs in this respect, namely workers' healthcare 1 from 1994 to 1998, workers' healthcare 2 from 1999 to 2003, Society and Future from 2005 to 2010. The Belgian Federal Public Service Employment, Labour and Social Dialogue and the European Social Fund have also extensively supported research in this

field, either in analyzing working conditions and their impact on well-being at work, or in developing methodologies and instruments to help companies in designing prevention and intervention strategies. The research reports from these Belgian programs will be used to discuss the results about the impact of work on health from the Fifth European Working Conditions survey - 2010 - Eurofound.

This chapter will first consider the overall perceived impact of work on health, trough answers of workers to health general questions, *i.e.* 'Do you think your health or safety is at risk because of your work? (Q66)', 'Does your work affect your health? (Q67)' and 'How is your health in general? (Q68)'. In addition to answers to these three general questions, we will also consider each of thirteen health symptoms included in the survey (Q69). For comparison purposes according to individual and organisational characteristics, we have created two health indicators according to Q69 which are named physical and psychological health. Psychological health indicator involves (K) depression or anxiety, (L) overall fatigue, (M) insomnia or general sleep difficulties while physical health indicator includes (c) backache, (D) muscular pains in shoulders, neck and/or upper limbs; or (E) muscular pains in lower limbs (hips, legs, knees, feet, *etc.*). Finally, in the perspective of the JDR model (Schaufeli & Bakker, 2004), we have used two positive constructs in this chapter: job satisfaction as a proxy-measure of positive job attitude and positive psychological well-being derived from the WHO(5) Well-Being Index. This index covers positive mood (good spirits, relaxation), vitality (being active and waking up fresh and rested), and general interests (being interested in things) (Bech, 1998, 2001).

Next to these general results, the analysis will compare the health and well-being indicators according to individual characteristics (gender, age/career phase, skill level, *etc.*) and organisational characteristics (branch/sector, company size, introduction of new technologies, company restructuring, *etc.*). It will also attempt to explore if employees with a different quality of work profile have different health and well-being outcomes and more particularly work related health risks, general health, physical and psychological health, job satisfaction and positive psychological well-being. The next stage will concern job-related antecedents of health and well-being indicators. Regression analyses will determine which job quality subdimensions are related to health and well-being indicators.

2. Perceived health, well-being and impact of work on health

This first part is concerned with the three general questions from the survey asking for the general health status of the employee, the perception that work affects health and the perception of work related health risk. Results about the positive psychological well-being are also reported.

The first question is concerned with health in general. Table III-1 shows that 82.5% respondents perceive their health as good or very good while only 1.7% estimates their health as bad or very bad. Small differences between men and women are observed. These results are more optimistic than those presented in the Belstress III report (2006) in which more than 4% of the 2,983 respondents perceived their health as bad or very bad and only 68% as good or very good. It should be noted as a possible explanation for this difference that the Belstress III sample includes only workers from public services.

A second question about work-related health outcomes asks the respondent, 'Does your work affect your health?' (See Table III-2). In Belgium, 8% (N=268) of the workers perceive work impacts positively their health while 22% (N=704) estimate work impacts negatively their health. 70% (N=2,270) respondents perceive work does not affect their health. Men seem to report slightly more that their work affect their health negatively.

In addition, 22% (N=738) perceive their health or safety at risk because of their work (Table III-3). It is interesting to note that, comparing to women, more men reported that their health/safety is at risk because of their work.

Finally 15% (N=507) report a poor well-being (Table III-4). This result is more positive than the one observed in the Belstress III report which shows that 26% and 27% of the respondents perceived, during the two last weeks before the survey, high levels of respectively depression (CES-D) and anxiety (SCL-90). It is also important to note that, compared to women, less men perceive a poor well-being.

Table III-1 Health in general

	How is your health in general? (%)		
	All	Women	Men
Very good	30.7	29.9	31.3
Good	51.8	51.9	51.7
Fair	15.7	16.2	15.3
Bad	1.4	1.4	1.4
Very bad	0.3	0.5	0.2

Table III-2 Work affects health

	Does your work affect your health? (%)		
	All	Women	Men
Yes, mainly positively	8.3	7.9	8.5
Yes, mainly negatively	21.7	19.2	23.9
No	70.0	72.9	67.5

Table III-3 Health/safety at risk because of work

	Is your health or safety at risk because of your work? (%)		
	All	Women	Men
Yes	22.4	19.5	25.0
No	77.6	80.5	75.0

Table III-4 Positive psychological well-being

	Psychological well-being (%)		
	All	Women	Men
Poor	15.5	17.7	13.5
High	84.5	82.3	86.5

3. Types of work-related health problems

The respondents were asked to identify from a list of sixteen health symptoms those that have applied to them over the last twelve months. Table III-5 shows the percentage of workers reporting different symptoms as a whole. The most often reported symptoms are musculoskeletal disorders (backache and muscular pains), followed by headaches and fatigue. Sleeping problems are reported by one worker out of five. Other symptoms such as stomach ache, injuries, depression, hearing and skin problems, breathing difficulties and heart disease are reported by 20% or less of the workers.

These results support those presented in the Belstress III report where 60% and 46% of the respondents reported respectively lower back pains and neck muscular pains. The results from the Fifth European Working Conditions survey - 2010 - Eurofound confirm that musculoskeletal disorders remain a major issue in the workplace and that prevention and intervention in this regard should remain a priority in companies.

Table III-5 Percentage of workers reporting each individual symptom

Symptoms	
Backache	44.7
Muscular pains (shoulders, neck/upper limbs)	41.2
Headaches	37.8
Fatigue	34.6
Muscular pains (lower limbs)	27.5
Sleeping problems	20.8
Stomach ache	15.4
Injuries	13.4
Hearing problems	9.0
Depression or anxiety	8.7
Skin problems	7.7
Breathing difficulties	6.4
Heart disease	3.8
Other	2.0

4. Health and well-being outcomes by individual characteristics

Work related health risks are rather uncommonly perceived (39%), but more so by men (41%) than by women (37%). There are no age differences in this respect (Table III-6). There is also no difference between non nationals and Belgian workers. Finally the lower educated do seem more risk prone, with an average score of 42% *vs.* 36% for the high educated (Table III-7).

General health, on average, is at a high level: 0.78 with the maximum score of 1 indicating 'very good health'. There is no significant gender difference, but there is a decrease in health for older employees. The health status of high educated employees is significantly better than it is for low educated employees. The health status of native workers is also slightly better than it is for non nationals. Physical health, being an index of three items (backache, muscular pain in upper body, muscular pain in lower body) with a higher value indicating better health, is lower in men than in women and decreases when aging. The native workers have less physical problems than non nationals and the higher educated have less physical issues than the low educated. Psychological health, an index of three items (depression or anxiety, fatigue and insomnia) is better in men (0.80) than in women (0.77) and again decreases with age (from 0.81 for the young employee to 0.77 for employees aged over 50). Psychological health is higher for native workers than it is for non nationals. Surprisingly, there is no significant difference based on educational attainment.

From the results for job satisfaction we can observe that this score increases slightly with age while there is no difference between men and women. Native

workers are also more satisfied with their job than non nationals. Job satisfaction is higher for high educated employees.

Finally, we observe also significant variation in the indicator on positive psychological well-being, introduced in this chapter. This indicator, derived from the WHO(5) Well-Being Index, covers positive mood, vitality and general interest. Men, workers under 34 years old and native workers perceive their positive psychological health as significantly higher than women, older workers and non nationals respectively.

Table III-6 Health and well-being outcomes by gender, age (average by category)

		Gender			Age			
		Men	Women		-34	35-49	50+	
Work related health risks	0.39	0.41	0.37	***	0.39	0.39	0.40	
General health	0.78	0.78	0.77		0.82	0.77	0.73	***
Physical health	0.62	0.64	0.60	**	0.68	0.62	0.53	***
Psychological health	0.79	0.80	0.76	***	0.81	0.78	0.77	**
Job satisfaction	0.74	0.74	0.74		0.73	0.74	0.76	***
Positive psychological well-being	0.68	0.69	0.67	***	0.69	0.67	0.67	*

Note: * p<0.050; ** p<0.010; *** p<0.001.

Table III-7 Health and well-being outcomes by descent and education (average by category)

		Descent			Education		
		Non-nationals	Nationals		Low	High	
Work related health risks	0.39	0.40	0.39		0.42	0.36	***
General health	0.78	0.76	0.78	*	0.76	0.80	***
Physical health	0.62	0.57	0.63	***	0.58	0.67	***
Psychological health	0.79	0.74	0.80	***	0.79	0.78	
Job satisfaction	0.74	0.72	0.75	***	0.72	0.76	***
Positive psychological well-being	0.68	0.66	0.69	***	0.68	0.68	

Note: * p<0.050; ** p<0.010; *** p<0.001.

5. Health and well-being outcomes in employee groups and occupations

The analysis of health outcomes by employee groups with a different quality of work is presented in Table III-8, which shows how employee groups may have different levels of health outcomes. Higher scores point to more agreement with or a higher incidence with this statement. Table III-8 indicates that all health and well-being outcomes vary significantly over the employee groups, but the Eta^2

values (around or below 5%) point to different degrees in which the employee groups account for population variance.

The perception that health is at risk because of work is reported with more intensity in workers in emotionally demanding work. These workers have also the worst scores for the health and well-being indicators. Moreover workers working on flexible and unusual hours also score higher on the perception that their health is at risk because of their work. Their health and well-being indicators are also lower than the mean scores. Indecent work is characterised by the worst score in job satisfaction and a lower score in positive psychological well-being.

Workers with 'full-time balanced work' seem to have the best health and well-being outcomes. Surprisingly the best quality work, with challenging work and extremely good working conditions, is not the best work for workers' health and well-being (except job satisfaction).

Table III-8 Health and well-being outcomes by employee group

		Employee groups								
		1	2	3	4	5	6	7	Eta² (%)	P
Work related health risks	0.39	0.36	0.29	0.33	*0.44*	*0.56*	0.42	0.40	7.07	***
General health	0.78	0.80	0.81	0.79	*0.76*	*0.71*	0.77	0.77	3.03	***
Physical health	0.62	0.66	0.71	0.64	*0.56*	*0.41*	0.59	0.59	5.42	***
Psychological health	0.79	0.78	0.82	0.79	*0.74*	*0.63*	0.81	0.81	3.96	***
Job satisfaction	0.74	0.80	0.78	0.76	0.69	0.69	0.72	*0.64*	11.49	***
Positive psychological well-being	0.68	0.70	0.72	0.69	*0.64*	*0.60*	0.70	0.65	3.75	***

(1) saturated jobs;
(2) full-time balanced work;
(3) work with limited career prospects;
(4) work on flexible and unusual hours;
(5) emotionally demanding work;
(6) heavy repetitive work;
(7) indecent work.
Note: * p<0.050; ** p<0.010; *** p<0.001.

Concerning occupations, the ISCO classification of occupation including the following categories at the 1 digit level was used to perform the analyses:

1 *legislators, senior officials and managers;*
2 *professionals;*
3 *technicians and associate professionals;*
4 *clerks;*
5 *service workers and shop and market sales workers;*
6 *skilled agricultural and fishery workers;*
7 *craft and related trades workers;*
8 *plant and machine operators and assemblers;*
9 *elementary occupations.*

Table III-9 Health and well-being outcomes by occupation (average by category)

		Occupation									
		1	2	3	4	5	6	7	8	9	
Work related health risks	0.39	0.40	0.36	0.39	0.35	0.38	*0.32*	*0.46*	*0.46*	0.44	***
General health	0.78	0.78	0.80	0.78	0.78	0.79	*0.81*	0.75	0.77	*0.73*	***
Physical health	0.62	0.60	0.66	0.64	0.66	0.63	*0.53*	*0.58*	0.62	*0.51*	***
Psychological health	0.79	0.77	0.76	0.78	0.77	0.80	*0.90*	0.79	0.83	0.79	*
Job satisfaction	0.74	0.74	0.78	0.75	0.73	0.72	0.76	0.73	0.72	*0.71*	***
Positive psychological well-being	0.68	0.68	0.69	0.68	0.67	0.69	*0.73*	0.70	0.69	0.66	

Note: * p<0.050; ** p<0.010; *** p<0.001.

Skilled agricultural and fishery workers have the best scores except for physical health. The worst scores, except for psychological health and positive psychological well-being, are observed for craft and related trades workers, plant and machine operators and assemblers and elementary occupations.

6. Health and well-being outcomes by company characteristics

Health and well-being outcomes are not different according to sector type, except for job satisfaction (Table III-10). The level of job satisfaction is higher in non-profit and NGO organisations. The lower level of job satisfaction is observed in the private sector.

The next step is the analysis of detailed sectors (Table III-11). All health outcomes differences between detailed sectors were significant, except for physical health and for positive psychological well-being. Nevertheless these results should be

taken with caution as the number of respondents for some detailed sectors is rather small.

Mining and quarrying (B), real estate activities (L), administrative and support service activities (N), transportation and storage (H) show the worst scores in work related health risks while the best scores were surprisingly observed in agriculture, forestry and fishing (A) and other service activities (S). The best score for general health is observed in the accommodation and food activities (I) sector while the real estate activities (L) sector shows the lower score. Workers from Agriculture, forestry and fishing (A) as well as water supply, sewerage, waste management and remediation activities sectors reported the higher scores in psychological health while amongst workers in the information and communication (J) sector and in activities of extraterritorial organisations and bodies (U) lower psychological health scores were observed. As far as job satisfaction is concerned, a higher score was observed in the education sector (P).

Table III-10 Health and well-being outcomes by sector type (average by category)

		Sector type					
		Private	Public	private-public	non-for-profit, NGO	other	
Work related health risks	0.39	0.39	0.41	0.40	0.35	0.36	
General health	0.78	0.78	0.78	0.75	0.77	0.80	
Physical health	0.62	0.62	0.62	0.60	0.61	0.54	
Psychological health	0.79	0.79	0.77	0.77	0.74	0.86	
Job satisfaction	0.74	0.73	0.76	0.76	0.78	0.76	***
Positive psychological well-being	0.68	0.68	0.68	0.69	0.68	0.72	

Note: * p<0.050; ** p<0.010; *** p<0.001.

Table III-11 Health and well-being outcomes by sector (average by category).

		Detailed sector									
		A	B	C	D	E	F	G	H	I	J
Work related health risks	0.39	0.31	0.49	0.40	0.36	0.45	0.43	0.35	0.47	0.36	0.39
General health	0.78	0.79	0.73	0.76	0.78	0.73	0.79	0.79	0.78	0.83	0.76
Physical health	0.62	0.62	0.61	0.62	0.72	0.60	0.57	0.65	0.63	0.65	0.62
Psychological health	0.79	0.87	0.78	0.80	0.81	0.87	0.80	0.82	0.79	0.78	0.67
Job satisfaction	0.74	0.76	0.76	0.73	0.74	0.74	0.75	0.71	0.72	0.72	0.72
Positive psychological well-being	0.68	0.72	0.68	0.68	0.72	0.72	0.72	0.68	0.66	0.71	0.66

Note: * p<0.050; ** p<0.010; *** p<0.001.

Table III-11 Health and well-being outcomes by sector (average by category). Next

	Detailed sector											
	K	L	M	N	O	P	Q	R	S	T	U	
Work related health risks	0.35	0.48	0.36	0.47	0.40	0.37	0.44	0.30	0.33	0.36	0.37	***
General health	0.78	0.67	0.78	0.75	0.78	0.79	0.78	0.81	0.78	0.74	0.73	*
Physical health	0.67	0.75	0.62	0.57	0.62	0.63	0.61	0.64	0.56	0.54	0.57	
Psychological health	0.79	0.84	0.76	0.76	0.79	0.76	0.78	0.83	0.76	0.82	0.61	**
Job satisfaction	0.74	0.76	0.74	0.71	0.74	0.79	0.77	0.77	0.75	0.73	0.74	***
Positive psych. well-being	0.66	0.67	0.69	0.65	0.68	0.69	0.67	0.71	0.69	0.67	0.66	

Note: * p<0.050; ** p<0.010; *** p<0.001.

A Agriculture, forestry and fishing (N=56)
B Mining and quarrying (N=16)
C Manufacturing (N=490)
D Electricity, gas, steam and air conditioning supply (N=42)
E Water supply, sewerage, waste management and remediation activities (N=34)
F Construction (N=195)
G Wholesale and retail trade; repair of motor vehicles and motorcycles (N=407)
H Transportation and storage (N=245)
I Accommodation and food activities (N=95)
J Information and communication (N=94)
K Financial and insurance activities (N=124)
L Real estate activities (N=11)
M Professional, scientific and technical activities (N=67)
N Administrative and support service activities (N=131)
O Public administration and defence, compulsory social security (N=222)
P Education (N=422)
Q Human health and social work activities (N=385)
R Arts, entertainment and recreation (N=65)
S Other service activities (N=67)
T Activities of households (N=63)
U Activities of extraterritorial organisations and bodies (N=10)

The health and well-being outcomes results were also analysed according to the company size (Table III-12). In this respect work related health risks, physical health, psychological health and positive psychological well-being are significant. We observed higher scores of work related health risks in companies with more than 100 workers. Physical health is lower in companies with one single worker or in companies with more than 500 workers. Psychological health is higher in small companies including 2 to 9 workers and is lower in companies with one single

worker or in companies with more than 500 workers. Positive psychological well-being is lower in companies with one single worker.

Table III-13 shows the results to health and well-being outcomes according to the introduction of new technologies in the company or to company restructuring. All health and well-being variables are significant for new technologies except for general health. Employees who had to cope with the introduction of new technologies reported higher work related health risks, lower physical and psychological health, a slightly lower job satisfaction and a lower positive psychological well-being. All health and well-being variables were significant between workers experiencing a company restructuring and those who did not encounter such a situation. Workers experiencing a company restructuring reported higher work related health risks, lower physical and psychological health, lower job satisfaction and positive psychological well-being.

Table III-12 Health and well-being outcomes by company size (average by category)

		Company size					
		1	2-9	10-99	100-499	500+	
Work related health risks	0.39	0.39	0.40	0.38	0.42	0.43	*
General health	0.78	0.77	0.79	0.78	0.78	0.76	
Physical health	0.62	0.53	0.61	0.64	0.60	0.56	**
Psychological health	0.79	0.75	0.80	0.78	0.79	0.75	*
Job satisfaction	0.74	0.75	0.74	0.75	0.75	0.73	
Positive psychological well-being	0.68	0.65	0.69	0.68	0.69	0.66	*

Note: *p<0.050; ** p<0.010; *** p<0.001.

Table III-13 Health and well-being outcomes after work changes (average by category)

		New technologies			Company restructuring		
		Yes	No		Yes	No	
Work related health risks	0.39	0.42	0.38	***	0.42	0.39	***
General health	0.78	0.77	0.78		0.77	0.78	*
Physical health	0.62	0.60	0.63	*	0.59	0.63	**
Psychological health	0.79	0.75	0.81	***	0.72	0.81	***
Job satisfaction	0.74	0.74	0.75	*	0.72	0.76	***
Positive psychological well-being	0.68	0.67	0.69	***	0.66	0.69	***

Note: * p<0.050; ** p<0.010; *** p<0.001.

These results are supported by the Flexihealth research (Belgian Science Policy, 1999-2003) coordinated by C. Vandenberghe (UCL) where the effects of changes on employee well-being are generally negative. In particular, in the Flexihealth report, more changes is associated with lower perceived support and job satisfaction, higher negative stress, lower positive stimulation, poorer mental quality of life, and more frequent medical complaints. Changing supervisors and task assignments has the most deleterious effects on well-being.

Analyses according to gender balance at functional level give significant results (Table III-14). There is a higher score in work related health risks but a higher psychological health for companies with more men. In general the best results are observed for companies where there is a balance between men and women.

Table III-14 Health and well-being outcomes for different degrees of feminisation at the functional level (average by category)

		Gender balance at functional level				
		More men	More women	About	Unique	
Work related health risks	0.39	0.43	0.39	0.35	0.36	***
General health	0.78	0.77	0.77	0.80	0.81	***
Physical health	0.62	0.61	0.58	0.67	0.69	***
Psychological health	0.79	0.81	0.76	0.79	0.78	**
Job satisfaction	0.74	0.73	0.75	0.74	0.79	***
Positive psychological well-being	0.68	0.69	0.67	0.69	0.68	*

Note: * p<0.050; ** p<0.010; *** p<0.001.

7. Health and well-being outcomes by regions and provinces

Work related health risks are perceived as higher in Wallonia compared to Brussels area and Flanders (Table III-15). The health status in Flanders is significantly better than in Brussels and Wallonia. Physical health, with a higher value indicating better health, is lower in Brussels and Wallonia than in Flanders. The same observation applies to psychological health and positive psychological well-being. As far as job satisfaction is concerned the score is higher in Wallonia and Flanders than in Brussels area.

Table III-15 Health and well-being outcomes by region (average by category)

		Regions			
		Brussels	Flanders	Wallonia	
Work related health risks	0.39	0.38	0.36	0.46	***
General health	0.78	0.76	0.79	0.75	***
Physical health	0.62	0.61	0.64	0.58	***
Psychological health	0.79	0.75	0.83	0.72	***
Job satisfaction	0.74	0.71	0.74	0.75	***
Positive psychological well-being	0.68	0.64	0.69	0.68	**

Note: * p<0.050; ** p<0.010; *** p<0.001.

8. Comparison of health and well-being outcomes between employers and employees

Work related health risks are rather uncommonly perceived (Table III-16) and the difference is not significant between employers and employees. General health, on average, is at a high level for both worker types, with the maximum score of 1 indicating 'very good health'. There is a significant difference between employers and employees, employers indicating to perceive their health as better than employees. Physical health, being an index of three items (backache, muscular pain in upper body, muscular pain in lower body) with a higher value indicating better health is also significantly perceive as better amongst employers. Psychological health, an index of three items (depression or anxiety, fatigue and insomnia) is also better in employers than in employees. Job satisfaction is much higher in employers than employees and positive psychological well-being is slightly but significantly higher amongst employers.

Table III-16 Health and well-being outcomes by worker type (average by category)

	Worker type			Detailed worker type			
	Employees	Employers		Employees	Self-Employed without employees	Self-employed with employees	
Work related health risks	0.39	0.38		0.39	0.36	0.40	
General health	0.78	0.81	***	0.78	0.81	0.81	***
Physical health	0.62	0.69	***	0.62	0.68	0.71	***
Psychological health	0.79	0.83	***	0.79	0.84	0.82	***
Job satisfaction	0.74	0.86	***	0.74	0.86	0.86	***
Positive psychological well-being	0.68	0.73	***	0.68	0.74	0.73	***

Note: * p<0.050; ** p<0.010; *** p<0.001.

The Inserm (2011)'s report also suggests that health indicators reported for the whole category of self-employed individuals are situated at an average level, with a lower mortality and a rather positive perception of their health but with health problems specific to each occupation. This report also suggests that the general health of self-employed individuals is rather good and also better than employees but concludes that this difference is highly determined by the social situation (incomes, education level, ...). The prevalence of mental health diseases in several occupational groups shows that self-employed individuals seem to have lower scores than blue-collar and white-collar workers but higher scores than executives.

But the self-employed status covers very different realities, including intellectual and manual occupations, isolated workers or self-employed with employees, with very different working conditions. In a recent research supported by the SMIL Fund and coordinated by Professor Mairiaux from the University of Liège (2011), approximately 1,200 entrepreneurs, mainly from the building and sale sectors, were surveyed on working conditions, job stress and health outcomes. This research was mainly focused on SME owners including less than 10 employees (85% of the sample). The results about their health are very different from those observed in this survey, being not optimistic. Most SME owner reported high levels of physical complaints (muscular pains and backaches) and psychological complaints (depression, anxiety, overall fatigue but also disengagement and exhaustion scores of burnout). Generally they show a decreasing health state as far as BMI, arterial hypertension and hypercholesterolemia are concerned. Job stressors are also pointed: long working hours (more than 50 hours a week for 75% of the respondents), less than 10 days off a year for 24% of the sample and a very high workload, in particular concerning administrative work and personnel management.

In face of such contrasting results related to a very high diversity in the self-employed category, we call for more in depth research in analyzing and understanding entrepreneurs' health outcomes. Specific tailored stress management and health interventions should be designed in order to increase the sensitisation of SME owners.

9. Health and well-being outcomes determinants

In terms of health outcomes determinants, Table III-17 shows that social relations related indicators, and more particularly harassment, supportive management and social support, are key variables in explaining health outcomes in general. Moreover career opportunities, emotional pressure, speed pressure are also key determinants in five health outcomes out of six. Finally risks represent a key determinant in four out of six health outcomes.

This result underscores the importance of job resources in mental and physical health but also in job attitudes such as job satisfaction. Bakker and Demerouti (2007) define job resources as 'those physical, psychological, social, or organisational aspects of the job that are either/or: functional in achieving work goals; reduce job demands and the associated physiological and psychological costs; stimulate personal growth, learning, and development' (p. 312). Hence job resources are seen as important in their own right as well as necessary to deal with job demands. Bakker and Demerouti also propose that job resources may be located at the level of the organisation at large (*e.g.* job security), in interpersonal and social relations (*e.g.* supervisor support), in the organisation of work (*e.g.* participation in decision-making), and at the level of the task (*e.g.* autonomy). In Belgium interventions aiming at developing career opportunities, high supportive management and social support should be proposed in order to maintain healthy workers.

Table III-17 also suggests that job demands, defined by Bakker and Demerouti (2007) as 'those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills' (p. 312), are also important in predicting health and well-being outcomes. More particularly emotional pressure and speed pressure are predictive of health and well-being outcomes and this is also suggested in the literature (*e.g.* Bakker, Demerouti & Schaufeli, 2003; Bakker, Demerouti & Verbeke, 2004; Schaufeli & Bakker, 2004). Interventions should be designed to help workers to cope with emotional demanding situations. Temporal constraints are recognised for years as a main predictor of health problems and should keep our attention in establishing production rates.

Table III-17 Health outcomes determinants

Quality of work components	Health at risk because of work	General Health	Physical Health	Psychological Health	Positive Psychological Well-being	Job satisfaction
Employment conditions						
Earnings	0.05*	0.03	0.01	0.04	-0.01	0.01
Career opportunities	-0.07***	0.09***	0.07***	0.04	0.13***	0.22***
Permanent contract	0.01	-0.03	-0.01	0.05*	0.02	0.05**
Full-time work	-0.01	0.01	0.05*	-0.01	0.02	-0.02
Unusual working hours	0.02	0.07**	-0.05*	0.00	0.02	0.00
Training	0.01	0.00	0.00	-0.01	-0.03	-0.06***
Working time flexibility	0.04	-0.04	0.03	-0.04	-0.06*	0.04*
Job content						
Autonomous team work	0.01	0.03	-0.02	0.06**	-0.02	-0.03
Emotional pressure	0.05*	-0.08***	-0.11***	-0.18***	-0.13***	0.02
Repetitive	0.00	-0.02	-0.02	-0.02	-0.03	-0.02
Speed pressure	0.14***	-0.10***	-0.04	-0.12***	-0.09***	-0.27***
Task autonomy	0.04	0.00	-0.06**	-0.02	-0.02	0.05**
Task complexity	-0.04	-0.02	-0.07**	-0.06**	-0.01	0.10***
Working time autonomy	-0.01	0.01	0.04	-0.01	0.04	0.07***
Social relations						
Harassment	0.10***	-0.04*	-0.08***	-0.11***	-0.07***	-0.08***
Supportive management	-0.07***	0.08***	0.04*	0.10***	0.09***	0.14***
Say	0.02	-0.02	-0.02	-0.04	0.00	0.13***
Social support	-0.08***	0.12***	0.09***	0.11***	0.18***	0.20***
Voice	-0.01	-0.05*	0.01	-0.01	0.03	0.05**
Working conditions						
Fixed workplace	-0.01	-0.01	0.04*	-0.02	-0.03	-0.01
Working with people	0.01	0.03	0.02	-0.02	0.07**	0.03
Risks	0.31***	-0.16***	-0.28***	-0.09***	-0.02	0.03
R2	*0.24*	*0.13*	*0.17*	*0.18*	*0.16*	0.41
	D=33.7 P=000	D=15.5 P=000	D=22.1 P=000	D=23.1 P=000	D=19.8 P=000	D=73.7 P=000

Note: Entries are standardised regression coefficients. * p<0.05; ** p<0.01; *** p<0.001.

Moreover, the main job quality determinant on work related health risks and physical health is risks including ergonomic, bio-chemical and ambient risks. This result suggests that it is important to further improve work environments through risk prevention and management as defined in the law of 4 August 1996 on the well-being of workers during the execution of their work. The result for harassment is also significant and supports the law of 10 January 2007 and the royal decree of 17 May 2007 on the prevention of psycho-social burden.

If we analyse each health indicator in detail in Table 17, we can observe that work related health risks is mainly explained by risks, speed pressure and harassment. General health is mainly predicted by risks, social support and speed pressure. Risks and social support are also determinants of physical health, as well as, more surprisingly emotional pressure. The most important predictor of psy-

chological health is emotional pressure followed by speed pressure, harassment, supportive management and social support. Career opportunities, speed pressure and social support but also task complexity, supportive management and say are main indicators explaining job satisfaction. Finally positive psychological well-being is mainly predicted by social support followed by career opportunities and emotional pressure.

10. Conclusions and recommendations

The results about the main symptoms show that musculoskeletal disorders including muscular pains and backaches remains the main symptoms reported by workers. Even if work-related musculoskeletal disorders are usually associated to repetitive tasks or to those implying carrying of heavy loads, vibrations, inadequate postures (Van Gyes, 2007), our results support the view that they are multifactorial. In this chapter, risks including work-related musculoskeletal disorders (vibrations, painful positions, *etc.*) are the strongest predictor of physical health but there are also psychosocial risks associated with physical health. In particular lack of social support and emotional pressure are significant predictors of physical health.

The other view of symptoms reported by workers in this survey is focused on fatigue, sleeping problems and headaches. In a recent research about the burnout prevalence amongst Belgian workers through the identification of burnout cases during various health examinations carried out by occupational physicians and general practitioners (Hansez, Braeckman, Firket & Mairiaux, 2010), 60% and 46% of almost 1,000 burnout cases reported respectively sleeping problems and fatigue as main symptoms. The results of both studies suggest that Belgian workers present high risks of psychological stress and burnout processes. Again psychological health is predicted by emotional pressure and social support in addition to speed pressure, harassment and supportive management.

Emotional demands are recognised in the literature as a main job demand, especially in relation to burnout. For instance in the framework of the job demands-resources model, emotional demands are considered as a main job demand in most papers (*e.g.* Bakker, Demerouti & Schaufeli, 2003; Bakker *et al.*, 2003; Bakker, Demerouti & Verbeke, 2004; Schaufeli & Bakker, 2004). According to Zapf, Isic, Bechtoldt and Blau (2003, p. 314), emotional labour or emotion work refers to 'the quality of interactions between employees and clients. 'Client' refers to any person who interacts with an employee, for example, patients, children, customers, passengers, or guests. Expressing appropriate emotions during face-to-face or voice-to-voice interactions is a job demand for many employees in the service industry.' The same authors (p. 322) support the view emotional labour refers to the requirement by the job to display pleasant or unpleasant emotions to clients, to the necessity to develop empathy and knowledge about clients' current feelings (sensitivity requirements), and to emotional dissonance or the requirement to display

unfelt emotions and to the suppression of felt but (from an organisational perspective) undesired emotions. As emotional pressure appears in this survey to be significant in predicting all health outcomes, it is necessary to focus more attention to interventions regarding emotional demands and emotion regulation strategies workers develop in this respect (*e.g.* emotional distance, surface acting or deep acting according to Goldberg & Grandey, 2007).

Another result concerns job resources as main predictors of health outcomes amongst Belgian workers. Social support was a main predictor of both physical and psychological health. In this respect, it is necessary to design interventions aiming at developing high social support but also high supportive management and career opportunities in organisations. In most psychosocial risks diagnosis, work practitioners point job resources problems in terms of social support from the organisation, supervisors and colleagues and in terms of supportive management and companies need guidelines or best practices in how to improve job resources.

As far as risks are concerned, it is important to reinforce or at least to consolidate the culture of risk prevention as described in the law of 4 August 1996 on the well-being of workers during the execution of their work. It is also probably necessary to reinforce a better application of existing laws in this respect, pointing out the costs of non-policy as far as health outcomes are concerned. As harassment is also a significant predictor of all health outcomes, the same comment applies to the law of 10 January 2007 and the royal decree of 17 May 2007 on the prevention of psycho-social burden.

Next to these general recommendations, vulnerable groups according to individual characteristics emerge from the analyses of health outcomes: ageing workers and the strategic issue of maintaining ageing individuals in their jobs, lower educated and non-native workers. According to organisational characteristics, some effort should be placed in considering psychosocial risks and health indicators of SME owners and developing peer support groups or sensitisation actions. Moreover, results suggest decreasing health indicators for employees encountering work changes, in addition to worst health outcomes observed in individuals working on flexible and unusual hours and precarious work, change management in its accompanying process needs more attention in the future.

CHAPTER IV
RESTRUCTURING CALLS FOR ACTIVE JOBS

Rik Huys & Geert Van Hootegem

1. Introduction

Restructuring refers to changes in the activities of an organisation which may have important consequences for the level and nature of employment of the workforce. In general, the aim of restructuring is to adapt to changing market conditions in order to maintain or re-establish profitability. There is rarely a single cause behind restructuring, but rather a series of events that affect the market opportunities for companies and thereby their competitiveness.

Reflecting the many different reasons behind restructuring, there is also a wide variety in the kind of restructuring implemented. The European Monitoring Centre on Change (EMCC), set up to provide news and analysis on company restructuring in Europe, distinguishes eight different types of restructuring: relocation; outsourcing; delocalisation; bankruptcy; merger/acquisition; internal restructuring; business expansion and other. In its consequences for employment, 'internal restructuring' is with 78% of the announced job losses by far the single most important type of restructuring.

But restructuring can also involve job gains. If a company grows to the point that the original structure is no longer appropriate to manage the process, restructuring may call for spinning off some departments into subsidiaries as a means of creating a more effective management model. In this case, restructuring is a indication of growth of the company.

In view of the substantial rise in corporate restructuring, particularly internationally, and the potential huge impact of restructuring on employees, the EU has already adopted a number of measures to provide protection for employees and information and consultation rights in the event of the restructuring of enterprises (European Foundation: http://www.eurofound.europa.eu/areas/industrialrelations

/dictionary/definitions/RESTRUCTURING.htm). Similarly, the social partners agreed a joint text entitled 'Orientations for reference in managing change and its social consequences' (11–12 June 2003), containing guidelines to be followed in order to ensure successful change management, covering transparency, good-quality communication, and information and consultation at different levels. In 2005 a second stage of consultations with EU-level social partner organisations resulted in a Communication 'Restructuring and employment' setting out measures to be developed or strengthened with the aim of facilitating 'anticipation of change' and ensuring improved management of restructuring within the EU. As a consequence the EMCC was set up identifying cases characterised by a more imaginative and reflective approach to deal with the social effects of industrial restructuring, avoiding layoffs and retaining valued human capital.

This chapter aims to add to our knowledge on managing restructuring. It does so by introducing an alternative viewpoint. Restructuring inevitably involves changes in work organisation. As jobs are scrapped or created and activities of a different nature are performed in the organisation, a huge task must be completed to arrive at a new division of labour in the organisation. New tasks must be taken on, tasks must be shifted between jobs or redistributed between the remaining jobs. But this necessity to tackle work organisation is at the same an opportunity. An opportunity to implement a work organisation that allows workers to cope with the changes implemented. In doing so, the negative impact of restructuring on the psychological well-being of employees as confirmed by many studies, can be alleviated.

The Belgian data of the EWCS 2010 allow to investigate this hypothesis as questions on restructuring, work organisation and psychological well-being are included in the questionnaire. In the following paragraphs we discuss the reasons why restructuring may affect the psychological well-being of employees and to what extent the EWCS-data support these reasons. Subsequently we focus on the relationship between restructuring and work organisation and to what extent the data support the thesis that restructuring leads to higher job demands for employees and to higher stress risks. Finally we investigate to what extent the perceived impact of restructuring on well-being is due to the kind of work organisation implemented. If this is substantial, work organisation should be a focus point during restructuring. But first, we start with a description of the incidence of restructuring.

2. Incidence of restructuring

The questions in the European Working Conditions Survey of 2010 do not allow to distinguish between different kinds of restructuring, let alone the eight types of restructuring as identified by the EMCC. There is only one single question avail-

able. It points out that restructuring must be carried out 'in the last three years', that it must affect 'the immediate work environment' of the respondent and that it must be 'substantial'.

Q15 During the last 3 years have the following changes occurred at your current workplace which affected your immediate working environment?
B – Substantial restructuring or reorganisation was carried out.

The percentage of employees experiencing a substantial restructuring affecting their immediate working environment over the last three years is 33.9%. This percentage is slightly higher than the percentage of 30.4% available in publications on the EWCS of 2010 as these include self-employed respondents. Self-employed respondents are obviously less affected by restructuring. No comparison is possible with earlier waves of the EWCS as the question was formerly not included.

As three years is a short time span in a career of 40 to 45 years, a share of one out of three respondents being substantially affected by at least one restructuring is high. At that pace, one in three employees have to cope with restructuring about fifteen times in their career. Such changes come on top of the shifts between jobs within and between organisations that occur anyhow during a career. In addition, those employees that are affected by restructuring in such a way that they are out of work, are no longer eligible to be included in the survey. The percentage of one out of three is therefore inevitably an underestimation of the real share of employees affected by restructuring.

The level of affected employees by restructuring in Belgium is similar to the level in EU-15 (32.7%) or EU-27 (31.4%). Scandinavian employees experience a much higher level of restructuring with the top 3 of Finland (52.2%), Sweden (50.2%) and Denmark (48.2%). Southern European countries such as Italy (23.5%) and Spain (24.8%)[7] display significantly lower levels of restructuring.

Focusing on the Belgian employees, there is no significant difference in the level of affected employees by restructuring according to personal characteristics as sex or age. This is surprising as older employees may have been expected to be more affected by restructuring. However a 'healthy worker effect' may be responsible for this result as dismissed older employees are no longer eligible to participate in the survey.

Equally there is no significant difference in the level of affected employees by restructuring according to employment characteristics such as type of contract or occupation. The most significant variable is sector of employment. Employees in sectors as information and communication, energy or manufacturing are twice as

7 These data include all employees, including self-employed.

likely to be affected by restructuring than employees in education, administrative and support services or arts, entertainment and recreation (Table IV-1).

Table IV-1 Top 5 sectors with high and low levels of restructuring (Nace Rev. 2 -1 digit)

High level of restructuring	%	Low level of restructuring	%
J: Information and communication	54.0	T: Households	8.0
D: Energy	53.0	S: Other services	21.0
C: Manufacturing	43.0	R: Arts, entertainment and recreation	22.0
K: Financial and insurance	42.0	N: Administrative and support services	25.0
H: Transportation and storage	42.0	P: Education	26.0

Linking levels of restructuring to sectors with an increase or decrease in employment over the last decade, it is clear that sectors with high levels of restructuring are also suffering from a decrease in employment (Vandekerckhove & Ramioul, 2011). Sectors as manufacturing, financial and insurance or transportation experienced a decline in employment while sectors as households, recreation or education enjoyed a growth in employment. Although restructuring can in principle also involve job growth, in reality it is more likely to occur in sectors with a shrinking employment.

3. Impact of restructuring on psychological well-being

3.1 Introduction

Restructuring is a difficult process, often associated with unintended consequences. Di Nunzio *et al.* (2005) point out that many authors conclude most change projects do not realise the planned financial and strategic objectives (Clegg & Walsh, 2004; Kramer, Dougherty & Pierce, 2004). As far as mergers and acquisitions are concerned, Nguyen and Kleiner (2003) report that 75 to 80 *per cent* of organisations fail to reach targeted objectives.

These consequences contribute to different short- and long-term outcomes of restructuring at the individual level as well. Di Nunzio *et al.* (2005) provides an overview of studies that focused on a wide variety of negative outcomes of restructuring such as psychological morbidity (Virtanen *et al.*, 2005), early retirement (Saksvik & Gustafsson, 2004), increased job strain (Korunka *et al.*, 2003), sickness absenteeism (Nguyen & Kleiner, 2003), injuries (Quinlan, Mayhew & Bohle, 2001; Virtanen *et al.*, 2005), decrease in commitment, job satisfaction, trust and career satisfaction, increase in turnover intention (Armstrong-Stassen *et al.*, 2001), job insecurity (Lee & Teo, 2005; Campbell-Jamison *et al.*, 2001; Kivimäki *et al.*, 2001), poor psychological well-being and health (Cartwright *et al.*, 2007; Swanson & Power,

2001), poor quality of sleep (Campbell-Jamison *et al.*, 2001), psychological distress (Kivimäki *et al.*, 2003), cardiovascular mortality (Vahtera *et al.*, 2004) and increased drug prescription (Kivimäki *et al.*, 2007).

Currently ongoing empirical research in the PSYRES-project (Psychological health and well-being in restructuring: key effects and mechanisms: **Error! Hyperlink reference not valid.**) replicates many of these findings. Based on the analysis on two longitudinal datasets in the Netherlands Wiezer *et al.* (2011) find a significant difference in the degree of emotional exhaustion, sickness absenteeism, job satisfaction and dedication between respondents who experienced no restructuring in the past two years compared to respondents who did experience restructuring. Similarly Widerzal-Bazyl (2011) made a cross sectional study on two samples of organisations, one with and one without restructuring. They conclude that employees from organisations restructured in 2009 and/or 2010 have lower psychological well-being than employees from unrestructured organisations during this time.

In addition to these factors several researchers have identified the organisational change processes itself as a possible health risk (Saksvik, 1996; Landsbergis, Cahill & Schnall, 1999; Westerlund *et al.*, 2004; European Agency for Safety and Health at Work, 2007). In this view, not merely the kind of restructuring but also the way the restructuring process is carried out must be taken into account in determining its health risks.

Reviewing the literature on the issue Di Nunzio *et al.* (2009, p. 15) sum up the main findings as follows:

– restructuring has a large potential of influencing occupational health and quality of life of workers;
– the primary effect from the workers perspective is negative, especially with regard to psychosocial effects, although physical effects as well as sickness are part of the picture.

3.2 Restructuring and work related health problems

A general assessment of employees of their work related health problems is available from the question 'Does your work affect your health, or not?' (Question 67). Employees experiencing restructuring are more likely to report an impact on their health (35.6% *vs.* 27.8%). This impact is mainly considered as negative. Three out of four employees reporting an impact from work on health, perceive the impact as negative, both for those affected by restructuring as for the employees not affected by restructuring (Figure IV-1).

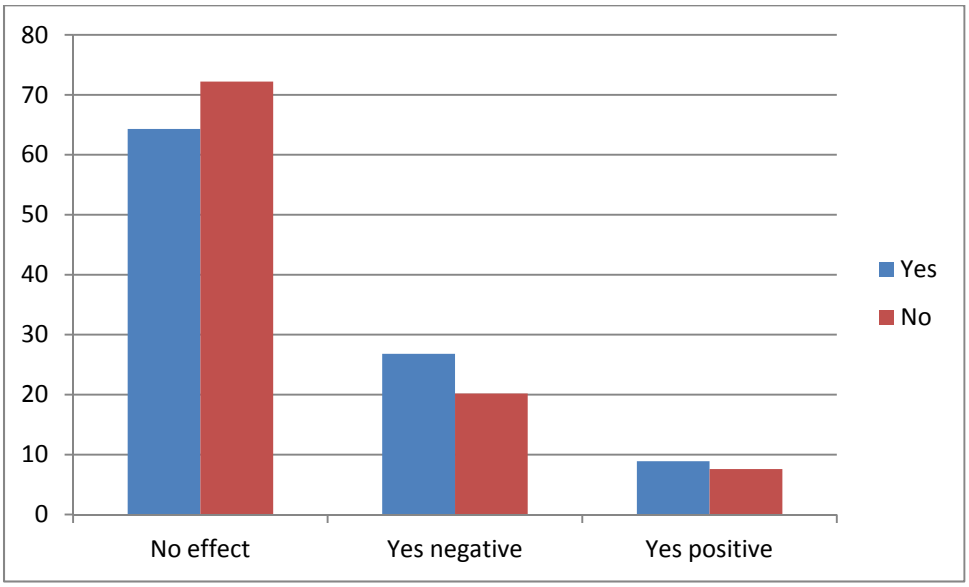

Figure IV-1 Share of employees with health affected by work, according to the occurrence of re-structuring (N=3,033)

Focusing on psychological well-being, our definition of mental health problems focuses on three indicators which capture a series of emotional and mood-related problems reported by the worker. We thereby follow Cottini and Lucifora (2010) measuring morbidity by using a set of self-assessed responses to the following questions from the EWCS.

'Over the last twelve months, did you suffer from any of the following health problems?' (Question 69):
- depression or anxiety;
- overall fatigue;
- insomnia or general sleep difficulties.

In previous waves the item 'irritability' was also included in the EWCS-questionnaire, but left out in the last wave of 2010.

It is clear from Figure IV.2 that the occurrence of restructuring over the last three years is strongly associated with self-reported mental health problems. On each item, the share of people reporting a mental health problem is 10 to 15 percentage points higher for those affected by restructuring compared to those not affected by restructuring. Although such problems may have many different causes that are not related to work at all, the data reflect a strong relationship with the occurrence of restructuring in the organisation.

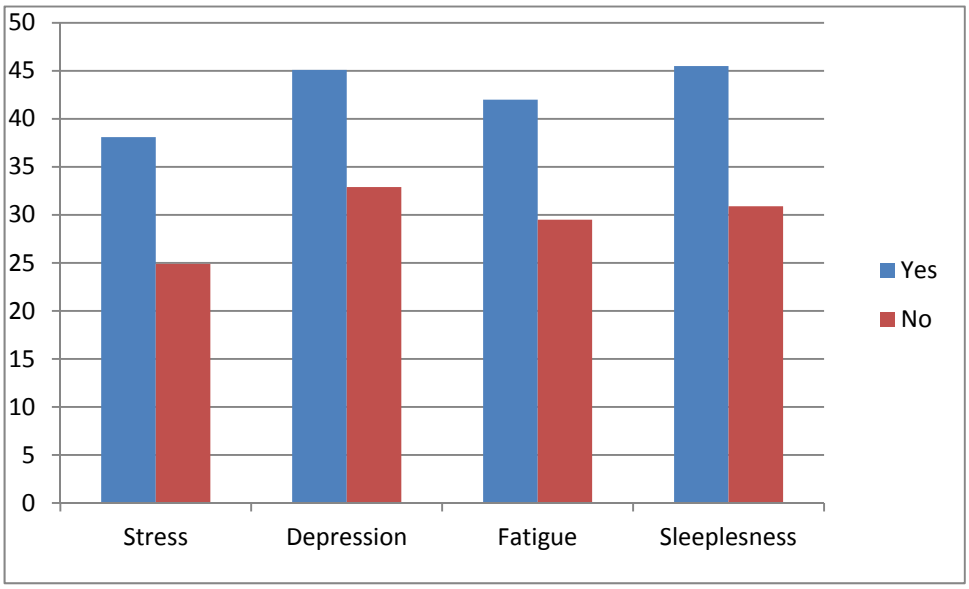

Figure IV-2 Share of employees affected by restructuring, according to the occurrence of a health problem (N=3,110)

The impact of restructuring goes beyond mental health problems as such. It affects the general mood of the employees as is clear from the five items included in question EF4:

'How have you been feeling over the last two weeks' (Question EF4):
- 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;
- my daily life has been filled with things that interest me.

The six point scale from 'At no time' to 'All of the time' was dichotomised between more or less than half of the time. For all items, the level of employees that felt in a good mood over the last two weeks was 5 to 10 percentage points higher for those not affected by restructuring. Only for the item on 'interesting things' the difference is limited to three percentage points. Despite these difference, even for employees affected by restructuring, about three out of four remained in a good mood most of the time during the last two weeks.

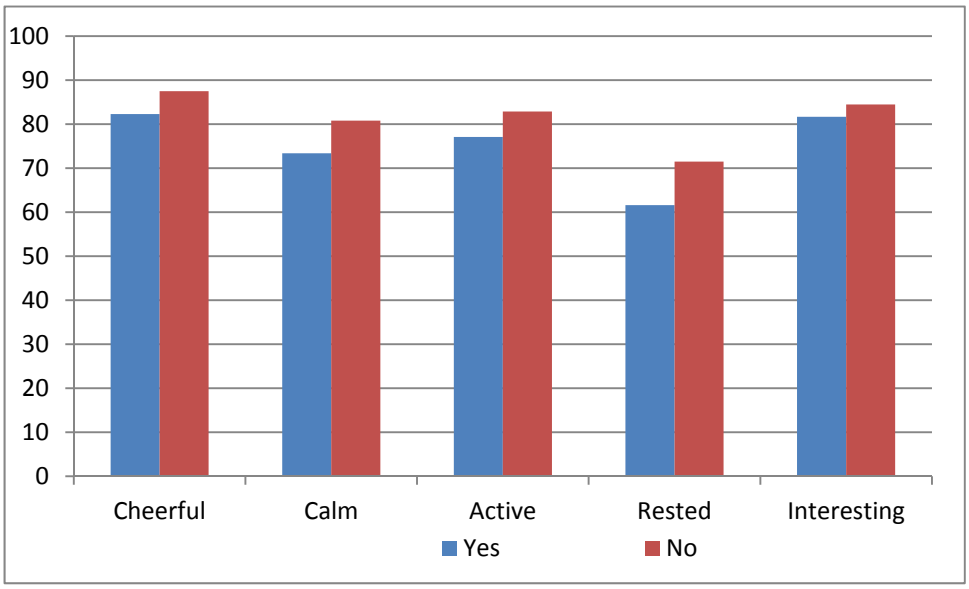

Figure IV-3 Share of employees being in a good mood most of the time over the last two weeks, according to the occurrence of restructuring (N=3,104)

The data in Figure IV-3 show that the impact of restructuring goes beyond mental health problems and affects the general mood of those employees involved in restructuring. Indeed restructuring is associated with a poor overall assessment by employees of their working conditions. The share of employees confronted with restructuring increases consistently from 'very satisfied' to 'not at all satisfied' with working conditions. Less than one out of three very satisfied employees has experienced restructuring in the last three years. For employees that are not at all satisfied with working conditions, this share almost doubles.

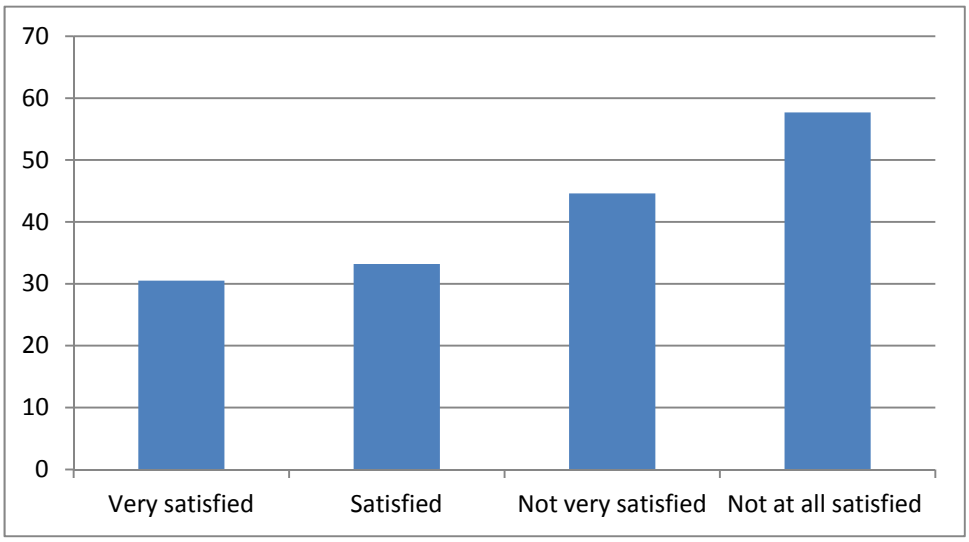

Figure IV-4 Share of employees affected by restructuring according to satisfaction with working conditions (N=3,089)

4. Impact of restructuring on work organisation

4.1 Introduction

Restructuring involves a huge task in the reallocation of tasks to jobs. New or other tasks need to be executed in the organisation and these must be distributed between more or less available jobs. Restructuring requires a new work organisation and thereby a redesign of jobs. This results in jobs with other characteristics.

Considering the impact of restructuring on psychological well-being, we will focus on those job characteristics that are expected to have an impact on psychological well-being. We rely on the 'Demand-Control'–model of Karasek (Karasek, 1979; Karasek & Theorell, 1990). Karasek argues that work stress and the resulting health effects of work stress, result not from a single aspect of the work environment, but from the joint effects of the demands of a work situation and the range of decision-making freedom available to the worker facing those demands. The model states that the combination of high job demands and low job control will lead to negative health outcomes. The ideal combination is when high job demands are accompanied by a high degree of autonomy enabling individuals to develop a broader range of coping strategies.

Reviewing the literature, Di Nunzio *et al.* (2009) conclude that restructuring is consistently associated with higher job demands and lower job control. This is due to the increased standardisation and formalisation of the working process taking place after restructuring and is combined with centralisation of decision making and control power. Indeed, sometimes such a standardisation is at the start of this process as it constitutes a necessary precondition to outsourcing or restructuring (Hermann & Schönauer, 2007).

One of the problematic aspects of standardisation is a lower influence over work for employees, because working times and methods become strictly regulated and formalised. High standardisation reduces creativity and the employee's problem solving opportunities.

The need to meet market and customer demand is obviously a crucial element for enterprises, hence it is the reason at the basis of many restructuring processes. Market instability and frequent changes in customers' needs make it difficult to predict workload, therefore it reduces predictability. Indeed, restructuring is often not a one-off event returning to a more stable situation afterwards. Rather organisations that implemented restructuring are more likely to be involved in future changes as well. This continuous situation of change creates uncertainty and again tends to decrease influence over work, because worker involvement is low, information is limited and plans are often changed or do not come through as expected (Di Nunzio *et al.*, 2005).

At the same time, standardisation and procedures are obvious tools in a drive towards bureaucracy. This results in an increase in reporting, administration and documenting, and hence an increase in the demands in work. Major difficulties arise in case of problems not envisaged by standardised procedures. If excessive formalisation of relationships does not allow a direct contact between employees and supervisors, the isolation of employees entails an assumption of risk which falls on the single individual (Di Nunzio *et al.*, 2005).

4.2 Restructuring and job demands versus job control

The EWCS 2010 contains a number of items that can be used to categorise jobs according to the Karasek-typology. Questions related to job demands are 'working at very high speed' and 'working to tight deadlines' (Question 45) with a seven point scale ranging from 'never' to 'all of the time'. Answers were dichotomised between half of the time and more versus less than half of the time.

There is a marked increase in the share of employees reporting to work at very high speed over half of the time if affected by restructuring (Figure IV-5). In case of a restructuring over the last three years, there is an increase of 15 percentage points in the share of employees reporting to work at very high speed and 20 percent points reporting to work to tight deadlines. Restructuring is therefore clearly associated to higher job demands.

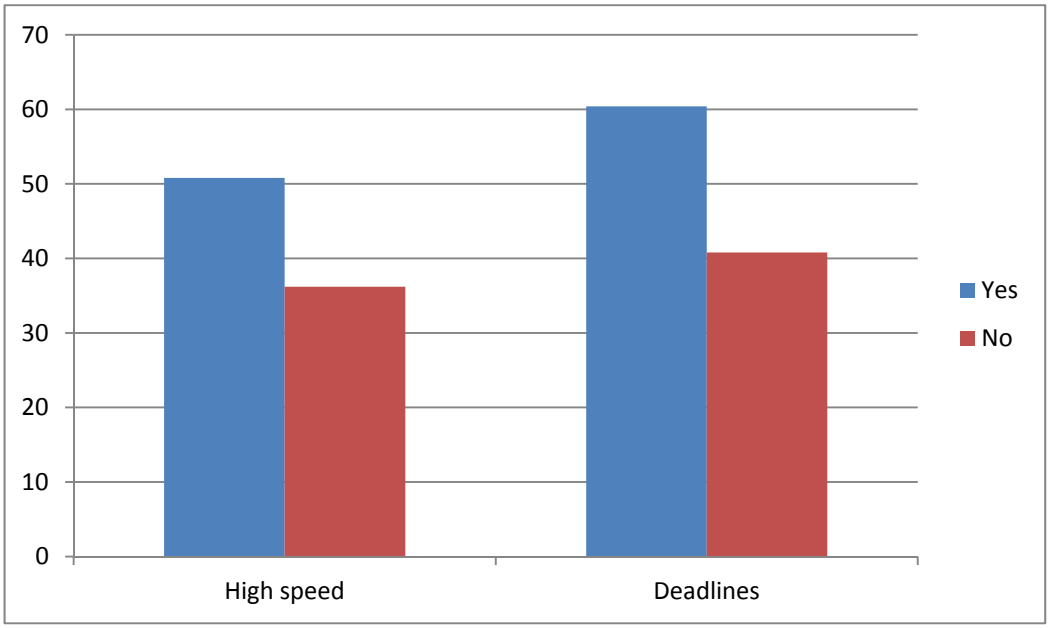

Figure IV-5 Share of employees confronted with aspects of job demands half of the time or more, according to the occurrence of restructuring (N=3,103)

Questions in the EWCS 2010 related to job control are the ability to choose or change 'the order of tasks', 'methods of work', 'speed or rate of work' each with a

yes/no answer category. For all three items the share of employees disposing of autonomy is lower if they have been affected by restructuring (Figure IV-6). Although the differences are much smaller compared to the items on job demands and limited to three to four percentage points, they are consistent. It is therefore fair to say that restructuring is associated with lower levels of job control for employees.

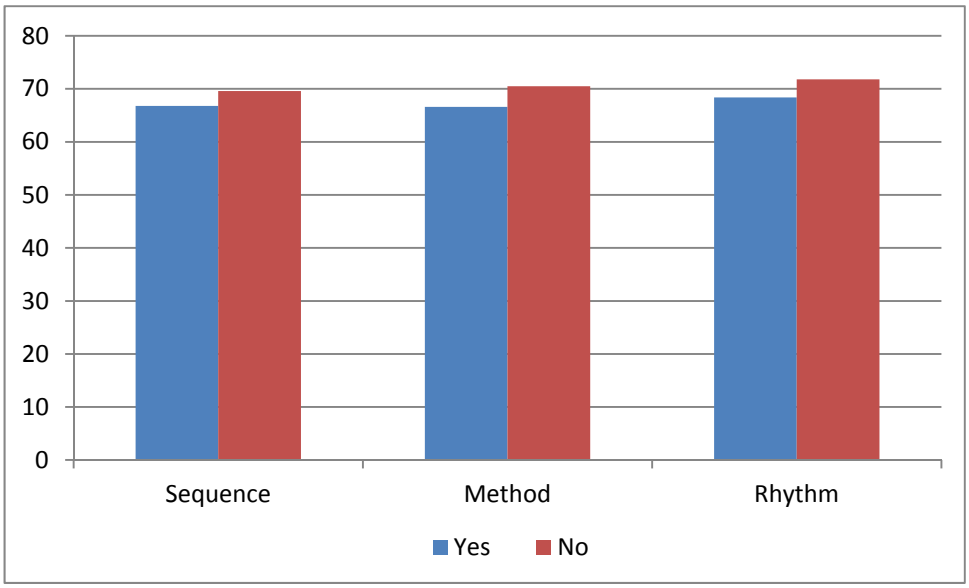

Figure IV-6 Share of employees having aspects of job control, according to the occurrence of restructuring (N=3,100)

4.3 Restructuring and job demands versus job control

The data of the EWCS confirm that restructuring is associated with lower job control and especially with higher job demands. This creates a drive towards the most stressful of the four types of jobs described by the Karasek-model: high-strain jobs, characterised by a low influence over work and a high demand.

During restructuring, workers experience high demands but have no way of controlling what happens, because procedures are strictly standardised. They have to adapt passively to changes that become more and more frequent. Both increasing demands in work, as well as loss of autonomy alone would contribute towards an increase in stress, if all else was the same. The combined effect is of course worse.

Combining the items on job demands and job control in the EWCS, we compose a quadrant with four types of jobs according to the 'demand and control'-model of Karasek. Dichotomising the scores on both dimensions, we divide the sample in four categories (Table IV.2).

Table IV-2 Share of employees in the Karasek-quadrant, according to the occurrence of restructuring (data in case of restructuring are '**bold**')

	Demands Low	Demands High
Control High	Low-strain jobs	Active jobs
	35.4	19.7
	25.2	**24.9**
Control Low	Passive jobs	High-strain jobs
	26.7	18.2
	19.6	**30.3**

Table IV-2 reflects both the increase in job demands and the smaller decrease in job control as reported above. The share of employees with low job control increases in organisations with restructuring from 44.9% to 49.9%. The share of employees with high job demands increases considerably in organisations with restructuring from 37.9% to 55.2%.

On the one hand, this leads to an increase in the share of 'active jobs' (from 19.7% to 24.9%). In this job type employees are able to deal with higher demands, protecting them from excessive strain. Learning and feelings of mastery may result. These, in turn, help the person to cope with the inevitable strain-inducing situations of the job, resulting in reduced strain and even higher levels of productivity (Karasek & Theorell, 1990).

On the other hand, this leads to a much larger increase in 'high-strain jobs' (18.2% to 30.3%). In this job type employees cannot respond optimally to situational demands (Karasek & Theorell, 1990). The main shift associated with restructuring is therefore one from 'low-strain jobs' to 'high-strain jobs'.

As it is difficult to isolate 'restructuring' both spatially and periodically from other developments and as it is hard to identify its consequences on psychological well-being, the magnitude of this shift towards high-strain jobs is surprisingly outspoken. Moreover, we are not able to assess the kind of restructuring that occurred over the last three years. Indeed, the restructuring involved may as well be accompanied by an increase in employment and offer new opportunities for employees. Such cases could be expected to improve job characteristics, thereby offsetting the negative effect of other types of restructuring. In other words, the shift towards high-strain jobs is likely to be more overwhelming for some types of restructuring.

As we have no information on the type of restructuring from the EWCS-data, the sector of employment could possibly shed some light on this issue. As pointed out above, some sectors are considerably more affected by restructuring than others. It could be expected that the restructuring in sectors with an employment growth

over the last years is of a different nature compared to sectors with a decrease in employment.

However, across all sectors, restructuring is associated with a similar increase in job demands and a smaller decrease in job control. Indeed, in the 20 sectors considered (A to T Nace rev. 1 classification), there was not a single sector deviating from the overall pattern of a slight increase in active jobs and a substantial increase in high-strain jobs being associated with restructuring. This confirms findings from the WORKS-project concluding that both high demands in work and loss of autonomy were factors found across all sectors and that this was the clearest and strongest factors in the research (Di Nunzio *et al.*, 2009, p. 75).

4.4 Restructuring and psychological well-being

According to Karasek, the observed shift towards high-strain jobs should have a negative impact on mental health. To corroborate this hypothesis, we use the items on mental health problems from the EWCS (see paragraph 3.2 in this chapter) and compose an index measuring the intensity of the mental health distress reported. We choose the simplest and most direct approach, giving equal weight to each of the factors contributing to individual mental health distress. Some experimentation using principal component analysis gave very similar results (Cottini & Lucifora, 2010). The composition of this index is in line medical studies suggesting that more serious mental health problems usually involve more than one symptom (Rugulies *et al.*, 2008). Hence, we anticipate that the more - or less - an individual reports problems in her or his mental health, the greater - smaller - is the likelihood that the distress originates from working conditions.

Table IV-3 Average score of psychological well-being, according to Karasek-quadrant

	Demands Low	Demands High
Control High	*0.82*	*0.79*
Control Low	*0.81*	*0.67*

Table IV-3 confirms the hypothesis that high-strain jobs are associated to more psychological health problems. Compared to an average score of 0.79 on the index of psychological well-being, high-strain jobs have a score of 0.67.

In addition the data give support to the 'buffer hypothesis' in the JDC-model, rather than the 'strain hypothesis'. The latter predicts that job demands and job control add up to produce negative health outcomes in environments characterised by high job demands and low job control. This implies that both job demands and job control need to be addressed to reduce job strain. The 'buffer hypothesis', predicts that job demands and job control interact and that job control moderates

the negative effect of job demands on health and well-being. This implies that improved health may be obtained by increasing job control without reducing job demands. By allowing individuals to face demands when they are best able to do so and in ways they find most acceptable, increased control reduces the effects of stressors. Table IV-3 shows that with similar levels of job demands, an increase in job control reduces the level of reported mental health problems to almost average levels (from 0.67 to 0.79).

5. The impact of work organisation on the association between restructuring and psychological well-being

The analysis has so far revealed the strong association between restructuring and psychological well-being (A) as well as between restructuring and work organisation (B). In addition, there is a clear association between work organisation and psychological well-being as predicted by the Karasek-model (C,D & E).

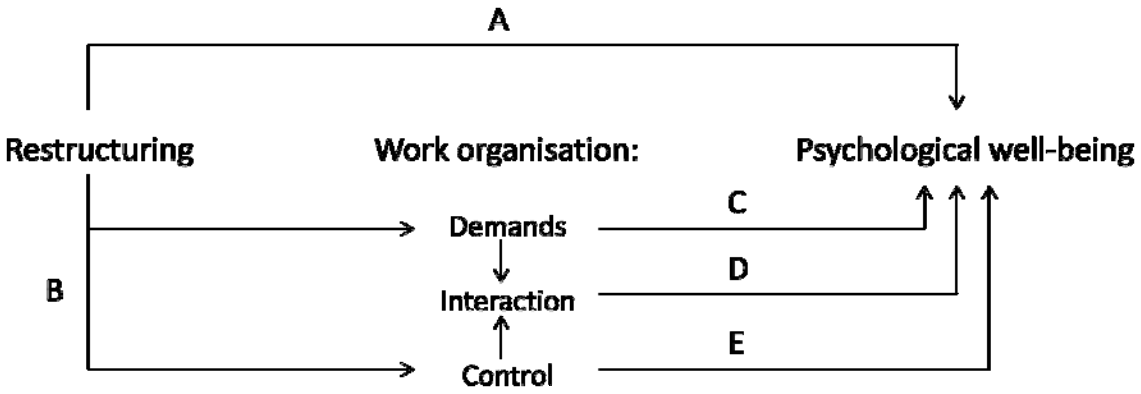

Figure IV-7 Relationship between restructuring, work organisation and psychological well-being

These findings raise the question to what extent the association between restructuring and psychological well-being is due to the kind of work organisation implemented after restructuring? Can the mental distress associated with restructuring be attributed to the increase in high-strain jobs? And does restructuring accompanied with more active jobs reduce the level of mental distress?

A regression analysis on this model with psychological well-being and restructuring, adding job demands, job control and the interaction effect between job demands and job control leads to the following results.

First of all, the regression analysis repeats the findings on the association between restructuring and psychological well-being. The relationship is very significant and the impact has a coefficient of -0.093. This means that the average value on the

index of psychological well-being drops from 0.812 in the case of no restructuring to 0.719 if restructuring took place over the last three years.

But this coefficient from restructuring on psychological well-being (arrow A in Figure IV-7) drops from -0.093 to -0.072 if the demand-control model is introduced. This means that 22.6% of the effect of restructuring on psychological well-being can be attributed to the type of work organisation implemented. This factor alone therefore has an important contribution to the relationship between restructuring and psychological well-being.

An analysis on all countries included in EWCS 2010 reveals similar findings. The overall picture for European countries confirms that restructuring has a negative impact on psychological well-being, but equally that work organisation does matter in this relationship. High job demands have a negative impact on psychological well-being, but at the same time there is a positive interaction effect if combined with higher job control.

6. Conclusion and recommendations

The analysis of the Belgian data of the EWCS 2010 show that restructuring is a reality for many employees. In the last three years, one out of three employees has been confronted with at least one restructuring in their organisation that had a substantial impact on their immediate job environment.

An event that affects considerably their overall psychological health in terms of depression, fatigue and sleep problems. Although restructuring may in principle lead to employment growth and new opportunities for employees, the overall impact is clearly negative with regard to psychological health.

Inevitably restructuring requires changes in work organisation. New or remaining tasks must be redistributed between employees and jobs must be redesigned. This necessity, however, is at the same an opportunity. The analysis confirms that the way this reorganisation of work is implemented either reinforces or alleviates the negative impact of restructuring on psychological health. If jobs are designed in such a way that the available job control enables employees to tackle the increased job demands, the negative effects of restructuring are partly compensated.

Despite its significance, the aspect of work organisation is often overlooked in the debate on restructuring. Recommendations are usually concerned with the importance of providing relevant information, adopting good communication strategies, the significance of employee participation, establishing a clear vision and goal (Knutstad & Skarholt, 2006; Wiezer *et al.*, 2011). Recommendations of the social partners at the European level calling for transparency, good-quality communica-

tion, and information and consultation (see paragraph 1) go in the same direction. The above analysis, however, makes clear that social partners need to consider aspects of work organisation in the discussion on alleviating negative consequences of restructuring on the well-being of employees. Work organisation must be considered as an effective tool in 'reflective restructuring' (EMCC) and 'high quality change management' (Saksvik *et al.*, 2007). While we know that 'active jobs' in general are beneficial to employees mental health, such jobs are especially needed in the case of restructuring as restructuring has overwhelming negative implications on psychological well-being. Restructuring therefore calls for a work organisation resulting in 'active jobs'.

CHAPTER V
PRECARIOUS WORK FOR VULNERABLE WORKERS

Christophe Vanroelen, Vanessa Puig-Barrachina, Kim Bosmans & Hans De Witte

1. The conceptualisation of precarious employment

Work, in all its aspects, in Western capitalist societies has witnessed a far-reaching process of transformation since the Post-Second World War-period of industrial mass production. During these years the 'standard employment relationship' (SER) of full-time, full-year and permanent employment, based on the male-breadwinner family, became the normative model of employment. The economic crisis starting from the second half of the 1970's, modified the economic and political scenario, and employment relations were forced to change (Boyer & Durand, 1993). The most important and visible consequence of this change is the decline of the SER in favour of a variety of non-standard or flexible employment arrangements.

So far it has been difficult to deal with non-standard employment in empirical research, largely because of conceptual and measurement problems. Until now basically three approaches are applied. (1) The legal approach focuses on the consequences for workers of non-standard contracts, compared to standard open-ended contracts (Quinlan *et al.*, 2001). (2) A second approach focuses on (treats) of restructuring and downsizing and the consequences for the affected workers of more or less objective and immanent threats to employment stability (Ferrie *et al.*, 1998; Kivimaki *et al.*, 2000). (3) Third, the study of the workers' perception of job insecurity, has yielded important information on its consequences for such outcomes as mental well-being and general health, work satisfaction, sickness absence, turnover, *etc.* (De Witte, 2005; De Witte & Naswall, 2003). Although these three approaches have yielded considerable understanding of workers' reactions against threatened and unstable employment, it may be questioned whether the changes occurring to contemporary employment arrangements are not broader

than the contractual and employment stability dimensions alone (Vives, 2010). It could be valuable to also include other important characteristics of employment with potential consequences for the security and well-being of workers, such as low social protection and unsustainable wages, unbalanced or authoritarian relations with superiors, *etc.* (Benach *et al.*, 2002). This is also reflected in recent work on 'qualitative job insecurity' as a compliment to 'quantitative job insecurity' (De Witte *et al.*, 2010a).

A way to overcome the limitations of the above-mentioned approaches, would be a multidimensional approach of contemporary employment arrangements. An often-cited example is the precarious employment approach of Rodgers (1989), which assesses employment arrangements on four dimensions: (1) certainty of continuing employment; (2) control over employment; (3) legal and social protection; and (4) income adequacy. Although sometimes precariousness is given a broader meaning, in this context it clearly refers to non-standard situations of employment which, when compared to the typical SER, present a certain extent of degrading. In fact, precarious employment grasps into two sub-domains of the quality of work framework: employment relations and conditions of employment. Employment relations are essentially asymmetrical power relations, in which the worker-employer-balance of power affects the nature of employment conditions and the quality of work in general.

The approach adopted in this report is in part based on the more recent EPRES-research of Vives *et al.* (2010). Here too employment precariousness addresses both the contractual and employment relationship aspects. The construct encompasses six dimensions: (1) employment instability, (2) the absence of collective bargaining over employment and working conditions, (3) low or insufficient income from employment, (4) the lack of workplace rights, social protection and non-monetary benefits, (5) defencelessness to workplace authoritarianism and employer-imposed disciplining, and (6) the (in)capacity to actually exercise the rights and benefits the worker is entitled to. The latter two dimensions refer specifically to social relations of employment and the balance of power between workers and employers. Based on this framework, and within the limitations of the available data, we assess precarious employment in a multidimensional way, including employment instability, income unsustainability, low employability in the sense of career development and training possibilities, intensive and flexible working times, the decline of formal bargaining relations and imbalanced informal relations between workers and employers.

2. A conceptual model linking precarious employment to individual worker outcomes

Below we present a simple conceptual scheme linking precarious employment to adverse individual worker outcomes. The analyses in this chapter are all fitting in this way of conceptualizing the potential effects of precarious employment. Nevertheless, it should be noted that currently, in the emerging field of precarious employment, empirical evidence is still scarce – although some clues may be found in related research domains. A first important assumption concerns the relation of (precarious) employment conditions with other characteristics of the quality of work – such as (in)decent working conditions, an (un)interesting job content or (un)supportive social relations at work. The existence of this kind of relations is shown before (Benach *et al.*, 2004; Letourneux, 1998; Vosko, 2006). As a consequence, not only effects on worker's health, well-being, satisfaction, *etc.* are expected from the very nature of working under precarious employment conditions - for example as a consequence of insecurity or sustained efforts in trying to continue employment (Clarke *et al.*, 2007; Muntaner *et al.*, 2010). It is also expected that potentially harmful effects occur as a consequence of higher exposure to adverse working conditions, low control, low social support, *etc.* (Muntaner *et al.*, 2010). Finally, we also assume a pro-low socio-economic position distribution of precarious employment conditions – among others, we assume lower qualified workers, workers in manual or subordinate jobs, immigrants and women to be more exposed to precarious employment conditions (Porthe *et al.*, 2010; Vives *et al.*, 2011; Vosko, 2006).

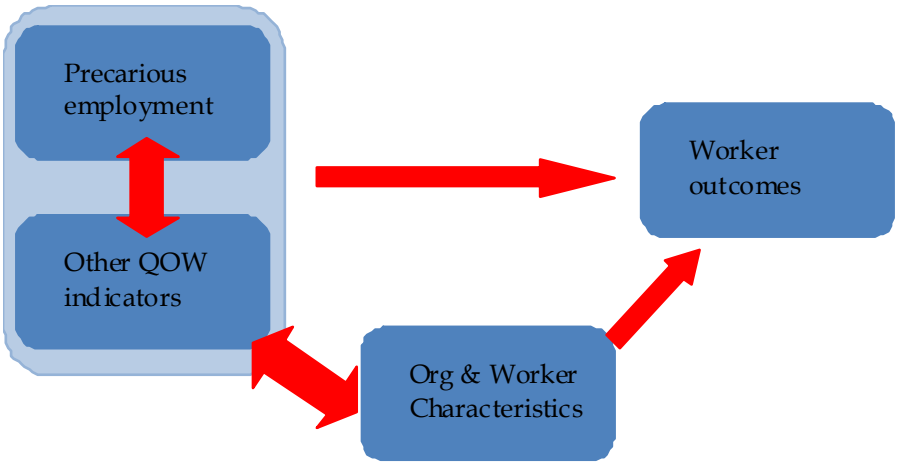

Figure V-1 Conceptual model on the relation between precarious employment and other quality of work indicators

3. Indicators of precarious employment in the 2010 European Working Conditions Survey (EWCS)

In this paragraph we develop a number of indictors on precarious employment based on the conceptual model on the one hand and the EWCS 2010 questionnaire on the other hand. We will work out separate indicators on employment (in)stability, income (un)sustainability, (limited) employability opportunities, intensive working times, flexible working times, (the absence of) formal bargaining relations, and (the absence of) informal bargaining. These eight indicators will serve our analysis in this chapter on the prevalence of precarious work on the Belgian labour market.

3.1 Employment instability: temporary contract

Employment stability is related to the division between primary and secondary labour markets (Reich *et al.*, 1973). In contemporary work settings, the idea of continuity of employment in contractual terms is increasingly given up, by introducing various forms of fixed-term employment among a certain (secondary) part of the workforce (Scott-Marshall, 2005). This reflects the aiming for 'numerical flexibility' as a way to deal with the volatility of contemporary economic contexts (Atkinson, 1984). In the EWCS, the contractual instability aspect of precarious employment is measured by the indicator 'permanent contract'. This indicator is constructed from the variable type of employment contract and dichotomised to distinguish between temporary and fixed contracts.

3.2 Income un-sustainability: low earnings

The abandonment of standard employment also affects income security. Jobs with low wages are considered to be precarious, if they are not allowing a socially acceptable standard of living, or if they lead to interruptions in the ability to generate an income (due to temporariness). Income un-sustainability may also emerge in situations of 'small part-time jobs' – a characteristic related to the idea of 'working poor' (Castel, 1995). Of course, poverty is to a large extent mediated by other factors than income from employment: household characteristics, government transfers, social wage protections schemes, *etc.* (Vosko, 2006). Therefore, this indicator cannot be interpreted as a measure of 'income poverty' at the household level. In this chapter we measure the unsustainable income dimension through the indicator of low earnings. Earnings are computed as a compound scale including net monthly earnings obtained from the main job, together with linear (overtime, Sunday work, compensations for dangerous work) and variable extra pay (productivity and performance bonuses, company shares and advantages in nature). The lowest tertile of this earnings scale is considered to be precarious.

3.3 Limited employability opportunities

In industrial relations literature the assumption is sometimes made that the old SER can be replaced by two possible new psychological contracts. On the one hand, a new psychological contract, where in exchange for contractual flexibility workers are offered skill enhancement and marketability (Gallagher & McLean Parks, 2001). On the other hand, there are situations where the idea of on-the-job training and Internal Labour Market careers of the SER are merely replaced by an instrumental short-term transactional psychological contract of labour in exchange for pay (Rousseau, 1995). In that case it can be assumed that workers face a lack of training opportunities provided by the employer, which in turn leads to more limited employability prospects and bargaining power in the labour market (so higher precariousness). The indicator for precarious employability is a combination of training (not paid by the employee) and career opportunities. Precarious are those people who have below average career opportunities while at the same time receiving no training paid by the employer.

3.4 Working time: intensive working times

In some cases, employment contracts offer protection against overwork, by explicitly regulating working hours, however this can be assumed to be less and less the case in contemporary flexible employment arrangements. In those cases, intensive working times can be considered as an indicator which refers to the relations of authority and power between employers and workers (Amable, 2006; Clarke *et al.*, 2007). Relations of power can become manifest in explicit temporal flexibility demands from the part of the employer. On the other hand, they may be worker-induced - as the result of worker-expectations for compensation in the form of rewards such as higher salaries or career advancements. The latter possibility is related to the notion of over-commitment (Siegrist & Marmot, 2004). Precarious working times is constructed through two questions: the number of hours worked in the main paid job and the number of days per week worked in the main job. Employees working 43 hours or more weekly (90th percentile), or employees working 6 days or more weekly (95th percentile) are considered to be in a precarious position based for this dimension.

3.5 Working time: flexible working times

Unusual and flexible working times can both be considered indicators of precarious employment. Unusual working times, such as night and shift work, weekend work, work on holidays are related to the organisation of work. These non-standard working times present a higher effort, compared with standard working hours, from the part of the employee since they are contradicting standard human sleep-work-leisure cycles – this specifically holds for work schedule unpredictabil-

ity (Costa *et al.*, 2004; Costa *et al.*, 2006; Wedderburn, 2000). The indicator for flexible working times is constructed by combining variables on work during evenings, night or week-ends, and schedule unpredictability (on-call jobs, or having schedule changes at short notice). Employees with above median scores on both indicators have precarious jobs with respect to this dimension.

3.6-7 Formal bargaining relations: information about health and safety and limited voice

The erosion of the power of organised labour is assumed to have its implications on the employment relationship, in the sense that well-established procedures for collective negotiation and bargaining or formal procedures for individual problem solving have become threatened in the post-Fordist era (Scott-Marshall, 2005). Based on the EWCS 2010 for Belgium, we can develop two indicators related to this dimension: information on health and safety issues and workers' voice (worker participation). The former is treated as an indirect measure of the presence of formal bargaining and participation facilities. The presence of trade unions and social dialogue on health and safety issues has indeed been associated with better information flows towards employees (Broughton *et al.*, 2010). Workers are considers precarious when they are not at all informed about health and safety risks. Workers' voice is constructed through summing two questions: the presence or not of an employee acting as an employee representative and the arrangement of meetings by the management in which employees can express their views about what is happening in the organisation. If none of both, it is considered as a precarious situation.

3.8 Imbalanced informal relations between worker and employer: limited say

This indicator takes into account the informal employment relations between workers and employers - more specifically, whether there exists a situation of communication and participation. This dimension refers to imbalanced workplace power relations, which as is already shown earlier (Amable, 2006; Clarke *et al.*, 2007) is more often the case for precarious workers. The indicator for 'limited say' is based on the following items in the questionnaire: whether workers have been asked if they are consulted before targets for their work are set; if they are involved in improving the work organisation or work processes of their department or organisation; if they have a say in the choice of their working partners; and if they are in general encouraged by their immediate supervisor to participate in important decisions. The summed indicator is also dichotomised, taking the lowest quartile as the precarious answer.

3.9 Overall precariousness

An indicator on overall precariousness is calculated as the sum of all the above-mentioned indicators, divided by the number of the indicators. All indicators are dichotomies and given the same weight in the total sum.

4. Description of precarious employment in Belgium

The prevalence of each of the indicators, as well as overall precarious employment will be reported at the general population level, as well as for its distribution according to organisational characteristics (sector, size of enterprise) and employee characteristics (occupation, gender, age group, educational level).

4.1 Prevalence at the population level

Table V-1 Prevalence of the precariousness items and overall precariousness at the population level

	N	Percent
Temporary contract	3,343	13.9
Low earnings	2,623	33.4
Limited employability opportunities	3,239	32.4
Intensive working times	3,272	15.3
Flexible working times	3,306	29.5
No OHS-information	3,278	4.6
Limited voice	3,281	54.9
Limited say	3,336	28.4
	N	Mean
Overall precariousness	3,343	26.4

In Table V-1, the prevalence of the different dimensions of precarious employment in this sample of Belgian workers is reported. The results need to be interpreted as percentages. That is to say, for example, 13.9% of the Belgian workers is employed with a temporary contract. About 55% of the respondents reports having only limited voice (54.9%) at their work. The prevalence of limited say is 28.4%. One third of the Belgian workers have rather limited employability opportunities (32.4%), the same holds for work in some kind of flexible working times regime (29.5%). The amount of people that does not receive information on occupational health and safety issues is rather limited (4.6%). The mean score for overall precariousness is 26.4.

4.2 Prevalence by region

Table V-2 Precariousness in association with the Belgian regions (%)

	Belgium	Brussels	Flanders	Wallonia
Temporary contract	13.9	16.9	13.2	14.4
Low earnings	33,4	28,7	35,0	33,5***
Limited employability opp.	32.4	38.8	33.3	28.4***
Intensive working times	15.3	13.5	13.5	19.7***
Flexible working times	29.5	30.7	29.7	28.7
No OHS-information	4.6	5.8	3.3	6.8***
Limited voice	54.9	55.6	53.9	56.7
Limited say	28,4	35,6	26,5	30,0**
Overall precariousness	26.4	27.6	25.9	26.9

* p<0.050; ** p<0.010; *** p<0.001.

There are no significant differences in overall precariousness according to the Belgian regions. However, with regard to specific dimensions, some differences come to the fore. For example, we find a higher frequency of low earnings in Wallonia and Brussels, more problematic employability opportunities in Flanders, limited say and intensive working times in Wallonia and less absence of occupational health and safety information in the Brussels region.

4.3 Prevalence by organisational characteristics

Table V-3 Precariousness in association with company size (number of employees) – (%)

	Overall	1	2-9	10-99	100-499	500+
Temporary contract	13.5	24.0	20.8	13.9	6.1	8.9***
Low earnings	32.8	46.5	44.4	33.9	24.4	20.3***
Limited employability opp.	31.4	42.7	39.4	33.0	25.0	19.9***
Intensive working times	15.5	17.2	16.7	12.6	16.9	21.2***
Flexible working times	30.1	31.1	24.3	27.6	36.8	37.8***
No OHS-information	4.7	3.7	6.5	5.7	2.6	1.8***
Limited voice	55.1	71.6	78.5	55.3	35.4	42.6***
Limited say	26.8	38.1	31.2	26.4	23.6	24.1**
Overall precariousness	26.1	34.3	32.4	25.8	21.3	22.2***

* p<0.050; ** p<0.010; *** p<0.001.

The characteristics of precarious employment are clearly associated with the size of the employing organisations. Respondents from smaller organisations have on average a higher score for overall precariousness. This holds specifically for micro (1 employee) and very small (2-9 employees) organisations. Very similar trends can be seen for a number of the specific dimensions: temporary contracts, low

earnings, limited opportunities for employability, lacking occupational health and safety information, limited voice and say. Together, these two latter indicators are constructing the dimension for possibilities of formal bargaining. Formal bargaining opportunities may be especially difficult in small organisations in Belgium as a consequence of weaker (or absent) union representation. The precarious character of work in larger organisations seems to be connected to the working times of employees. Unusual working hours tend to be more prevalent in workers from larger organisations (more than 100 employees) and intensive working times are particularly common in organisations with more than 500 employees.

Table V-4 shows the associations with economic sectors, using NACE-coding (rev. 2, 1 digit). The results show that some sectors are inhabiting more overall precariousness, as well as higher scores on several of the specific dimensions. When looking at overall precariousness, the highest scores are found for 'accommodation and food service activities', 'activities of households', 'arts, entertainment and recreation', 'agriculture' and 'other service activities'.[8]

8 The same also holds for the sector of 'activities of extraterritorial organisations and bodies', although these results are only based on an extremely low number of observations.

TableV-4 Precariousness in association with the sector of employment (%)

	Overall	A. Agri-culture	B. Mining	C. Manu-facturing	D. Power supplies	E. Water supplies	F. Construc-tion	G. Whole-sale	H. Trans-portation	I. Accom-modation	J. Informa-tion
Temporary contract	13.8	34.0	15.1	16.1	13.8	0.0	10.5	14.3	7.3	22.5	11.8
Low earnings	33.5	36.0	6.4	25.4	24.0	40.9	21.5	39.8	20.8	40.9	23.8
Limited employability opp.	32.6	50.3	22.5	33.4	35.0	38.5	27.3	40.6	37.4	45.8	15.8
Intensive working times	15.4	6.5	56.4	12.7	12.7	3.9	17.5	18.6	23.4	33.9	25.2
Flexible working times	29.7	21.4	23.3	24.2	9.4	16.7	20.0	25.9	44.5	47.8	44.9
No OHS-information	4.5	13.7	0.0	5.0	0.0	7.2	4.4	3.7	4.2	2.9	6.0
Limited voice	54.9	59.9	44.4	51.2	69.6	37.0	62.0	66.6	54.0	75.4	51.0
Limited say	28.3	35.9	25.5	29.0	29.2	31.6	25.9	35.9	37.6	31.7	23.0
Overall precariousness	26.4	32.3	25.2	24.7	24.6	21.6	23.6	30.3	28.9	37.5	25.2

TableV-4 Precariousness in association with the sector of employment (%). Next

	K. Finance	L. Real estate	M. Profes-sional	N. Admini-strative	O. Public adm.	P. Educa-tion	Q. Human health	R. Arts & entertain	S. Other services	T. HH Activities	U. Extra-territorial
Temporary contract	3.0	4.7	19.8	14.9	9.8	14.1	10.9	30.2	20.8	22.3	47.5***
Low earnings	19.7	31.7	31.2	39.5	40.4	38.5	36.2	51.6	52.5	67.6	36.7***
Limited employability opp.	24.3	52.9	25.5	41.7	26.3	27.0	25.3	29.1	34.8	63.7	44.8***
Intensive working times	21.3	7.9	15.9	9.5	10.7	9.8	13.0	16.9	21.5	4.2	17.7***
Flexible working times	24.6	14.4	31.1	22.5	27.3	28.7	43.5	41.6	23.0	3.1	26.6***
No OHS-information	1.8	0.0	5.9	4.1	2.3	7.3	1.7	3.3	7.4	2.7	24.6***
Limited voice	51.3	76.6	67.4	61.4	54.1	40.3	45.0	71.2	66.3	75.3	49.3***
Limited say	15.2	17.6	20.1	39.1	29.4	19.9	23.6	26.8	21.8	45.5	26.9***
Overall precariousness	20.1	25.7	26.8	28.5	24.5	22.7	24.7	33.3	31.0	34.4	34.5***

A. Agriculture, forestry and fishing; B. Mining and quarrying; C. Manufacturing; D. Electricity, gas, steam and air conditioning supply; E. Water supply; sewerage, waste management and remediation activities; F. Construction; G. Wholesale and retail trade; repair of motor vehicles and motorcycles; H. Transportation and storage; I. Accommodation and food service activities; J. Information and communication; K. Financial and insurance activities; L. Real estate activities; M. Professional, scientific and technical activities; N. Administrative and support service activities; O. Public administration and defence; compulsory social security; P. Education; Q. Human health and social work activities; R. Arts, entertainment and recreation; S. Other service activities; T. Activities of households; U. Activities of extraterritorial organisations and bodies.
* $p<0.050$; ** $p<0.010$; *** $p<0.001$.

Rather low scores are seen in the 'financial and insurance sector', 'water supply, sewerage, waste management and remediation services' and 'education'. For the separate dimensions, two sectors are showing five out of eight precariousness characteristics to be clearly higher than average: 'accommodation and food service activities' (showing a higher prevalence of temporary contracts, limited employability perspectives, intensive and flexible working times and limited voice) and 'activities of households' (showing a higher prevalence of temporary contracts, low earnings, limited employability opportunities, limited voice and say). These two sectors clearly present the highest probability for precarious employment to their employees.

Then, four sectors have high average scores on a considerable number of the characteristics: 'agriculture, forestry and fishing', 'wholesale and retail', 'arts, entertainment and recreation', 'other service activities' and 'activities of extraterritorial organisations and bodies' (although the results for this latter sector should be interpreted with caution, because few observations). Also a number of sectors have rather low scores on each or most of the precariousness dimensions. Certainly 'manufacturing' and 'construction' are on average showing favourable scores.

4.4 Individual worker demographic and socio-economic characteristics

Table V-5 Precariousness in association with gender and age (%)

		Gender			Age		
	Overall	Male	Female	Overall	-34	35-49	50+
Temporary contract	13.9	13.3	14.7	13.7	22.9	9.9	7.4***
Low earnings	33.4	21.9	46.3***	33.4	40.7	30.7	27.9***
Limited employability opp.	32.4	31.1	33.9	32.5	29.2	31.7	39.6***
Intensive working times	15.3	19.4	10.7***	15.3	12.9	15.9	17.7*
Flexible working times	29.5	31.9	26.7**	29.6	30.4	28.6	30.4
No OHS-information	4.6	4.1	5.2	4.6	5.4	4.8	3.1
Limited voice	54.9	52.4	57.8**	55.0	61.4	53.5	48.5***
Limited say	28.4	29.1	27.7	28.5	30.3	28.6	25.5
Overall precariousness	26.4	25.5	27.4**	26.4	28.8	25.3	25.0***

* p<0.050; ** p<0.010; *** p<0.001.

The Belgian female workforce has on average a slightly higher overall precariousness score. The largest differences among female and male workers are found for lower earnings, defined in this study as those in the bottom 33% of the earnings distribution. In addition, having low voice is also more prevalent in the female workforce. Women also tend to be more often in temporary employment, but this cannot be shown with certainty in these results. On the other hand, men have higher chances to be working more intensively in terms of working times and are also more inclined to work in flexible working times.

Overall precariousness is higher among young workers (<34 years), compared to middle-aged (35-49 years) and older (>50 years) workers. When looking at the separate dimensions, young workers most of all face temporary contracts, low earnings and limited voice. In contrast, the youngest workers have slightly lower chances to perform intensive working times, compared to middle-ages and older workers. These older workers, on the other hand, have higher probabilities to encounter limited employability opportunities.

A lower educational level is most strongly associated with overall precariousness and with many of the separate dimensions. The scores for overall precariousness follow a clearly gradational order, from high precariousness scores in the lowest educated to lower scores in the highest educated. The same gradational pattern also becomes apparent for the percentages of the dimensions for temporary contracts, limited employability opportunities, low earnings, lacking information on occupational health and safety, limited say and limited voice. It should be noted that the results for lacking information on occupational health and safety are not significant. In contrast, the percentages of unusual working hours and intensive working times are going in the opposite direction: more educated members of the workforce have the highest chances to be exposed to flexible schedules and intensive working times.

Table V-6 Precariousness in association with educational attainment

	Overall	Lower sec.	Higher sec.	Bachelor	Master
Temporary contract	13.9	17.4	15.5	11.5	11.3**
Low earnings	33.4	44.1	40.2	28.9	18.2***
Limited employability opp.	32.2	41.3	41.3	23.8	19.5***
Intensive working times	15.4	10.4	14.1	13.0	24.2***
Flexible working times	29.4	26.1	24.6	29.6	40.5***
No OHS-information	4.6	5.8	4.8	4.3	3.8
Limited voice	54.9	64.0	60.4	51.7	42.9***
Limited say	28.3	39.0	35.6	21.5	16.0***
Overall precariousness	26.3	30.6	29.3	22.9	22.2***

* p<0.050; ** p<0.010; *** p<0.001.

In association with ISCO-coded occupational categories, the scores for overall preciousness are highest in 'skilled agricultural and fishery workers', 'service workers', 'plant and machine operators and assemblers' and 'elementary occupations'. The category of 'skilled agricultural and fishery workers' shows elevated scores on seven out of the eight dimensions of precarious employment (all, except flexible working times). As a result this can be seen as the 'most precarious occupational category', although it should be noted that it is a small group of workers in this sample (N=53).

Table V-7 Precariousness in association with occupations (ISCO 88 – 1 digit)

	Overall	A. Legislators	B. Profes-sional	C. Techni-cians	D. Clerks	E. Service workers	F. Skilled agri.	G. Craft & trades	H. Operators	I. Elemen-tary occ.
Temporary contract	14.0	9.9	13.0	11.3	12.0	19.7	22.2	15.2	11.7	20.4***
Low earnings	33.4	13.7	24.5	30.6	41.4	46.7	44.3	24.8	25.8	58.0***
Limited employability opp.	32.4	27.1	19.4	22.6	32.5	39.8	67.4	35.4	42.5	52.7***
Intensive working times	15.4	33.3	14.5	17.8	7.6	18.6	20.1	10.7	21.7	8.7***
Flexible working times	29.5	41.6	40.0	30.8	17.0	36.6	10.6	17.0	38.4	15.7***
No OHS-information	4.6	6.4	5.6	1.5	4.3	5.7	9.4	4.5	3.0	5.5*
Limited voice	55.0	46.8	43.6	51.2	58.1	68.7	79.3	66.0	54.7	58.9***
Limited say	28.4	10.6	20.0	18.5	32.7	29.8	33.2	35.2	39.5	47.3***
Overall precariousness	26.4	24.0	22.5	22.9	25.4	33.0	35.2	26.0	29.7	32.3***

A. Legislators, senior officials and managers; B. Professionals; C. Technicians and associate professionals; D. Clerks; E. Service workers and shop and market sales workers; F. Skilled agricultural and fishery workers; G. Craft and related trades workers; H. Plant and machine operators and assemblers; I. Elementary occupations.

* $p<0.050$; ** $p<0.010$; *** $p<0.001$.

The category of service workers shows clearly higher percentages for temporary contracts, low earnings, limited employability opportunities, flexible working times, lacking occupational health and safety information and limited voice. Elementary occupations also have a high prevalence of temporary contracts and low earnings, in addition their prevalence for limited employability opportunities and limited say is particularly high. Furthermore, the occupational category of 'plant and machine operators and assemblers' shows an elevated prevalence on four dimensions: limited employability opportunities, intensive and flexible working times and limited say. Professionals and legislators, on the other hand, have to deal with elevated scores for flexible working times and intensive working times, in the case of legislators. Three occupational categories have rather favourable scores on both overall precariousness and the different dimensions: 'technicians and associate professionals', 'clerks' and 'craft and related trades workers'. Although, in the latter occupational group, problems of limited voice and limited say are slightly more frequently encountered.

5. Relation with other aspects of quality of work and employment

In this paragraph the associations of employment precariousness with the other aspects of the quality of work and employment are investigated. First of all, the relations between overall precariousness and its separate dimensions with the clusters of workers are presented. After that, relations of overall precariousness with separate indicators for working conditions, content of work and social relations at work are reported.

5.1 Dimensions of precariousness with clusters of workers

In Table V-8 the relation of precariousness with the different clusters of job-characteristics is presented. Two clusters have considerably more elevated scores on the overall precariousness measure: 'the work on flexible and unusual hours' and the 'indecent work' cluster. On the other hand, the clusters of 'saturated jobs' and 'full-time balanced work' are showing considerably lower scores on the overall precariousness measure. For the separate dimensions of precariousness a more scattered picture is shown. Beyond any doubt, the clusters 'indecent work' and the 'work on flexible and unusual hours' are problematic and have the highest number of precarious dimensions. The 'indecent work' shows an elevated prevalence for temporary contracts, low earnings, limited employability opportunities, lacking occupational health and safety information and limited voice. For the 'work on flexible and unusual hours' a higher prevalence of limited employability opportunities, intensive working times, flexible working times, limited voice and limited say are seen. However, also two other cluster profiles are characterised by adverse scores on precariousness items. The 'emotionally demanding work' cluster shows

an elevated prevalence of intensive and flexible working times, lacking information on occupational health and safety and limited say. The cluster of 'work with limited career prospects' shows a high prevalence of temporary contracts, low earnings, limited employability opportunities and limited voice. The 'heavy and repetitive work' cluster is relatively favourable in terms of characteristics of precarious employment – only an elevated prevalence of limited employability opportunities and limited say are seen, compared with the population in general. The same holds for 'saturated jobs', where only intensive and flexible working times show a relatively high percentage. Finally, the most favourable cluster in terms of precariousness is the 'full-time balanced jobs' cluster.

Table V-8 Precariousness in association with the clusters of workers (%)

	Overall	Saturated jobs	Full-time balanced work	Work with limited career prospects	Work on flexible and unusual hours	Emotionally demanding work	Heavy and repetitive work	Indecent work	
Temporary contract	12.7	5.4	6.7	17.8	12.5	9.9	8.8	25.7	***
Low earnings	32.7	9.6	20.3	29.3	55.3	20.0	63.7	17.2	***
Limited employability opp.	32.1	7.3	14.7	41.4	43.7	14.7	39.1	69.0	***
Intensive working times	14.2	29.8	4.6	5.8	24.1	20.3	6.7	7.2	***
Flexible working times	29.9	51.2	3.7	9.5	67.8	58.7	7.0	16.1	***
No OHS-information	4.9	2.4	2.3	5.3	5.5	8.0	4.2	7.2	**
Limited voice	54.7	31.3	54.2	61.1	64.3	43.9	47.5	82.6	***
Limited say	28.1	4.5	42.9	28.0	28.9	16.7	53.1	34.1	***
Overall precariousness	26.2	17.7	18.7	24.8	37.8	24.0	28.8	32.4	***

* $p<0.050$; ** $p<0.010$; *** $p<0.001$.

5.2 Overall precariousness with separate quality of work indicators

In Table V-9 the relation between overall precariousness and a selection of the separate indicators of working conditions, content of work and social relations at work is presented. For these analyses overall precariousness has been recoded into three categories: low (below median), medium (3th quartile) and high (highest quartile). A significant relation between precariousness and most of the quality of work indicators can be seen, except for 'emotional pressure', 'regularly working with people' and 'fixed workplace'. A clear gradient can be seen in the prevalence of quality of work elements according to the categories of increasing overall precariousness. People scoring high on the precariousness scale face less task complexity on the one hand, but are also experiencing less working time autonomy, autonomous teamwork, task autonomy, task oriented management and support. In contrast, the workers in precarious jobs have higher chances to face repetitive work, speed pressure, physical risks and harassment. In sum, it is safe to say that employees with higher scores on the overall precariousness indicator tend to be significantly more exposed to other less favourable aspects of the quality of work.

Table V-9 Precariousness in association with selected indicators of working conditions, content of work and social relations at work (%)

	A. Task complexity	B. Repetitive work	C. WT autonomy	D. Autonom. Teamwork	G. Task autonomy	E. Speed pressure	F. Emotional pressure
Low	59.9	47.3	29.0	45.8	58.6	21.0	17.6
Medium	44.8	51.4	19.3	39.8	49.2	22.1	18.6
High	32.4***	56.0***	13.0***	30.7***	41.9***	27.9**	18.1
	H. People	I. Physical risks	J. Fixed workplace	K. Harass-ment	L. Task or. Man.	M. High sup-port	
Low	19.8	44.7	56.6	9.2	60.2	22.0	
Medium	22.4	51.5	61.2	12.0	51.5	20.3	
High	21.0	59.0***	55.8	15.0***	41.7***	16.4**	

A. High task complexity; B.A lot of repetitive tasks; C. High working time autonomy; D. High task autonomy; E. High autonomous teamwork; F. High speed pressure; G. High emotional pressure; H. Often working with people; I. High physical risks; J. Fixed workplace; K. Experiencing harassment; L. High task oriented management; M. High support.
* p<0.050; ** p<0.010; *** p<0.001.

6. Effects of precarious employment on individual worker outcomes

In Table V-10 a set of regression models are presented, relating the separate dimensions of precarious employment with a selected number of individual worker

outcomes: absenteeism, presenteeism, job insecurity, job satisfaction, physical health and psychological health. The results of these regression analyses are described in terms of odds ratios (ORs). An odds ratio describes the difference of the odds to belong to the 'exposure category' of the outcome for the respondents in the precarious category, compared the respondents belonging to the non-precarious category of the explanatory variables. The non-precarious category thus serves as a reference category. For example, the odds ratio for experiencing job insecurity of people in a temporary contract, compared to people not in a temporary contract is 4.20. This means that people in a temporary contract are 4.20 times more likely to experience job insecurity over not experiencing job insecurity, compared to those not in temporary employment. A confidence interval shows the reliability of this finding. As a general rule this confidence interval should exclude the value 1.00 of the reference category - so for the above mentioned case 4.20 (3.16-5.58) this clearly holds true. For each of the outcomes every time two models are estimated: model 1 incorporates all the dimensions of precarious employment being simultaneously controlled for confounding effects of gender and the age distribution of the sample; model 2 incorporates the same variables of model 1, but is extended with the other quality of work indicators as additional controlling variables. The second models show the 'net results' -that is, the results when taking into account potential distortions caused by the other characteristics included in the model.

From Table V-10 (part 2) it can be seen that the indicators of precarious employment are not related with absenteeism. For presenteeism as well, few associations are significant. In both models, we find workers in flexible occupations to appear more often at their work despite of being ill. Workers with low earnings show less presenteeism.

For job insecurity, an expectable strong relation with the type of contract can be seen. Workers with a temporary contract face more job insecurity than people with a permanent contract. The categorical differences indicate that people with a temporary contract have a 4.20 times higher odds, compared with the reference category of permanent contracts (model 2). Besides, boundary significant positive associations with job insecurity are seen for limited say in model 1. These significant associations disappear while controlling for the other quality of work variables.

In the case of job satisfaction, positive relationships exist with temporary contract, limited employability opportunities, intensive working times, limited say and limited voice. The positive associations with intensive working times and limited voice disappear in model 2. The clearest difference is seen for people with limited say: in model 1 they have a 3.53 times higher odds, compared with the reference category. This effect diminishes in model 2 (OR 2.27).

Positive, significant associations between the precariousness indicators and psychological health are found for temporary contract, flexible working times, intensive working times, and no OHS-information. The relationships with flexible

working times and no OHS-information disappear after controlling for the other quality of work indicators.

Finally for physical health complaints, respondents who lack occupational health and safety information, and those who report flexible working times or limited say are more often facing physical health complaints (model 1). Only the association with flexible working times remains significant in model 2.

7. Conclusion

The results of the analyses of the European Working Conditions Survey 2010 data for Belgium confirm our main hypotheses. (1) Precarious employment shows clear relations with the other characteristics of the quality of work: highly precarious employees tend to be significantly more exposed to other less favourable quality of work aspects. (2) The dimensions of precarious employment as they are conceptualised in this study show a limited number of significant associations with health outcomes, indicators of well-being and job satisfaction. (3) Thirdly, as expected, precarious employment is clearly unequally distributed in the labour force according to a number of key demographic, socio-economic and organisation-related characteristics.

7.1 Validity of the indicator for precarious employment

First of all the results of this study provide more evidence in support of the usefulness of a multidimensional approach to precarious employment, and the application of an overall summed score. The overall instrument shows the expected associations. More specifically, clear associations are observed with indicators such as task complexity, repetitive work, task autonomy and harassment. Moreover, our analysis confirms the expected pro-low socio-economic position distribution of precarious employment. Similar conclusions can be made for the separate dimensions of precarious employment, with two exceptions: intensive and flexible working times. The latter indicators are not following a pro-low socio-economic position pattern. They are rather characteristics of high standard jobs requiring flexible and intensive working times, high monetary rewards and high employability opportunities. Moreover, also the comparison with the cluster analysis allows validating both the cluster solution and the dimensions of precarious employment. Regarding employment conditions and relations, both approaches are showing very similar patterns. In fact, the same dual pattern is shown. On the one hand the clusters ‘work on flexible and unusual hours’ and ‘indecent work’ show bad scorings on overall precariousness and on most of the separate dimensions of precarious employment. On the other hand, the ‘saturated jobs’ cluster shows - notwithstanding its generally favourable quality of work characteristics - a clear overexposure to intensive and flexible working times. A similar dual pattern for

the distribution of employment conditions and relations has been found in previous studies, among others, in Flanders (Vanroelen *et al.*, 2010b), the United Kingdom (Burchell *et al.*, 2002), The Netherlands (De Beer, 2002) and for the European labour market in general using the 2005 data of the EWCS (Braeckman, 2011).

7.2 Socioeconomic distribution of precarious employment

A pro-low socioeconomic position distribution of precarious employment is shown. In general, women, younger workers, less educated or qualified workers, as well as workers from micro and small organisations and those from agricultural, service and elementary occupations have higher scores on the overall precariousness indicator. These general results are in line with other published studies (Vives *et al.*, 2011; Vosko, 2006). First of all, precarious employment is gendered (Vosko & Clarke, 2009). Several studies have shown that women are particularly overrepresented in low wage jobs, involuntary part-time and temporary employment (Artazcoz *et al.*, 2005; Cranford *et al.*, 2003; Franco & Winqvist, 2002; Vives, 2010). This also has important implications with regard to the average lower income levels of women in the labour market (Cranford *et al.*, 2003). In addition, our results also show that the Belgian female workforce is overrepresented with regard to the item 'limited voice'. On the one hand, this can be related with the types of jobs and positions held by female workers - they are still overrepresented in lower status jobs (Walby, 1997), while it may also be related to a continuing lack of representation of women's interests by unions and women's lower power in collective bargaining (Menendez *et al.*, 2007). Moreover, our results showing a higher level of precariousness and specifically of temporary employment among young workers are consistent with previous descriptions of the precarious and non-standard workforce in wealthy countries (Benavides *et al.*, 2000; Laparra, 2004; Rodgers, 1989; Vives, 2010). Furthermore, our findings show that precarious employment is highly related to educational attainment. In line with our results, a study on Dutch school leavers, showed that less-educated school leavers were more likely to have a non-standard contracts than more highly educated ones (De Vries & Wolbers, 2005). However, unusual and intensive working hours are a key exception in that regard. This is consistent with a European study based on the European Working Condition Survey, 2005 (Puig-Barrachina *et al.*, 2011) and previous research among Flemish workers (Vanroelen *et al.*, 2010a).

7.3 Associations with individual worker outcomes

The dimensions of precarious employment show a limited number of associations with health outcomes, indicators of well-being, job insecurity and job satisfaction. Psychological health is related to temporary employment and intensive working times; job insecurity shows a strong relation with the type of contract, but also with employability possibilities and low earnings. Job satisfaction is related with 5

of the 8 precarious employment indicators. Although in general it is found to be difficult to relate temporary employment to adverse individual worker outcomes (De Cuyper *et al.*, 2008), the scarce empirical research on the health impact of precarious employment as a broader concept indeed shows associations with adverse outcomes in terms of health, well-being, job satisfaction or work-family conflict (Clarke *et al.*, 2007; Vives, 2010; Vives *et al.*, 2010; Vosko, 2006). On the other hand, when interpreting the results on the social distribution and relation with wider quality of work characteristics, one may conclude to leave out intensive and unusual working hours from the precariousness concept. In contrast, however, intensive and flexible working times are related with poor psychological and physical health, which points at some harmful impact that has also been documented earlier (De Witte *et al.*, 2010b; Vanroelen *et al.*, 2010b. Therefore, it could be argued that high and unusual working hours are more subtle manifestations of degrading employment conditions, resulting from to pressure to perform in order to keep or improve current employment conditions. This may be related to Siegrist's notion of over-commitment in the Effort-Reward-Imbalance model (Siegrist, 2002).

7.4 Final remarks and recommendations

Employment arrangements have considerably changed. Non-standard employment is increasing all over the world and Belgium is not an exception. In addition, it is possible that the European economic crisis worsens the situation, placing more and more workers in a vulnerable bargaining situation regarding their employment conditions. This makes it all the more useful to overcome conceptual and measurement problems regarding precarious employment, in order to be able to better monitor employment situations over time. Although this study only shows some first empirical results on an alternative approach to investigate employment conditions and relations in a broader way than before, it suggests that the effects of degrading employment should be taken seriously from a worker well-being and labour market dualisation perspective. Our results point at the necessity to develop policy strategies in order to counter the degrading of employment conditions, rising contractual insecurity, enhance worker participation and to promote training and skill enrichment opportunities. This should be done with special attention to vulnerable groups in the labour market, such as young, female and immigrant workers, as well as workers at 'the bottom of the labour market'. In addition, also a future research agenda for studying the effects of employment conditions and relations should be stimulated.

Table V-10 Main effects of the precariousness items in relation with selected outcome measures (ORs–95% CI's), part 1

	Absenteeism		Presenteeism		Job insecurity	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Contract						
Temporary contract	0.90 (0.65-1.23)	0.92 (0.67-1.28)	0.94 (0.73-1.23)	0.98 (0.75-1.28)	4.20 (3.16-5.58)	4.35 (3.23-5.86)
Permanent contract	1.00	1.00	1.00	1.00	1.00***	1.00***
Employability opportunities						
Limited	1.01 (0.81-1.25)	1.03 (0.81-1.30)	1.13 (0.94-1.36)	1.2 (0.98-1.46)	1.21 (0.94-1.55)	1.30 (1.00-1.69)
Not limited	1.00	1.00	1.00	1.00	1.00	1.00
Working time (flexibility)						
Flexible	1.02 (0.82-1.28)	0.86 (0.67-1.09)	1.43 (1.18-1.74)	1.38 (1.13-1.69)	1.07 (0.83-1.38)	0.97 (0.74-1.27)
Not flexible	1.00	1.00	1.00 ***	1.00 **	1.00	1.00
Working time (intensity)						
Intensive	0.99 (0.73-1.33)	0.98 (0.71-1.34)	1.07 (0.83-1.37)	1.03 (0.79-1.34)	1.38 (1.00-1.91)	1.31 (0.93-1.84)
Not intensive	1.00	1.00	1.00	1.00	1.00	1.00
Earnings						
Low	1.07 (0.85-1.35)	1.08 (0.85-1.37)	0.76 (0.62-0.92)	0.78 (0.63-0.95)	1.23 (0.94-1.60)	1.31 (0.99-1.72)
Not low	1.00	1.00	1.00 **	1.00 *	1.00	1.00
OHS-information						
No	1.13 (0.71-1.78)	0.91 (0.57-1.47)	1.42 (0.94-2.12)	1.25 (0.82-1.90)	1.46 (0.92-2.31)	1.28 (0.80-2.06)
Yes	1.00	1.00	1.00	1.00	1.00	1.00
Say						
Limited	1.22 (0.98-1.53)	0.97 (0.75-1.24)	0.91 (0.75-1.11)	0.85 (0.69-1.05)	1.41 (1.10-1.81)	1.31 (0.99-1.74)
Not limited	1.00	1.00	1.00	1.00	1.00**	1.00
Voice						
Limited	0.86 (0.70-1.06)	0.87 (0.70-1.07)	1.03 (0.86-1.22)	1.03 (0.86-1.23)	1.05 (0.83-1.33)	1.06 (0.82-1.35)
Not limited	1.00	1.00	1.00	1.00	1.00	1.00

Model 1=controlled for gender and age.
Model 2=controlled for gender, age, task complexity, repetitive tasks, working time autonomy, autonomous team work, speed pressure, emotional pressure, working with people, physical risks, fixed workplace, harassment, task oriented management, and support.
P-values of the Wald-statistics: * p<.05; ** p<.01; *** p<.001.

Table V-10 Main effects of the precariousness items in relation with selected outcome measures (ORs–95% CI's), part 2

	Job satisfaction		Psychological health		Physical health	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Contract						
Temporary contract	1.64 (1.23-2.20)	1.83 (1.33-2.52)	1.50 (1.16-1.94)	1.64 (1.24-2.16)	1.08 (0.83-1.41)	1.08 (0.82-1.44)
Permanent contract	1.00**	1.00***	1.00**	1.00**	1.00	1.00
Employability opportunities						
Limited	1.55 (1.25-1.94)	1.46 (1.15-1.87)	0.88 (0.74-1.07)	0.96 (0.79-1.18)	1.08 (0.89-1.31)	1.09 (0.89-1.34)
Not limited	1.00***	1.00**	1.00	1.00	1.00	1.00
Working time (flexibility)						
Flexible	0.97 (0.76-1.23)	0.83 (0.64-1.08)	1.47 (1.22-1.77)	1.20 (0.98-1.47)	1.59 (1.31-1.92)	1.33 (1.08-1.64)
Not flexible	1.00	1.00	1.00***	1.00	1.00***	1.00**
Working time (intensity)						
Intensive	1.40 (1.03-1.89)	1.40 (1.00-1.96)	1.56 (1.21-2.00)	1.32 (1.01-1.74)	1.08 (0.84-1.39)	0.98 (0.75-1.29)
Not intensive	1.00*	1.00	1.00***	1.00*	1.00	1.00
Earnings						
Low	1.04 (0.82-1.32)	1.08 (0.84-1.40)	0.93 (0.76-1.13)	0.99 (0.80-1.22)	0.95 (0.78-1.16)	0.94 (0.76-1.17)
Not low	1.00	1.00	1.00	1.00	1.00	1.00
OHS-information						
No	1.30 (0.84-2.00)	0.89 (0.56-1.43)	2.20 (1.47-3.29)	1.55 (1.01-2.37)	2.11 (1.43-3.13)	1.51 (0.99-2.29)
Yes	1.00	1.00	1.00***	1.00	1.00***	1.00
Say						
Limited	3.53 (2.84-4.37)	2.27 (1.77-2.90)	1.02 (0.84-1.23)	0.89 (0.71-1.11)	1.09 (0.90-1.32)	0.87 (0.70-1.10)
Not limited	1.00***	1.00***	1.00	1.00	1.00**	1.00
Voice						
Limited	1.26 (1.01-1.57)	1.27 (1.00-1.60)	1.06 (0.89-1.26)	1.06 (0.88-1.27)	0.94 (0.78-1.11)	0.95 (0.79-1.15)
Not limited	1.00*	1.00	1.00	1.00	1.00	1.00

Model 1=controlled for gender and age.
Model 2=controlled for gender, age, task complexity, repetitive tasks, working time autonomy, autonomous team work, speed pressure, emotional pressure, working with people, physical risks, fixed workplace, harassment, task oriented management, and support.
P-values of the Wald-statistics: * p<.05; ** p<.01; *** p<.001.

CONCLUSIONS

Quality of work measured by means of a set of indicators

In this volume we have presented an overview of the quality of work and employment in Belgium based on the data that have been collected through the European Working Conditions Survey (EWCS) in 2010. Eurofound has asked respondents in all European countries a long list of questions on their working situation. The Belgian government financed an upgrade of the survey population up till 4,000 respondents allowing more in depth research and the writing of this report.

The analyses on the Belgian data of the 2010 EWCS confirm that it is not advisable to put one figure on 'the' job quality of workers. The quality of work covers different dimensions that all should be taken into account in the process of valuing this quality. We have constructed 22 indicators on quality of work, each of them referring to a particular dimension of work quality and with limited correlation to other dimensions. Within this set of indicators, we have seven indicators referring to the job content, three indicators to the working conditions, seven indicators to the employment conditions and five indicators to the social relations at work.

A taxonomy with seven quality of work clusters

We have used this indicator set to develop a taxonomy of job quality types on the Belgian labour market. Belgian employees have been classified in seven different job types, each of them representing a different job quality constellation. These job types have been selected on an empirical basis. These types are selected as the job quality constellations that lie behind the type are found in the jobs of many Belgian employees. All types represent 10 to 20% of the employees on the Belgian labour market.

Two types reflect a good to excellent job quality. The 'saturated jobs' cluster groups employees with high scores on almost every indicator on quality of work, the cluster of 'full-time balanced work' has more than reasonable scores on every indicator. About one out of three Belgian employees enjoys this kind of interesting job quality.

More than half of the Belgian working population is part of a cluster characterised with least one unpleasant element of the work quality. These workability problems may be found in the part time contract and limited career prospects, in the working time arrangements, in the emotional demands of the work, or in the heavy and repetitive character of the tasks. The first job type groups 20% of the workers, the latter three cover each about 10% of the labour market.

The distinct characteristics of 'work with limited career prospects' are working part time on the one hand and limited prospects on career advancement on the other hand. Workers with 'emotionally demanding work' often have to deal with people outside the workplace, do not feel supported by colleagues or management within the organisation, and have to work on repetitive tasks and under speed pressure. Workers in the cluster with 'work on flexible and unusual hours' have a good salary and a full-time job, but they face unfavourable working time arrangements. It is the employer who decides about the time when they have to work, as working time autonomy is very limited and work on unusual hours and changes in their work schedule regularly occur. The workers with 'heavy and repetitive work' have to fulfill repetitive task, they have no autonomy nor say at work, and have to work in a risky environment. On the positive side, they are paid well in a full-time job, have a fixed workplace and a normal and stable working day schedule.

Finally, one out of six workers is found in the last cluster with 'indecent work'. Whereas the former clusters all have some decent elements of the work quality, this is not the case for these workers. This cluster has a bad score on almost every indicator on work quality.

Job quality is unevenly distributed on the labour market

The chance to enjoy good quality work and the risk to perform bad quality work is not evenly distributed within the working population. Gender, occupation, sector and company size are important determinants for the job quality of employees.

First of all, the job quality of workers is not gender neutral. Women have more risks on workability problems than men, as they are overrepresented in 'indecent work', 'work with limited career prospects' and 'emotionally demanding work'. Male workers have more chances on 'saturated jobs', but also on 'work on flexible and unusual hours' and 'heavy and repetitive work'. This gender distribution reflects to some extent that women more than man value working time autonomy and social contacts in the job.

Occupation is a second determinant for job quality. In terms of job quality, *managers* and *technicians* have a better job than other occupational groups. First, they are overrepresented in the 'saturated jobs' cluster. Second, all groups but managers,

professionals and technicians have a big risk to be represented in the 'worst quality jobs', or in another job quality cluster that struggles with particular job quality problems. *Operators, assemblers, sales and service workers* have to be prepared to 'work on flexible and unusual hours'. These occupational groups work have very limited working time autonomy. They have to work when the machines are turning or the clients expect them. *Craftsmen en elementary occupations* face more than average heavy and repetitive work. They fulfill repetitive task, they have no autonomy nor say at work, and have to work in a risky environment. On the positive side, they are paid well in a full-time job, have a fixed workplace and a normal and stable working day schedule. *Professionals* have a relatively big risk on emotionally demanding work.

In a number of sectors, we find an overrepresentation of a typical cluster. The industrial work is likely to be heavy and/or repetitive in kind. In contrast, the 'work with limited career prospects' seems to be common in the (private and public) services. Private services also offer quite often on flexible and unusual hours, whereas public administrators have more chances on emotionally demanding work.

Regarding company size, there is a relation between the number of employees in the organisation and the quality of work. The bigger companies offer more good quality and less bad quality work than small companies.

Good quality work is healthy work

It is not easy to measure job quality in one indicator, neither is it easy to estimate the outcomes of good or bad job quality in one figure. A number of outcomes should be considered in this appreciation. We evaluate the impact of job quality on the workers' health situation, on the job attitudes of the worker, and on feelings of (in)security of the position on the labour market.

The expected relation between the quality of work and workers' well being and health is confirmed. Health problems are connected to the typology of job quality, but the relationship is not fully as expected. The 'best' and 'worst' quality work clusters are not guaranteeing the best and worst health outcomes. Workers with 'full-time balanced work' seem to have the best health outcomes. This suggests that the 'saturated jobs', with challenging work and extremely good working conditions, is not the best work for workers' health. The 'next best' work with rather moderate expectations for the worker seems to be a better choice when it comes to optimizing workers' health outcomes. On the other hand, it is the 'emotionally demanding work' that leads to very problematic relative health outcomes. These workers report by far the highest score on work related health risks. They also register the worst scores on three other health indicators, general health, physical health and mental health.

Further, healthy work seems to be an important determinant for work sustainability. We find the best score on the question if 'you think you will be able to do the same job you are doing now when you are 60 years old' in the cluster with 'full-time balanced work' and the worst score in the group with 'emotionally demanding work'. Within the group of workers with 'full-time balanced work', 76% believes it is possible to do this job until the age of 60, a score far above the scores in other job quality clusters. Within the group of workers with emotionally demanding work, only 32% of the respondents believe he or she will be able to do the same job until 60.

Good quality work is sustainable

The close harmony between sustainability and health was also reflected in the in depth analysis of the questions on sustainability, *i.e.* whether workers believe they will be able to do the same job when they are 60 years old. Good scores in general health, physical health and psychological health are correlated with better scores in job sustainability, while work-related health risks are correlated with lower scores in job sustainability. Job satisfaction is another important outcome, positively correlated with job sustainability.

The issue of work sustainability is on the high priority list of Belgian policy makers. As the Belgian employment rate for older workers is far behind the European target of 50%, it is important to know how workers can be motivated to 'do their current job when they are 60 years old'. It is often argued that work sustainability is determined by the kind of work one has to perform. Workers will only remain on the labour market in case they can work in a high quality job. The chapter on work sustainability has indicated what particular job quality elements are influencing the decision whether to stay or to leave the labour market.

The overall picture is a strong support for policy makers who believe that the employment rate of older workers can be influenced by offering good quality jobs. There is a positive relation between work sustainability and almost every selected job quality indicator. People in good quality jobs are more likely to believe they will be able to do the same job when they are 60 years old. In this sense, the list of possible points of action to enforce work sustainability is very long: avoid too much emotional pressure for workers, limit the number of repetitive tasks, control the speed pressure, enlarge task and working time autonomy where possible, ensure a safe workplace, enhance contact moments with people outside the company, offer career opportunities, a fixed contract, a full-time job, and a regular work schedule, consult employees in decision making at the workplace, guarantee opportunities to have a collective input of the employees in company decisions, ensure a supportive management style, good colleagues, and avoid any kind of violence and harassment at work. Almost all actions expect changes at company

level, thus policy makers will need to act in close harmony with employers in the end of career management.

The end of career policies might consider the gender issue. Throughout the chapter on older workers, differences between men and women were ever present: in the employment rate, in the particular job quality constellation, in the expectations on working until 60, and also in the role of job quality elements in the decision to stay on the labour market. Women's decision to catalogue a job as unsustainable relate remarkably often to social relations. Say, voice, support and no harassment all help to keep women at work. This is also the case for career opportunities, regular working hours, and not much emotional pressure. For men, repetitive tasks and a risky work environment seem to be more correlated with a negative assessment of job sustainability.

A good social climate, a safe workplace and controlled job demands

Keeping people at work might be important for policy makers, keeping work healthy is at least as important. Within the globalising economy, companies ever have to increase productivity and competitiveness, putting workers under more and more pressure to perform 'harder, better, faster and stronger'. It is clear that one has to have a close watch on the impact of this performance optimisation on the well-being of workers. In Belgium, 8% of the workers perceive work impacts positively their health while 22% estimate work impacts negatively their health. Musculoskeletal disorders (*e.g.* lower back pains and neck muscular pains) remain the most frequently reported negative health outcomes for workers. Further, workers also report mental disorders as fatigue, sleeping problems and headaches caused by their work.

As already indicated, a 'full-time balanced job' is a better guarantee for excellent health outcomes than the 'best quality job'. And 'emotionally demanding work' has the worst health outcomes for workers. In depth analyses on the EWCS 2010 revealed the particularly important job quality indicators for workers' health.

Only a selection of job quality indicators appeared to be of importance for the health outcomes of workers. This result suggests that it is possible to focus on particular issues in the policy of ensuring healthy workplaces.

A main job quality determinant on work related health risks and physical health is a safe workplace. Violence and harassment is a second element with very negative health outcomes. These result back the current Belgian legal framework strongly focusing on risk prevention and with particular attention to tackle harassment at the workplace.

Secondly, the social climate within the company is an important determinant of workers' health. We find important relations between on the one hand social support of colleagues, supportive management of supervisors and career opportunities for workers and on the other hand the different indicators on workers' health. In this respect, it is necessary to design interventions aiming at developing high social support but also high supportive management and career development in organisations.

Thirdly, we find an important role for job demands in predicting the health outcomes of job practitioners. More particularly the role of emotional pressure and speed pressure should be highlighted in this regard. Interventions have to be designed to help workers to cope with emotional demanding situations and limit the temporal constraints they face.

The opportunity of restructuring decisions

The latter finding, the importance of job demands, has been confirmed in the chapter on the effects of restructuring. It has been argued that the particular event of a restructuring decision should bear in mind that the inevitable changes in work organisation have an important effect on the mental health of workers. The analysis confirms that the way this reorganisation of work is implemented either reinforces or alleviates the negative impact of restructuring on psychological health. If jobs are designed in such a way that the available job control enables employees to tackle the increased job demands, the negative effects of restructuring are partly compensated.

Providing relevant information, adopting good communication strategies, ensuring employee participation or establishing a clear vision and goal alone do not guarantee a fluent implementation of reorganisation processes. Our analyses have made clear that social partners need to consider aspects of work organisation in the discussion on alleviating negative consequences of restructuring on the well-being of employees. Work organisation must be considered as an effective tool in 'reflective restructuring' (EMCC) and 'high quality change management' (Saksvik *et al.*, 2007). 'Active jobs' are in general beneficial to employees mental health, such jobs are especially needed in the case of restructuring as restructuring has overwhelming negative implications on psychological well-being. Restructuring therefore calls for a work organisation resulting in 'active jobs'.

Precarious work particularly a risk for vulnerable groups

The last chapter has focused on precarious work. Whereas the previous chapters have regrouped the Belgian workers using 'neutral' quality of work indicators in seven clusters, we adopted a normative framework in the last chapter. Eight sepa-

rate indicators on precariousness were used to quantify the precarious character of a job. These indicators referred to employment instability, income (un)sustainability, limited employability opportunities, intensive working times, flexible working times, the absence of formal bargaining relations, and the absence of formal bargaining.

Precariousness is correlated to most other elements that were used to divide the Belgian workforce according to their job quality. In precarious jobs, people have less complex tasks, they receive less working time or task autonomy, do not have the opportunity to work in teams, but have to cope with more repetitive work, less supportive management, speed pressure, physical risks and harassment. Not surprisingly, there is a clear relation between the precariousness of a job and the quality of work. The number of precarious aspects in a job is low for the 'saturated jobs' cluster, and high for clusters with more job quality problems.

Consequently, we have similar findings on the distribution and outcomes of precarious work. On the one hand, precarious work is not ad random distributed among the work force. In general, women, younger workers, less educated or qualified workers, as well as workers from micro and small organisations and those from agricultural, service and elementary occupations have higher scores on the overall precariousness indicator. On the other hand, precarious characteristics of jobs seem to be negatively related with the health of workers, their well being in general, job insecurity and job satisfaction.

Policy conclusions on both approaches are similar. Because of the unequal chance on bad quality or precarious work, and the negative outcomes of these jobs on behalf of the health and well being of workers, continuous efforts to reduce the number of jobs with bad scores on the several quality of work indicators should be supported.

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