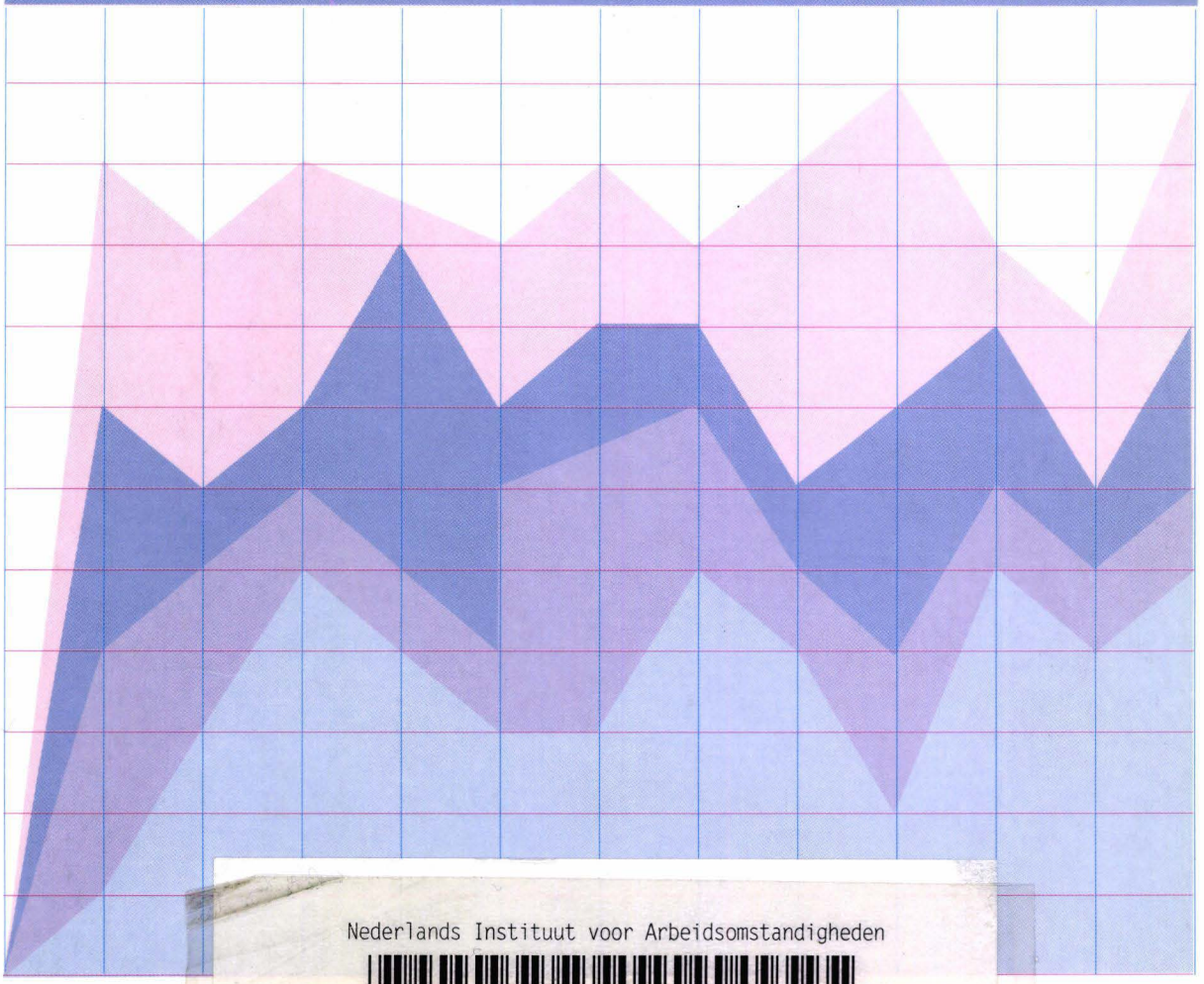
Indicators of Working Conditions in the European Union



EUROPEAN FOUNDATION
for the Improvement of Living and Working Conditions

Indicators of Working Conditions in the European Union

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Foreword

While there seems to be an abundance of data on social issues, policy makers often lack the practical and simple data which will support their action. The present report explores how, in the field of working conditions and on the basis of existing harmonised data, synthetical indicators can be built. The intention is not to provide the ultimate set of indicators on this topic, but rather to show what can be achieved on the basis of existing data. Other indicators could (and should) be constructed if relevant data was available. A discussion should also take place on selecting what would be the most relevant indicators, and on constructing these indicators (what, for example, should include an indicator on "strenuous work"?).

The report also puts forward proposals for the construction of indicators and suggests ways of collecting and analysing data on a more regular and comprehensive basis. The aim of the Foundation is ultimately to provide a discussion basis on how to develop user-friendly indicators.

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Abbreviations

EFILWC	=	European Foundation for the Improvement of Living and Working Conditions.
OECD	=	Organisation for Economic Cooperation and Development
EUROSI	=	European Social Indicators - project
ESWE	=	European Survey on the Working Environment
LCS	=	Labour Cost Survey
SES	=	Structure of Earnings Survey
TUS	=	Time Use Survey
ECHP	=	European Community Household Panel
LFS	=	Labour Force Survey
HBS	=	Household Budget Survey
CVTVS	=	training, cedefop

Summary

The European Foundation has asked NIA TNO to develop social indicators for the working environment in Europe on the basis of existing working environment statistics. The European Union does not yet possess a system nor a list of such indicators in the field of the working environment. Such a list will help policy makers to formulate and to evaluate their policies in this field.

Social indicators contain information about the social situation in a country or an international community. They give information about policy (indicators about means to reach certain goals) and about policy effects (indicators about effects). They also show what the level is of certain fundamental social needs and how these needs develop themselves over time. *Indicators on the working environment* give information about the level of social needs in the field of the working environment. The social indicators which have been created for the working environment are about the following working environment variables:

- physical exposure,
- chemical exposure,
- biological exposure,
- psycho-social job demands:
  . work organisation,
  . work content: job demands, job control,
  . social organisation,
  . working times (shedules etc.).
- musculoskeletal job demands,
- the use of protective measures,
- safety and health output.

The indicators developed in the report are of an informative and problem-oriented nature. Such indicators give information on the current working environmental situation in the member states of the European Union. The indicators make clear which working environmental characteristics are problematic or which group (country, branch of industry, professional group, ...) is more at risk than other groups. Other types of indicators are predictive or programme evaluation indicators. Such indicators cannot yet be made for this field.

A thorough analysis in the report of the different national working environment surveys and sources has made it clear that it is difficult to obtain information which can be used for European indicators. The only valid source which can be used at this moment is the European Survey on the Working Environment (=ESWE). It is clear that more research is needed for the development of such indicators, but the proposal in this report can function as a starting point. In the final report of the study, an overview is given of an informative and problem oriented approach to indicators on the working environment. The lists which are proposed in this report are 'complete' from a scientific point of view. This means that all areas which need to be covered by such indicators, are included into the lists. Next to this list, a selection is presented of those indicators which are more telling from a policy oriented point of view. This list is limited to eleven indicators which give a good overview of the working conditions situation in the European Union. In figure 1, data on these different indicators are presented for the 1996-situation. It is of course interesting to see if there exists trend information. In figure 2, a comparison is made for data from the 1991- and the 1996-situation. This second figure shows how the working environment has developed itself for the European Union (12 member states).

It is not enough to have a list of indicators on the working environment. Policy makers will require a continual update of the data which is collected for these indicators. The European Survey on the Working Environment is clearly one of the major sources for the further development of these indicators. It is however necessary that the information collected by other national working environment institutes is collected and harmonized. Also, information collected by labour inspectorates and other working environment instances should have to centralized. Therefore, it is necessary to build a system of databanks, consultation with scientific and political instances, and of dissemination on this indicator set. Only with such an effort, sound and 'stable' data on the working working environment can be collected. The primary responsible organizations which could undertake such an effort are the European Foundation and Eurostat. The report develops such a proposal.

Indicators on the working environment

Precarious work: this indicator is constructed on two questions, i.e. question 20f 'is your job secure?' and question 7 'current job status'. A distinction is possible between employed workers with a permanent contract, and employed workers being either insecure about their job or having a temporary or fixed term contract. About 30% of European employed workers have such precarious job situation.

Irregular working times: this indicator is a summary of three straining working times, i.e. permanently working at night, working in shifts and permanently working on sundays. About 34 % of employed and 53 % of self-employed are working in such conditions.

Learning organisations: this indicator is constructed on five questions: solving unforeseen problems on your own, rotation of tasks, complex tasks, learning new things and undergone training. The indicator shows which workers have all of those aspects. Then we can talk of learning organisation. About 15% of employed workers work in a learning working environment. For self employed this is only 6%.

Participative organisations: 8% of employed workers have the chance to consult, discuss and decide with their employer, representatives and colleagues. Only 2% of self employed have the same opportunities.

Strenuous work: this indicator is constructed on muscoskeletal and physical (ambiental) demands. About one third of workers have to work in such highly straining working conditions.

Repetitive and monotonous work: about a quarter of employed workers have either monotonous tasks, no job rotation or repetitive tasks. This is about 16% for self employed.

Intensive work: one tenth of the workers has to perform its' tasks at high speed, to short deadlines or does not have enough time to execute the tasks.

Control over working times: only one third of the workforce can freely choose its working times such as starting times, holidays and breaks.

Control over work content: nearly 80% of self employed and about 50% of workers can decide freely on working order, method and speed.

Discrimination at work: about 3% of self employed and double that of employed have to work with either sexual, age, race, disability or nationality discrimination.

Violence at work: 7% of self employed and 11% of employed are subject to either physical violence, intimidation and unwanted sexual attention.

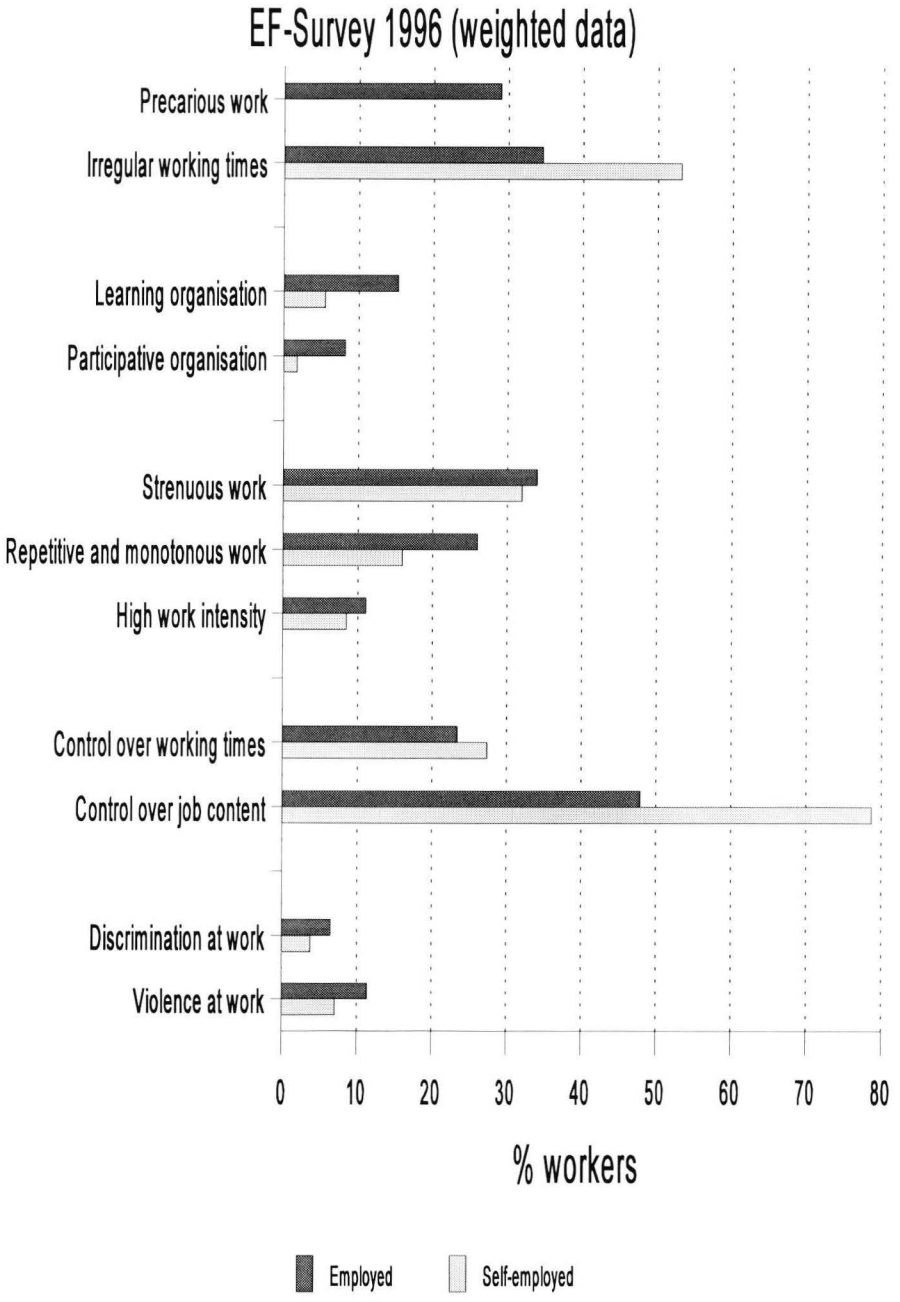


Figure 1. Eleven indicators on the working environment in the European Union (source: ESWE, 1996)

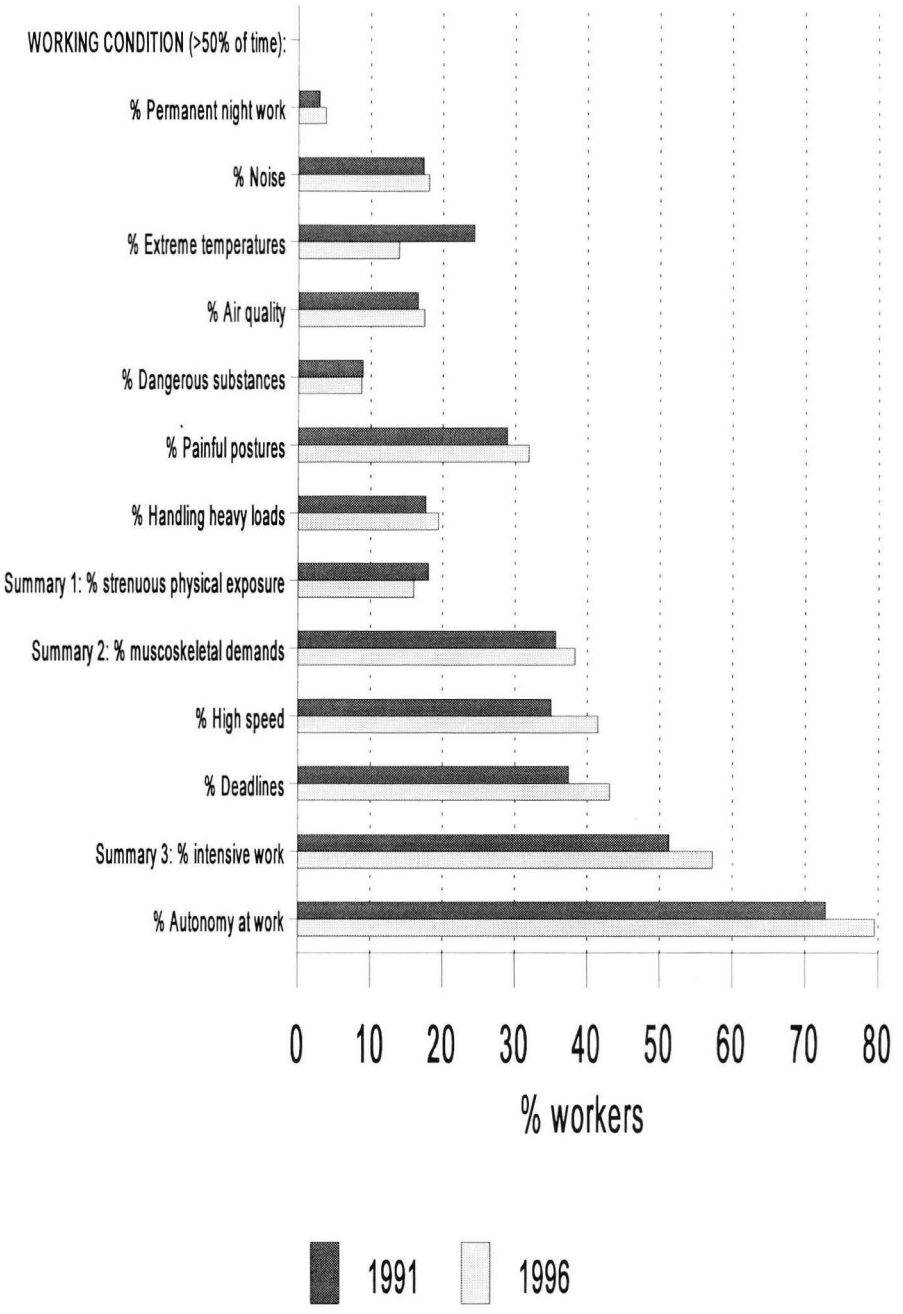


Figure 2. Indicators working environment: the development of the working environment in the European Union (12 member states) from 1991 to 1996 (source: ESWE 91, 96).

The development of the working environment in the European Union
In figure 19, the development of the working environment can be followed. Not all questions in the two surveys were the same, which makes it impossible to use all the indicators from figure 18. For those questions which were the same, this graph shows some tendencies. In four years time, the working environment has degraded for the following indicators: permanent night work, noise, air quality, painful postures, handling heavy loads (musculoskeletal demands), working at high speed and with deadlines. The following indicators show improvements: extreme temperatures, handling dangerous substances and materials, physical demands and job control.

1 Introduction

In this introduction, we will first start with the goal of the report and then go on to explain the context of this report. In the third section of this chapter, we will explain the method for this report. The fourth section gives an overview of the chapters in this report.

1.1 Goal of the report

The goal of the report is to develop social indicators for the working environment in Europe on the basis of existing working environment statistics. To clarify this goal, we will first explain what is meant with the concept of 'social indicators'. Second, the concept of 'the working environment' will be developed and a model for the working environment will be presented.

Social indicators

Social indicators contain information about the social situation in a country. However, this information is not the same as social statistics. Social statistics are systematically collected data, following certain methodological conventions. Such statistics are presented in a way that no political implications or interpretations are given. Social indicators, on the other hand, give information about policy (indicators about means) and about policy effects (indicators about effects). The OECD defines social indicators as direct and valid statistical measures which show what the level is of certain fundamental social needs and how these needs develop themselves over time (OCDE, 1976). These needs are deducted from a political or social accepted notion, such as the individual 'well-being'. Social indicators are linked to results and therefore offer possibilities for evaluation, prediction and planning. They allow systematical comparison between groups and in time. The performance of systems can be tested and for that reason social indicators allow evaluation of social policies (Eurostat - Working Conditions E/3 , 1995). These evaluations are called social reporting (Carley, 1981).

When developing such social indicators, it has to be clear in which way the different indicators (for example policy indicators and policy effects) are related to each other (Deleeck e.a., 1980). Such relations between social indicators can be presented in a model

or system. In this model, exogenous variables (indicators about means, indicators which cannot be manipulated) are linked to endogenous variables (indicators about effects, indicators about secondary effects). Figure 1 shows how a model for the working environment indicators could look like.

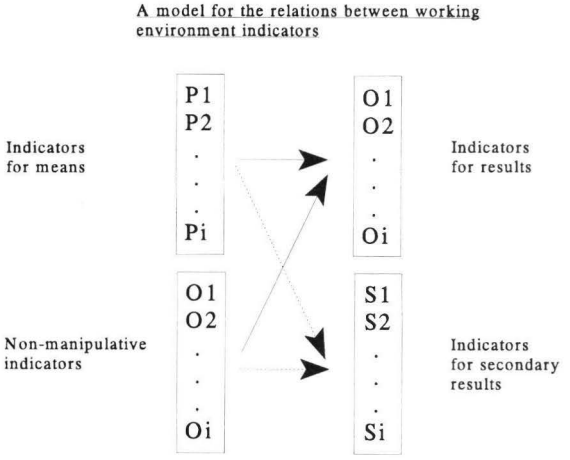


Figure 1 Indicators working environment: a model for relations between indicators.

The exogenous variables in the model are the company characteristics (non manipulative indicators), the working environmental policies the companies have adopted (indicators about means) and the worker characteristics (manipulative and non manipulable indicators). The endogenous variables are on the one hand the different working conditions to which a worker is exposed (seen as the result from policies) and on the other hand the secondary effects such as the safety, satisfaction and health situation.

The concept of the working environment

This report will develop indicators for the working environment. The concept of the working environment is broad and touches to very different domains and levels of the working situation. This study will not give an overview of all the theories of the working environment as they exist in the literature. Rather, this study will use two sources for finding the required indicators on the working environment. A first source consists of the European legislation on the working environment, on which it is important to collect statistical data. Examples of such legislation are the noise-directive (86/188/EEC), the

safety and health directive (89/ 391/ EEC) and the machinery-directive (89/392/EEC)[1]. A second source will be the conclusions of the 'Working Group on Questionnaire Based Surveys' from the European Foundation for the Improvement of Living and Working Conditions (Macarena Garcia e.a., 1991; Ørhede, 1992). This working group has advised the EFILWC on the development of the European Survey on the Working Environment (ESWE) (EFILWC, 1992a; 1996; also see Laursen e.a., 1994; Nossent e.a., 1996). The dimensions of the working environment which are discerned in this survey will be the framework for this study too. The goal of this study is to translate the information in this survey into valid social indicators. The social indicators which have to be created for the working environment are about the following variables:

- physical exposure,
- chemical exposure,
- biological exposure,
- psycho-social job demands:
  . work organisation,
  . work content: job demands, job control,
  . social organisation,
  . working times (shedules etc.).
- musculoskeletal job demands,
- the use of protective measures,
- safety and health output.

The focus of most research on the working environment is to first look at the level of exposures or demands workers are confronted with, but also at which means workers/employees have to deal with these exposures.

1.2 Context

Two contexts are important for the development of social indicators on the working environment.

[1] A complete list of important European directives on the working environment can be found in supplement 1.

The first is the political context. The working environment is a relatively new dimension for European policy. In the 1980's, there have been several European 'working environment' directives which have had an important impact on workers and companies (De Gier, 1991). The data on this impact, have remained rather meagre. The social paragraph of the Maastricht Treaty has increased the necessity to acquire information on the working environment in the different countries of the European Union. The need for information has been accentuated by the current political discussion in Europe on the acceptability of differences in the working environment within Europe but also by competition with low wage countries on working environmental dimensions.

A second context which is of importance for this report, is the recent effort by the statistical office of the European Commission (Eurostat) to start a project to harmonise data on the social situation of the European citizen. More precisely, Eurostat requires output-oriented indicators to monitor impacts on social exclusion, cohesion, convergence and equal opportunities and to assess the effectiveness of social protection systems and structural funds (Eurostat, 1996a). The working environment is an integral part of this social indicators project. This project is called EUROSI. In the framework of this project, different working groups have looked at the possibility for social indicators on the working environment. These projects have formulated proposals to adapt the different national and European surveys. The main surveys which contain work information are:

- the Labour Cost Survey (LCS),
- the Structure of Earnings Survey (SES),
- the Time Use Survey (TUS),
- the European Community Household Panel (ECHP),
- the Labour Force Survey (LFS),
- and the Household Budget Survey (HBS).

In the following box, the history of this 'indicators-project' is described. In this report, the methodology from the Eurosi-project will be used.

History of the social indicators project at Eurostat (EUROSI):

. *March 1994: as a consequence of the social paragraph in the Maastricht treaty (1992), the EUROSI-project was started. In this project a working group has tempered on the choice between 6 possible options to create social indicators. Eventually, the working group has chosen to harmonise and centralise existing national data.*
The criteria for selection of variables for the social indicators have changed over time: first there were some 50 indicators for all fields of the social reality; later, this list was broadened to 140 indicators. The CBS of The Netherlands (Oudhof & Everaers, 1996) was involved in the development work for this task.
Next to this working group, smaller pilot projects were conducted.

. *December 1994: publication of a report on the working conditions from the pilot project 'European Statistics on Accidents at Work (ESAW)'.*

. *February 1995: publication of the report on the working conditions from pilot project 'European Statistics on Occupational Diseases'.*

. *September 1996: proposal for four variables on the working environment in the ECPH.*

1.3 Method

In this project, the indicators for the working environment were developed starting from existing working environment statistics. Most of these statistics have been accumulated in national surveys on the working environment. Four steps have been executed for the development of the indicators:

- firstly, a research was undertaken to define which kind of social indicators on the working environment should be collected;
- secondly, an inventory was made of currently used working environment surveys and working environment data sources. From this inventory, valid indicators were deducted;
- thirdly, a list of indicators was made from the data of the ESWE and other sources, using the Eurosi-methodology;
- fourthly, a plan was proposed for the production of indicators on the working environment at the European level.

At several instances, results from the project were discussed with a working group consisting of researchers and policy makers.

The result of this project is a first step to an European social reporting in the field of the working environment.

1.4 Structure of the report

Next to this introductory chapter, there are four chapters in the report:

- in chapter 2, the type of 'social indicators on the working environment' is researched,
- chapter 3 gives an overview of the social indicators which can be constructed on the ESWE and other data sources,
- in chapter 4, a production plan for future social indicators on the working environment is proposed,
- the conclusions and recommendations from this study follow in chapter 5.

2 Type of social indicators on the working environment

This chapter investigates the question which kind of social indicators on the working environment should be collected. To answer this question, three separate questions need to be addressed. The first question is which kind of information does one want to collect? The second question is which kind of information source is needed to construct the indicators and which consequences does this have for data collection? A third, more general question is how to justify the use of the ESWE as the main data source on the working environment in the European Union.

2.1 Type of information

As was indicated in the first chapter of this report, social indicators can contain information on policy and on policy effects. The kind of use of this information will limit the type of information that has to be collected. Oudhof & Everaers (1996) use the classification from Carlisle (1972) to distinguish four types of social indicators according to their policy use:

- informative indicators: such indicators describe the social system and the changes which take place in it.
- predictive indicators: these are informative indicators fitting into an explicit formal model of subsystems of the social system.
- problem-oriented indicators: these point towards policy situations and actions on specific social problems.
- and programme evaluation indicators: these are operationalised policy goals to monitor the progress and effectiveness of particular policies.

At this moment, it is clear that indicators for the working environment can only be informative or problem-oriented indicators. The indicators should give information on the current working environmental situation in the member states of the European Union. This information can also be presented as risk indicators. In this case, the indicators make clear which working environmental characteristics are problematic or which group (country, branch of industry, professional group, ...) is more at risk than other groups.

The other possible policy uses of the indicators are not yet relevant. There doesn't exist a clear European programme on the working environment, so an evaluation of such a programme is not possible. The indicators can only have a predictive content if they are derived from some theoretical model on how risks in the working environment arise and

how these risks can be contained. Different competing models of the working environment system are in use and none of these models can claim an overall domination in the field of working environment studies. Somewhat simplified, the main expectations of these models are the following:

- a first model looks at the different aspects of the working environment and tries to find over-exposure in some of these aspects. This theory predicts that there must exist some level of 'maximum' exposure which a normal person can endure. If this level is exceeded, health will be negatively affected.
- a second model looks at the effect of the control possibilities a worker has on the exposures of his or her working environment. Only if these control possibilities are non-existent, then negative health effects can be expected. An example of such a theory is the 'job demands-job control'-theory on stress from Karasek (1979).
- a third model differentiates between exposures. Some exposures work as vitamins. There is a necessary or optimal level of exposure which all workers need. Only if there isn't enough exposure or if this optimal level of exposure is exceeded, then health will be negatively affected (see for example Warr (1986)).

Because there is no real consensus yet on the type of effect each exposure has, the predictive use of an overall model on the working environment-model will be limited. One of the reasons why such a consensus is lacking, is the absence of sufficient and qualitatively sound information on the working environment. For the moment, this means that this project has to aim for informative or problem oriented indicators.

2.2 Type of variable and data collection method

A second question which needs to be answered, is which kind of information source should be used as building stone for the indicators. This decision also effects the kind of data collection method needed for these indicators.

Objective or subjective indicators?

For policy uses, it is clear that objective indicators are the preferred information source. Objective data are distinguished from subjective data, being opinions from respondents on certain facts. A problem which has been mentioned with subjective indicators is that it is difficult to base social policy on something as unstable as opinions or aspirations. That is the reason why the attention has mainly been focused on objective indicators (Eurostat - Working Conditions E/3, 1995). This must not mean that objective data should be limited to non-subject information. Objective data can also be constructed on subjective assessments of facts as for example is done in surveys. Surveys are valid means for

collecting information on social developments or variables (Wikman, 1991). Surveys have important advantages in comparison to othe data collection methods:

- the collection of such data can be done in a very quick and cheap manner.
- in the collection of the data, one can control most of the conditions in which the data collection is done and guard the quality of the data. The quality is better than for indicators constructed on company reports (e.g. social reports, accident reports), data from insurance companies, labour inspection reports or from other official sources. The problem with such 'objective' data is that there is only very limited information of this type available. The quality of official data can be a problem. For example for occupational accidents, the most widely used 'objective indicator', Clarke e.a. state the following: "In many Member States, it would appear that a great deal of time and effort is currently spent merely to produce a few annual statistical tables of questionable utility." (Clarke e.a., 1992).
- it is possible to gather more information about one subject than is possible with other collection methods. For desegregation purposes, surveys have more to offer.

For these reasons, social indicators on the working environment in this report will mainly be constructed on such subject oriented facts.

In table 2.1, a list of surveys with data on the working environment in the European Union is presented. Following information is tabled:

- the name of the survey,
- the last date of production,
- the institute(s) running the survey,
- the institute(s) running the analysis.

The text box gives some background information on the surveys.

Table 2.1 Questionnaire based surveys in the EU-countries on working conditions.

Country	Questionnaire	Last year	Periodicity	a. Data collection b. Data analysis and reporting
EU-level				
Working environment surveys				
- ESWE		1996	4 years	a. INRA
Work surveys				b. EFILWC
- Labour Cost Survey				
- Structure of Earnings Survey				a/b. Eurostat
- Time Use Survey				
- European Community Household Panel				
- Labour Force Survey				
- Household Budget Survey				
Country level				
- Austria	- Mikrozensus	1994	10 years	Österreichisches Statistisches Zentralamt
- France	- Enquête sur l'Emploi			a. INSEE
	* Questionnaire Complémentaire sur les Conditions du Travail (a.)	1991 a 1993 b	1998 a 1997 b	b. DARES (Ministère du travail) + universities
	* Questionnaire Complémentaire sur les Techniques et l'Organisation du Travail (b.)			
- Spain	- Encuesta nacional de condiciones de trabajo (National Survey on Working Conditions)	1992	5 years	a/b. INSHT b. SOFEMASA Marketing
- Germany	- BIBB/IAB-Erhebung	1991/2		a. Infratest and MARPLAN; EMMAG/SFZ b. BIBB + IAB + universities
- The Netherlands	- (Doorlopend) Leefsituatie Onderzoek	1996	1997	a/b. Centraal Bureau voor de Statistiek (CBS) b. universities
- Denmark	- Kortlægning af danske lønmodtageres arbejdsmiljø og helbredsforhold	1995	5 years	a/b. Danish National Institute of Occupational Health
	- Panel working conditions	1995		a/b. Danish National Institute of Social Research
- Sweden	- Arbetsmiljön	1995	4 years	a/b. Statistics Sweden
- Finland	- Arbetskivets kvalitet/ Työelämän laatu	1990		a. Central Statistical Office of Finland
	- Working life barometer	1995		b. Finnish Institute of Occupational Health
- Portugal	- Inquérito às Condições Sociais do Trabalho	1988		a/b. Statistics Department (Ministry of Employment and Social Security)
	- Avaliação das Condições de Trabalho no Local de Trabalho	1992/3		
- Greece	- Survey on the working environment	?		a/b. National Labour Institute
- Belgium	- Barometer Working Conditions	1997/8		ANPAT, Ministry of Labour
- Great Britain	- Labour Force Survey (HSE-trailer questionnaire)	1990	1998	b. Health and Safety Executive

At the European level, a distinction can be made between the pure 'working environment'-surveys and the 'work'-surveys in which questions about the working environment are included. Next to the ESWE, there isn't really any other working environment survey in the European Union. The ESWE provides basic data on the working environment and more precise information at the European Union-level.
Some information about the working environment can be obtained from other 'work'-surveys. The most important ones are listed in the table. From these surveys, the ECHP contains the broadest information on working conditions. In the Eurosi-project, which aims at amending the ECHP-list, a list of four working environment-indicators is proposed:

- *supervisory responsibilities,*
- *overall work satisfaction (sumscore of six questions),*
- *number of working accidents per 100.000 working years,*
- *and working days lost due to working accidents.*

Though these four indicators are important, they do not contain information about exposures at the work site itself. These indicators are mainly secondary effect-parameters.

At the country level, broad questionnaire based surveys exist in some eleven countries of the European Union. In Portugal, limited surveys on working conditions were carried out in 1988 and 1992. In Great Britain, there was a trailer questionnaire at the end of the Labour Force Survey-1990. This trailer questionnaire contains some limited information on working conditions in England and Wales (HSC, 1992; Stevens, 1992). No questionnaire based surveys on working conditions exist in Belgium, Luxembourg, Ireland or Italy. Greece is preparing a first survey on the working environment in 1996.

Data collection and data presentation

Given the fact that mainly survey data will be used, there are still other questions which have to be answered. A first question is at which level does one want to collect the data. One can collect data at the worker level, but also at the level of households, company or other levels. For example, the ESWE is a survey done at the individual level. Interviews are done at the home address of a worker. Another example is the Spanish survey which is done at the company level. Companies are selected and in these companies, workers /employees are contacted. For our purposes, it is clear that most information needs to be collected at the individual level.

A second question is which level of specificity one wants to achieve when presenting the data. At the European level, it would be desirable to have as few as possible indicators. This can be achieved by using data reduction techniques such as factor analysis or cluster analysis. Such data-reduction techniques must be theoretically derived. If a reduction cannot be achieved in such a way, then the information will be presented at the question level.

A third question is how does one wants to desegregate the data which are collected? If the indicators are constructed on survey data, information can be desegregated in numerous ways. Common desaggregations are between countries, branches of industry, sex of the person, age, etc.

2.3 The ESWE as a data source

Most of the information for the indicators on the working environment will be deducted from the ESWE. There are two reasons why this data source is preferred above other surveys. The first reason is that the surveys on the working environment in the different countries from the European Union (see table 2.1) use greatly different methodologies (see Dhondt (1994)). Sample population, non response, sampling period and answering possibilities show important differences between the questionnaires. The second reason is that the ESWE itself is the result of long discussions in a working group from the EFILWC. This survey contains those questions which, according to this group, are most suited (valid and reliable) to investigate the working environment. The questions in the survey are a selection from the different national surveys.

In table 2.2 the different dimensions of the working environment-model (see figure 1.1) are tabled and the source of the indicator is indicated. Table 2.2 gives an overview of the indicators as problem-oriented and informative indicators. These indicators are appropriate for a 'complete' or more scientific approach to the working environment. For those dimensions not covered by the ESWE, other sources are indicated.

Table 2.2 A list of informative and problem-oriented indicators on the working environment. Domains covered by the ESWE and other sources.

Work environment dimension	Source
Indicators for means	
· company policy:	
. *occupational health policy*	NATIONAL 1
. *occupational health infrastructure:*	NATIONAL 1
· company doctor	
· work council	
· work environment council	
. *information about risks; risk assessment*	ESWE
. *consultation at the individual level*	ESWE
. *sex equality*	
· equal opportunities at work	ESWE
· maternity leave	ESWE
· possibilities for leave or care for family	ESWE
· worker characteristics:	
. *employment*	(LFS)
· hours of work	ESWE
· non common work times	ESWE
· commuting time to work	ESWE
· working at home	ESWE
· job security	ESWE
· productivity payments	ESWE
· compensation for poor working conditions	ESWE
· vocational training	ESWE
· overskilled	ESWE
· employment status	ESWE
· work organisation:	
. quality standards	
. working with customers etc	
Non-manipulative indicators	
· company characteristics	
. *number of workers*	
. *branch, sector*	

Work environment dimension	Source
- worker characteristics	
. *gender*	ESWE
. *age*	ESWE
. *professional status*	ESWE
. *trade union affiliation*	
Indicators for results	
- physical exposure	
. *vibrations*	ESWE
. *high noise*	ESWE
. *bad working temperatures*	ESWE
. *working with computers*	ESWE
. *chemical and biological exposures*	ESWE
- musculoskeletal job demands	
. *painful and tiring positions*	ESWE
. *heavy loads*	ESWE
. *repetitive tasks*	ESWE
- psychological job demands	
. *high speed*	ESWE
. *pace of job*	ESWE
. *job rotation*	ESWE
. *monotonous tasks*	ESWE
. *complex tasks*	ESWE
. *learning new things*	ESWE
. *tight deadlines*	ESWE
. *temporal autonomy*	ESWE
. *autonomy*	ESWE
. *responsibility*	ESWE
. *supervisory responsibilities*	ESWE, ECHP
. *no support from colleagues*	ESWE
- emotional job demands	ESWE
Indicators for secondary results	
- company level	
. *safety situation*	NATIONAL 1
. *accidents at work*	
- number of accidents	ECHP
- working days lost	ECHP
. *occupational diseases*	ESAW
- number of diseases	
- working days lost	
- worker level	
. *health situation*	
- working days lost due to work-related health problems	ESWE
- health affected by work	ESWE
- health at risk because of work	ESWE
. *satisfaction*	
- work satisfaction	ESWE, ECHP
- dissatisfaction with work environment as a cause for leaving an employer	ESWE

National 1 = some countries collect national data on this topic.

2.4 Summary

This chapter has dealt with the question which social indicators should best be collected. In this report we will orient ourselves at informative or problem oriented indicators. To construct these indicators, mainly survey data will be used. The ESWE will be the main data source for the construction of indicators on the working environment.

3 Inventory of indicators on the working environment

This chapter gives an overview of the possible indicators on the working environment based on the ESWE (Paoli, 1997) and other sources. The way the indicators have been constructed from the ESWE is discussed in section 3.1. The background report for the construction of each separate indicator is included in supplement 2. In section 3.2, several graphs show the kind of information the indicators give at the European level. A more limited presentation of the same indicators is done in section 3.3. The perspective in this section is more issue-oriented. For those dimensions for which the ESWE does not provide any information, other data sources are used. This information is presented in 3.4.

3.1 Problem-oriented and informative indicators from the ESWE

In table 2.2 in the previous chapter, the list of indicators on the working environment deducted from the ESWE is given. For the construction of the indicators, the information in the survey is not immediately usable. The surveys describes the current working environmental situation in the European Union. The number of questions and the type of answering categories make it difficult to get a quick insight into the different indicators. Therefore, two reductions of this data are needed.

The first reduction is oriented at the answering categories. If the indicator is based on only one question, then the answering categories will be reduced to bivariates. The cut-off point for questions with 7-point-scale will be between *'all the time + almost all the time + around 3/4 of the time + around half of the time'* on the one hand, and *'around 1/4 of the time + almost never + never'* on the other hand. This reduction is chosen as being the most informative on the risk side. Such a reduction method could change whenever research shows that other limits are more appropriate.

The second reduction which is needed, is in the number of variables in the survey. We have chosen to reduce the number of indicators as far as is possible. These reductions have been done on the basis of the content of the questions. The way the different questions are combined, can be seen in table 3.1 and in the graphs shown in section 3.2.

3.2 Overview of list of indicators

Table 3.1 gives an overview of the different indicators which can be deducted from the ESWE. The table shows those indicators which can also be deducted from Eurostat-data.

Table 3.1 Overview of list of indicators

DOMAIN	
Employment	
EMP 1 - working time: less than 35 hours	Eurostat
EMP 1a - working time: more than 48 hours	Eurostat
EMP 2 - job insecurity and temporary job employment	Eurostat
* *fixed term contract*	
* *temporary agency*	
EMP 3 - irregular working times	Eurostat
EMP 3a - night or shift work	*Eurostat*
EMP 3b - permanent night work	*Eurostat*
EMP 3c - permanent sunday work	*Eurostat*
EMP 4b - commuting time to work (> 1 hour)	Eurostat
EMP 4c - commuting time to work (> 2 hour)	*Eurostat*
EMP 4a - mean time spent commuting	*Eurostat*
EMP 5a - working at home (1/4 of the time)	
EMP 5b - working at home (3/4 of the time)	
EMP 6 - productivity payments	Eurostat
EMP 6a - overtime pay	*Eurostat*
EMP 6b - compensation for poor working conditions	
EMP 7 - supervisory responsibilities	Eurostat
EMP 8 - employment status	Eurostat
Information	
INFOR 0 -participative organisation	
INFOR 1 - informed about risks at job	
INFOR 2 - no consultation	
* *consultation about the working environment*	
* *consultation about work-related problems*	
INFOR 3 - deciding with colleagues on departmental issues	
Physical exposure	
PHY 0b - sumscore physical exposure: one exposure or more	
PHY 0a - mean number of physical exposures	
PHY 0c - two exposures or more	
PHY 0d - three exposures or more	
PHY 1 - vibrations	
PHY 2 - high noise	
PHY 3 - bad working temperatures	
PHY 4 - chemical and biological exposures	
Musculoskeletal job demands	
MUSDE 0c - sumscore musculoskeletal job demands: two job demands or more	
MUSDE 0a - mean number of musculoskeletal demands	
MUSDE 0b - one job demand	
MUSDE 1 - painful and tiring positions	
MUSDE 2 - heavy loads	
MUSDE 3 - repetitive tasks	

DOMAIN	
Psychological job demands **PSYDE 0 - sumscore psychological job demand** PSYDE 1b - intensity of work (50% of the time) *PSYDE 1a - intensity of work (25% of the time)* *PSYDE 1c - intensity of work (75% of the time)* * *working at high speed* * *working to tight deadlines* * *having no time to finish job* PSYDE 2a - % socially paced jobs * *work dependent on colleagues* * *work dependent on people* * *direct control* PSYDE 2b - % machine or norm paced jobs * *work dependent on production norms* * *work dependent on machine or moving of product* PSYDE 3 - repetitive and monotonous jobs * *monotonous tasks* * *no job rotation* * *repetitive tasks* PSYDE 4 - learning organisation * *solving unforeseen problems* * *learning things* * *complex tasks* * *rotation of tasks* * *training in lasts 12 months* *PSYDE 5 - overskilled* **PSYDE 0 - sumscore autonomy** *PSYDE 6 - temporal autonomy* * *breaks* * *holidays, day off* * *starting and finishing times* *PSYDE 7 - job autonomy* * *task autonomy* * *method autonomy* * *speed autonomy* PSYDE 8c - social content of job *PSYDE 8a - customers, passengers, pupils* *PSYDE 8b - colleagues* * *support from colleagues* * *deciding with colleagues*	*Eurostat*
Emotional job demands EMOTI 0 - discrimination and violence at work *EMOTI 1 - violence at work* * *physical violence* * *intimidation* * *unwanted sexual attention* *EMOTI 2 - discrimination at work* * *sexual discrimination* * *age discrimination* * *race discrimination* * *disability discrimination* * *nationality discrimination*	
Satisfaction and health **SH 0 - sumscore health affected by work** *SH 1 - working days lost due to work-related health problems* *SH 2 - health affected by work* *SH 3 - health at risk because of work* **SH 0 - sumscore work satisfaction** *SH 4 - work satisfaction* *SH 5 - dissatisfaction with work environment as a cause for leaving an employer*	*Eurostat*

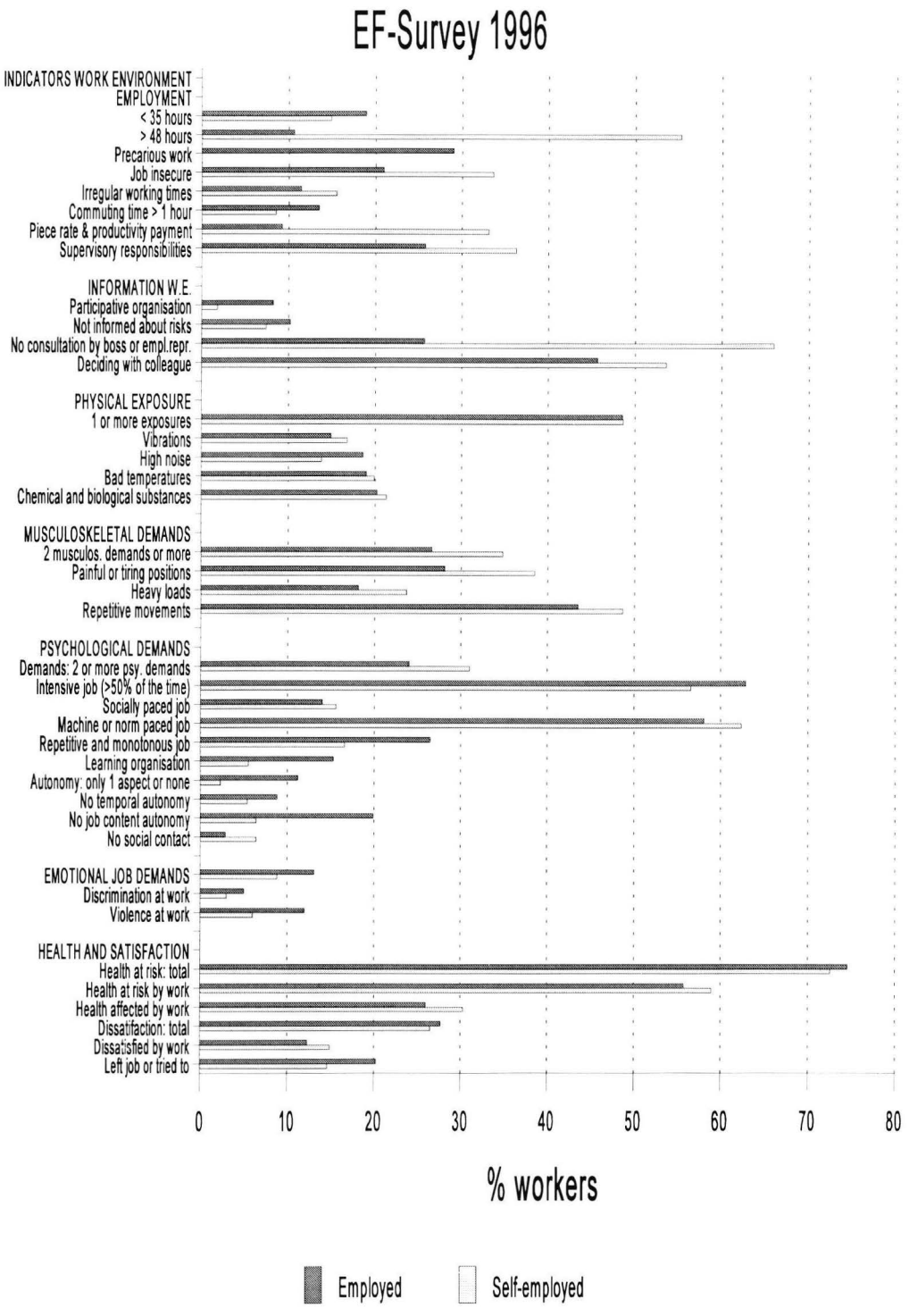


Figure 2. European Survey 1996: an overview of the informative and problem-oriented indicators.

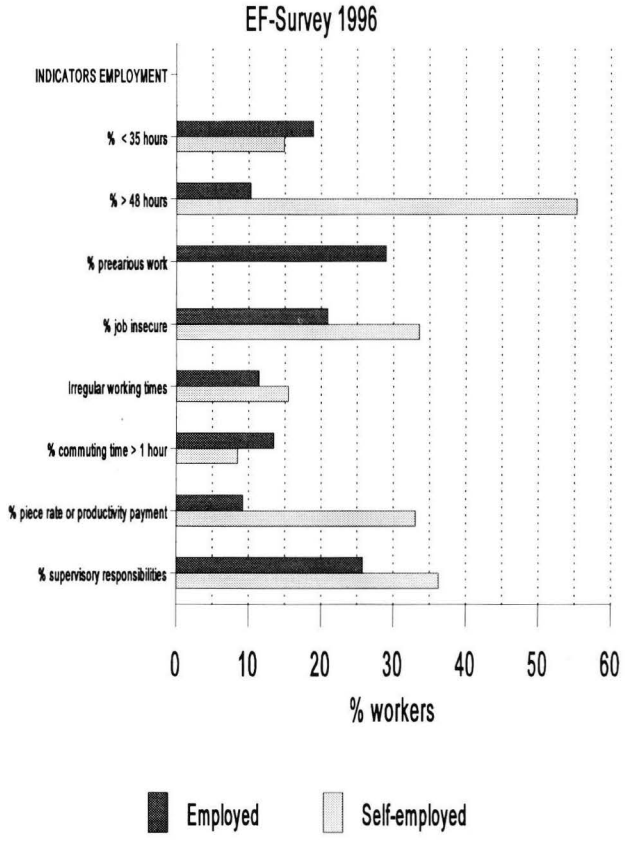


Figure 3. Indicators for employment variables.

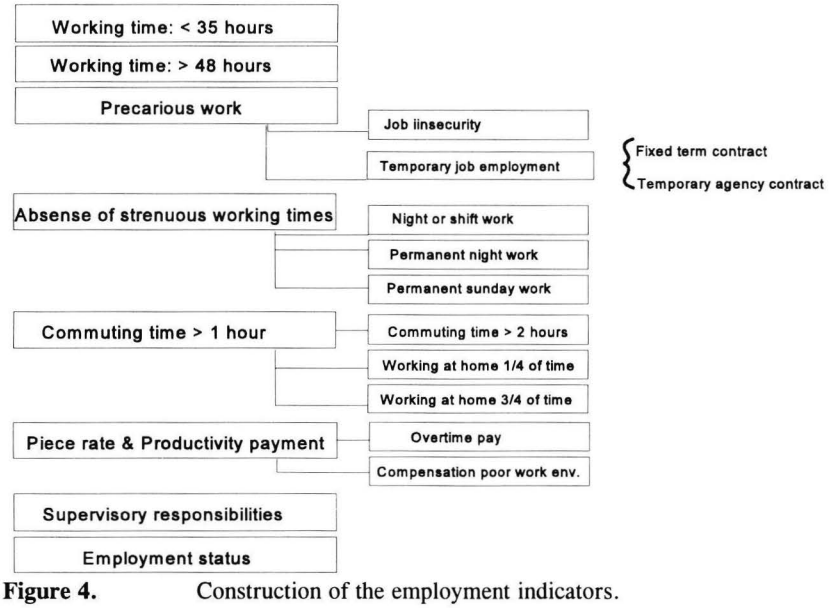


Figure 4. Construction of the employment indicators.

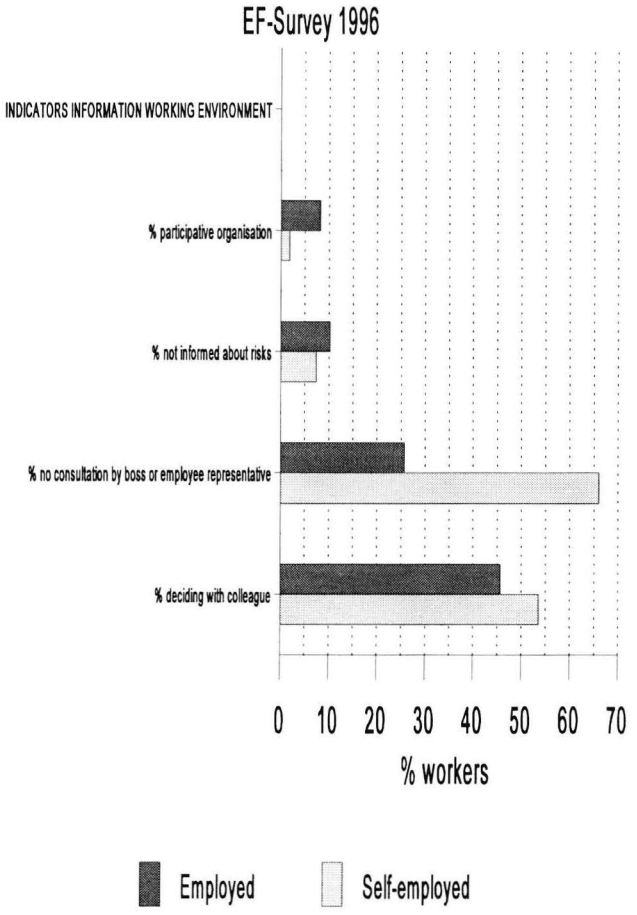


Figure 5. Indicators for variables on information on the working environment.

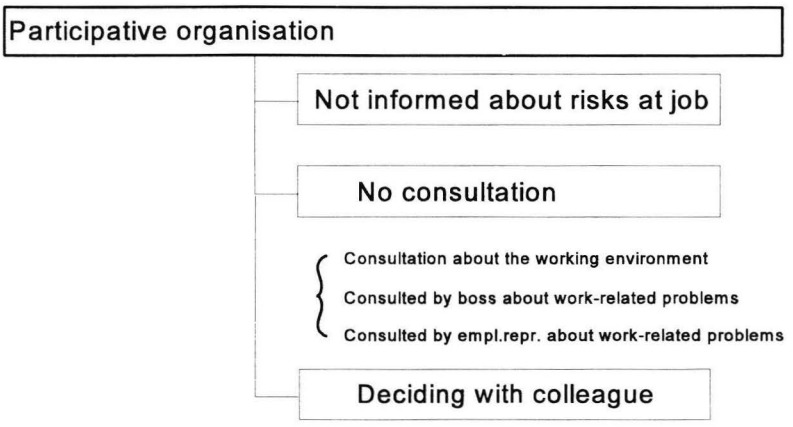


Figure 6. Construction of the different information indicators.

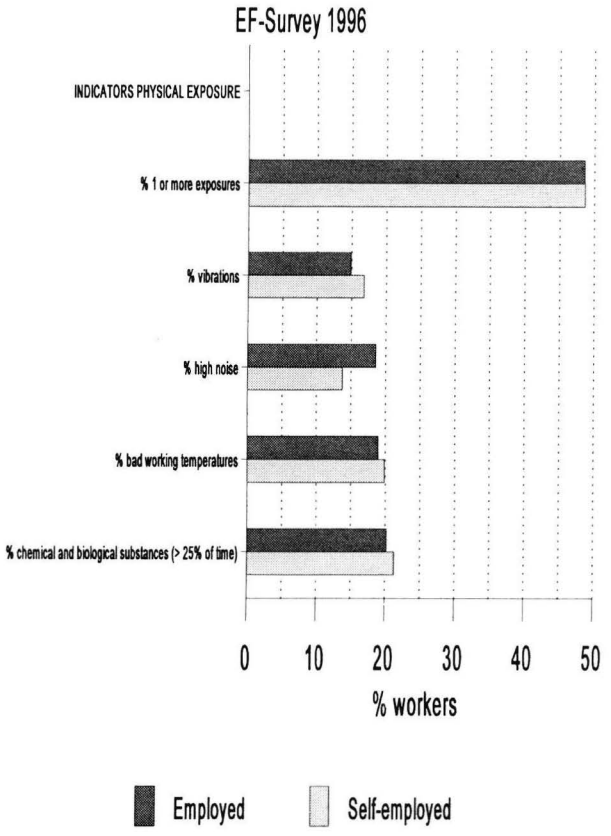


Figure 7. Indicators for physical exposure variables.

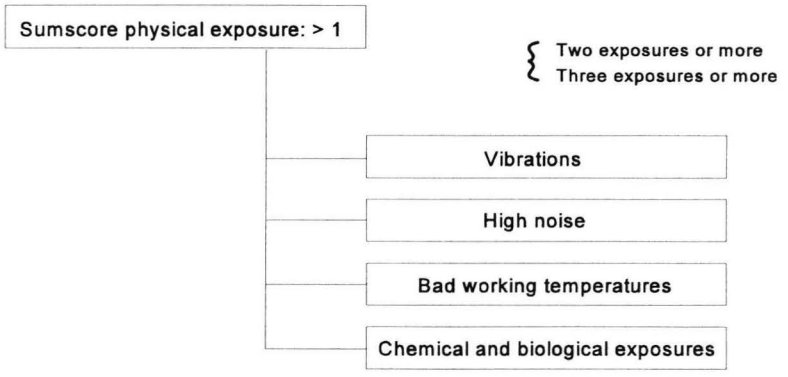


Figure 8. Construction of the physical exposure indicators.

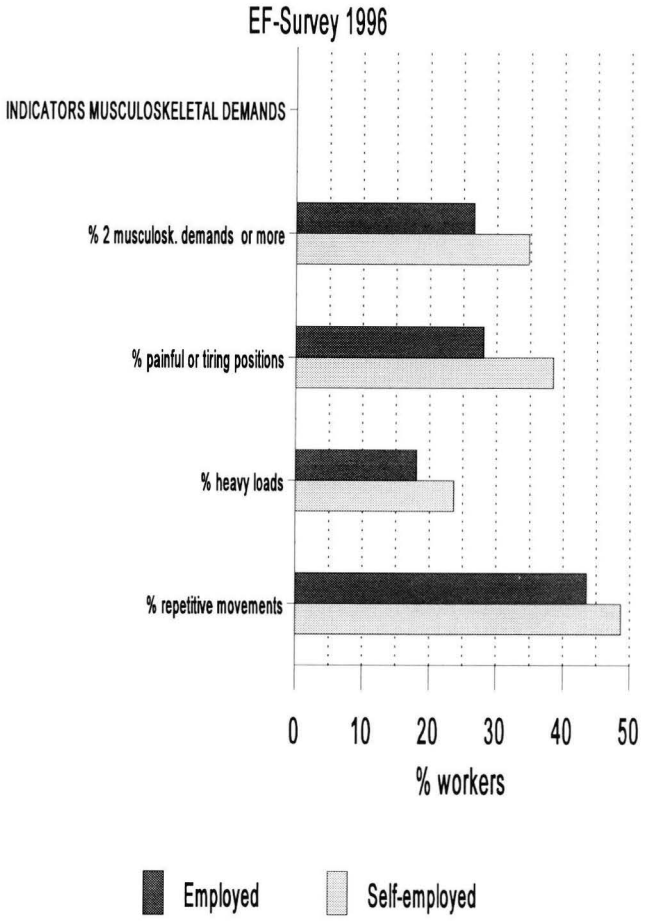


Figure 9. Indicators for musculoskeletal demands variables.

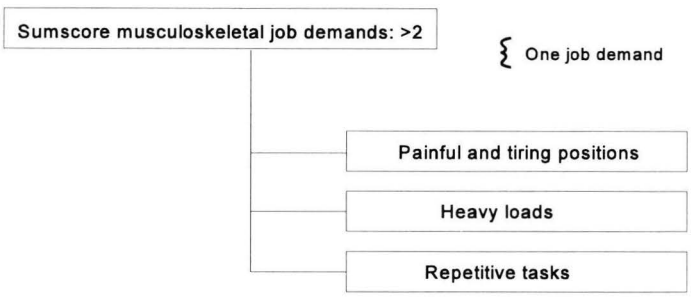


Figure 10. Construction of the musculoskeletal demands indicators.

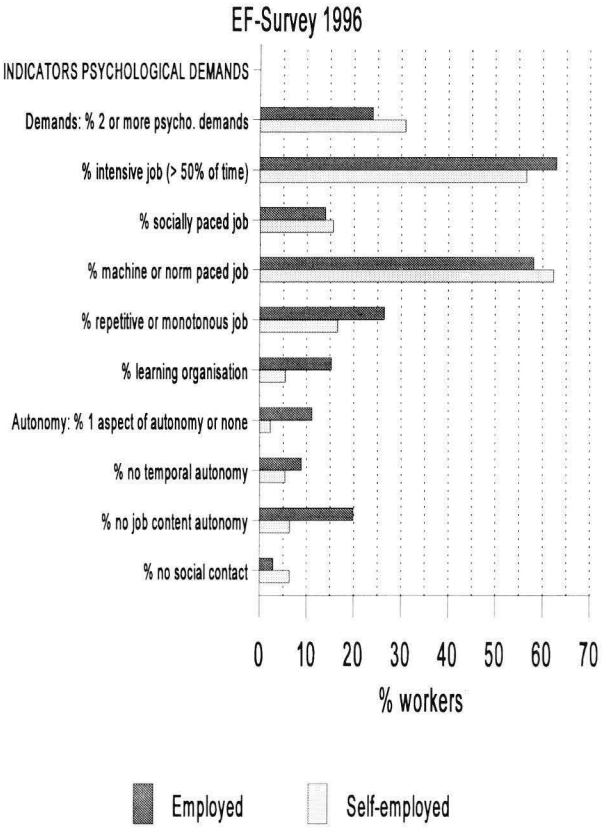


Figure 11. Indicators for psychological demands variables.

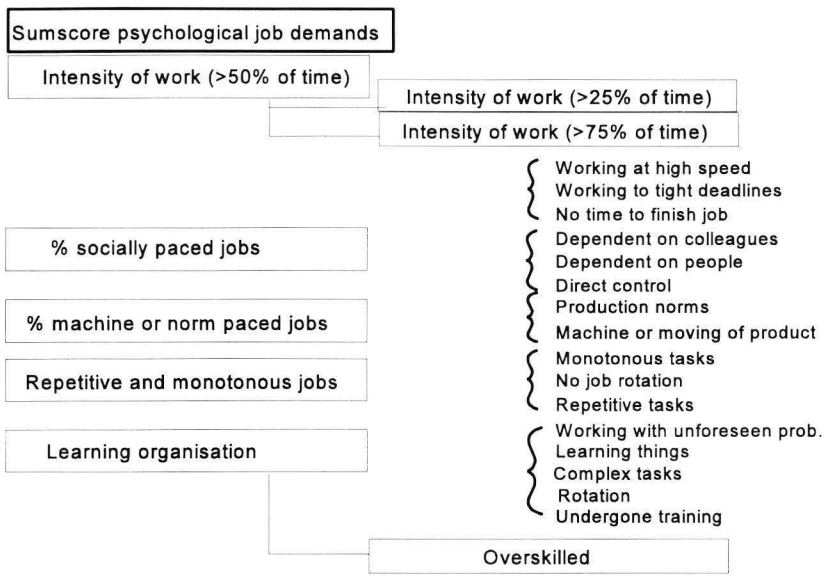


Figure 12. Construction of the psychological demands indicators.

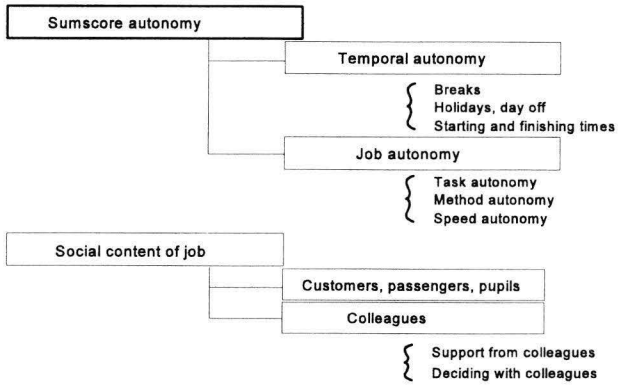


Figure 13. Indicators for autonomy variables.

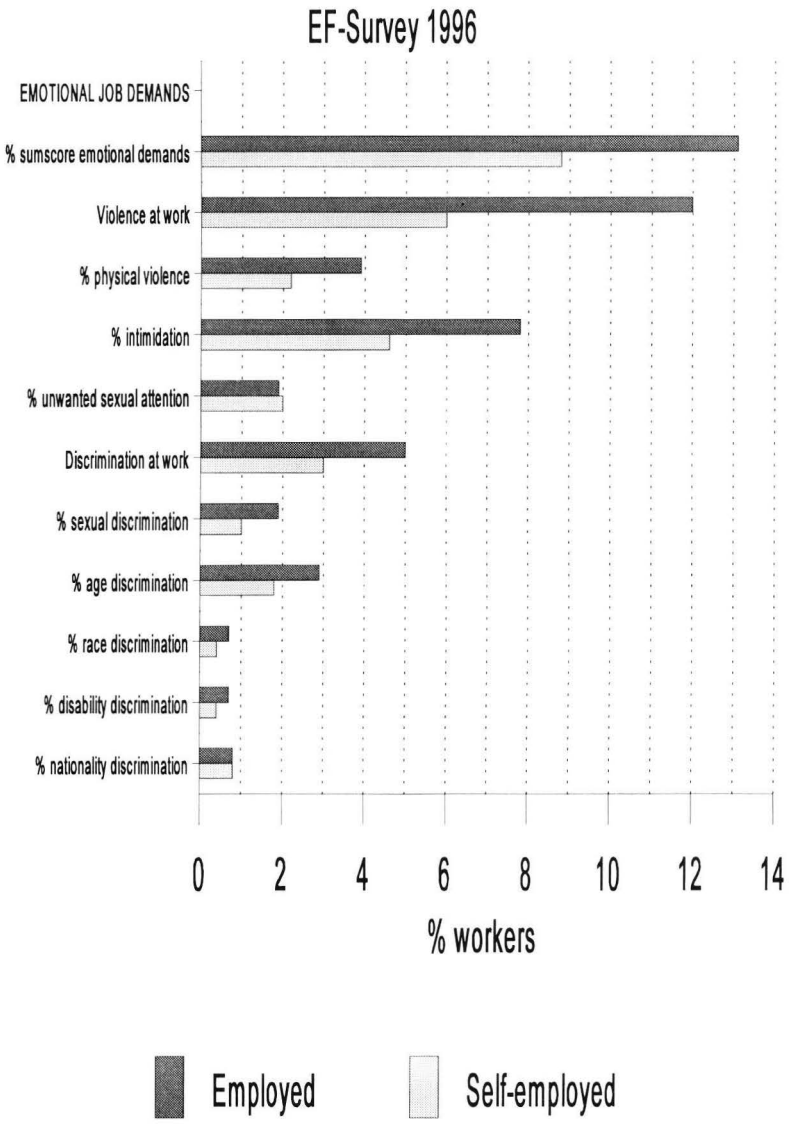


Figure 14. Construction of the emotional job demands indicators.

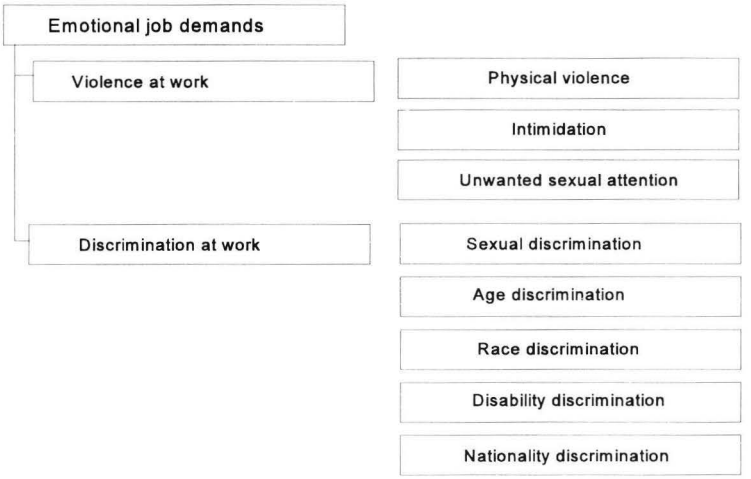


Figure 15. Construction of the emotional job demands variables.

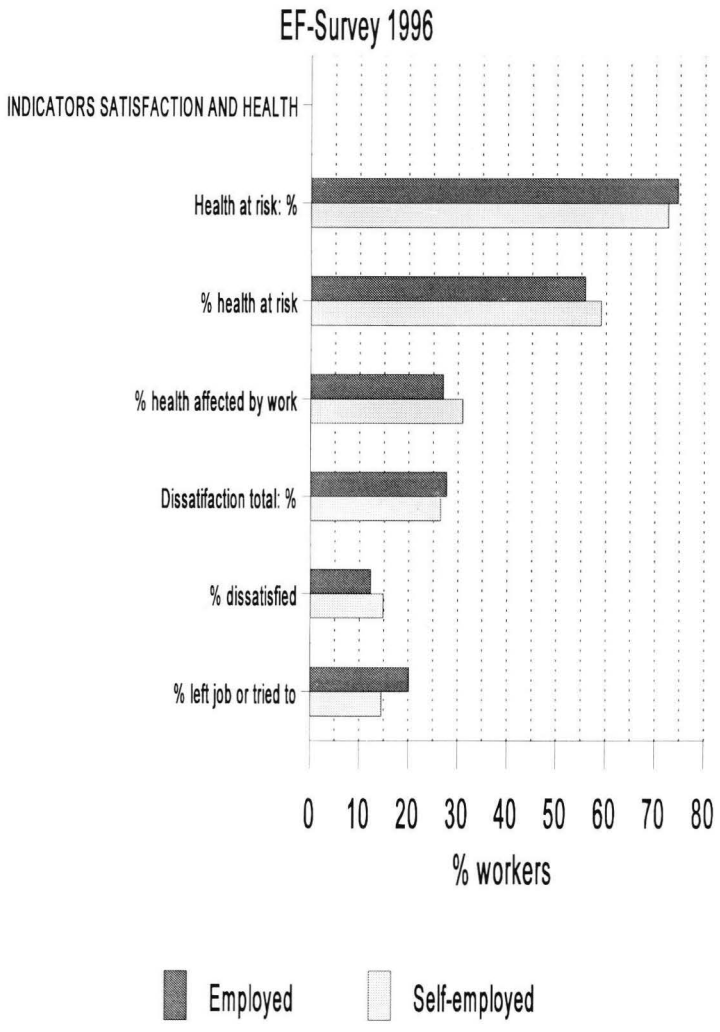


Figure 16. Indicators for health and dissatisfaction variables.

Figure 17. Construction of the health and dissatisfaction variables.

3.3 Issue oriented indicators

In the previous section, the list of indicators is 'complete' from a scientific point of view. This means that all areas which need to be covered by such indicators, are included into the lists. In this section, a selection is made of those indicators which are more telling from a policy oriented point of view. This list is limited to eleven indicators which give a good overview of the working conditions situation in the European Union. In figure 18, data on these different indicators are presented for the 1996-situation. It is of course interesting to see if there exists trend information. In figure 19, a comparison is made for data from the 1991- and the 1996-situation. This second figure shows how the working environment has developed itself for the European Union (12 member states).

Indicators on the working environment

Precarious work: this indicator is constructed on two questions, i.e. question 20f 'is your job secure?' and question 7 'current job status'. A distinction is possible between employed workers with a permanent contract, and employed workers being either insecure about their job or having a temporary or fixed term contract. About 30% of European employed workers have such precarious job situation.
Irregular working times: this indicator is a summary of three straining working times, i.e. permanently working at night, working in shifts and permanently working on sundays. About 34 % of employed and 53 % of self-employed are working in such conditions.
Learning organisations: this indicator is constructed on five questions: solving unforeseen problems on your own, rotation of tasks, complex tasks, learning new things and undergone training. The indicator shows which workers have all of those aspects. Then we can talk of learning organisation. About 15% of employed workers work in a learning working environment. For self employed this is only 6%.
Participative organisations: 8% of employed workers have the chance to consult, discuss and decide with their employer, representatives and colleagues. Only 2% of self employed have the same opportunities.
Strenuous work: this indicator is constructed on musculoskeletal and physical (ambiental) demands. About one third of workers have to work in such highly straining working conditions.
Repetitive and monotonous work: about a quarter of employed workers have either monotonous tasks, no job rotation or repetitive tasks. This is about 16% for self employed.
Intensive work: one tenth of the workers has to perform its' tasks at high speed, to short deadlines or does not have enough time to execute the tasks.
Control over working times: only one third of the workforce can freely choose its working times such as starting times, holidays and breaks.
Control over work content: nearly 80% of self employed and about 50% of workers can decide freely on working order, method and speed.
Discrimination at work: about 3% of self employed and double that of employed have to work with either sexual, age, race, disability or nationality discrimination.
Violence at work: 7% of self employed and 11% of employed are subject to either physical violence, intimidation and unwanted sexual attention.

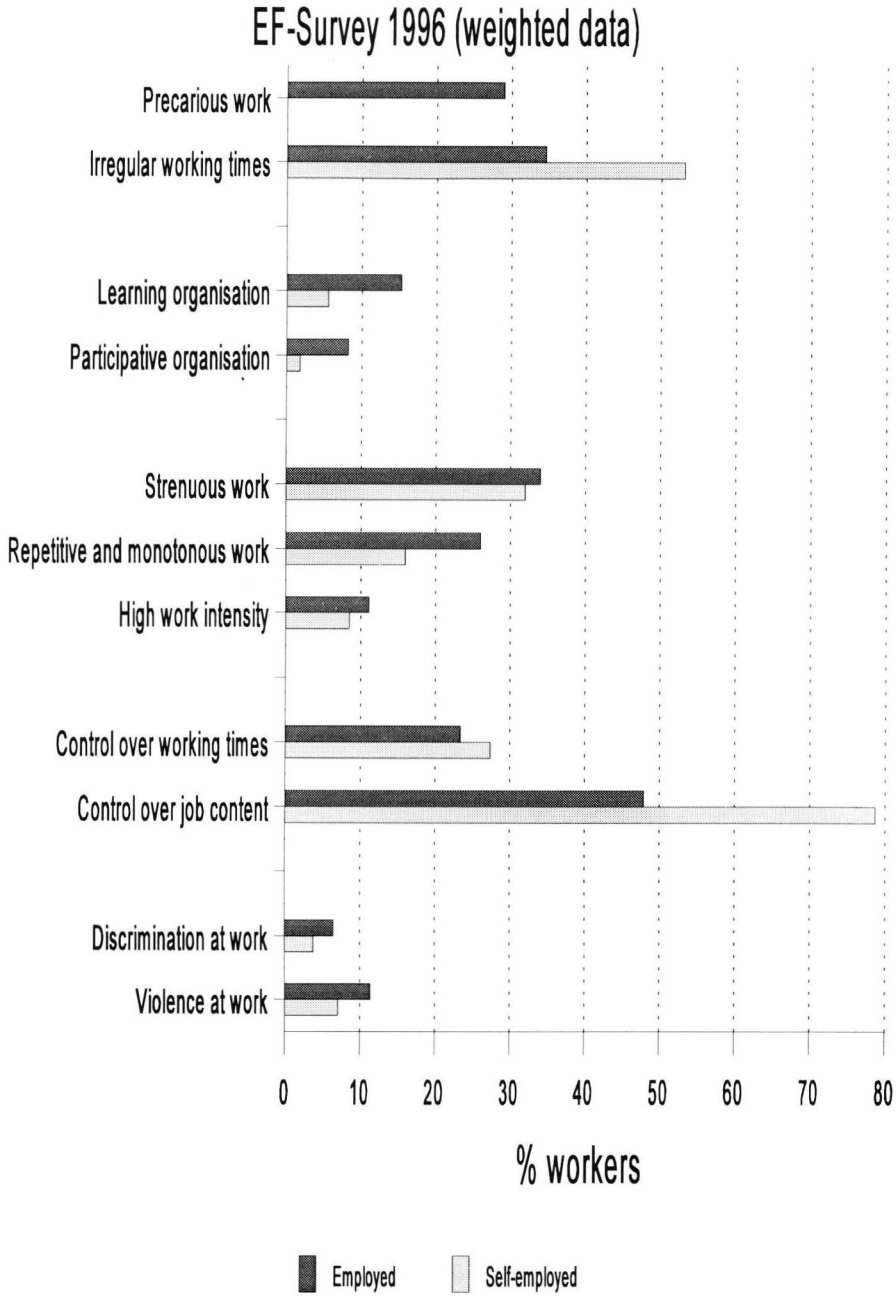


Figure 18. Eleven indicators on the working environment in the European Union (source: ESWE, 1995)

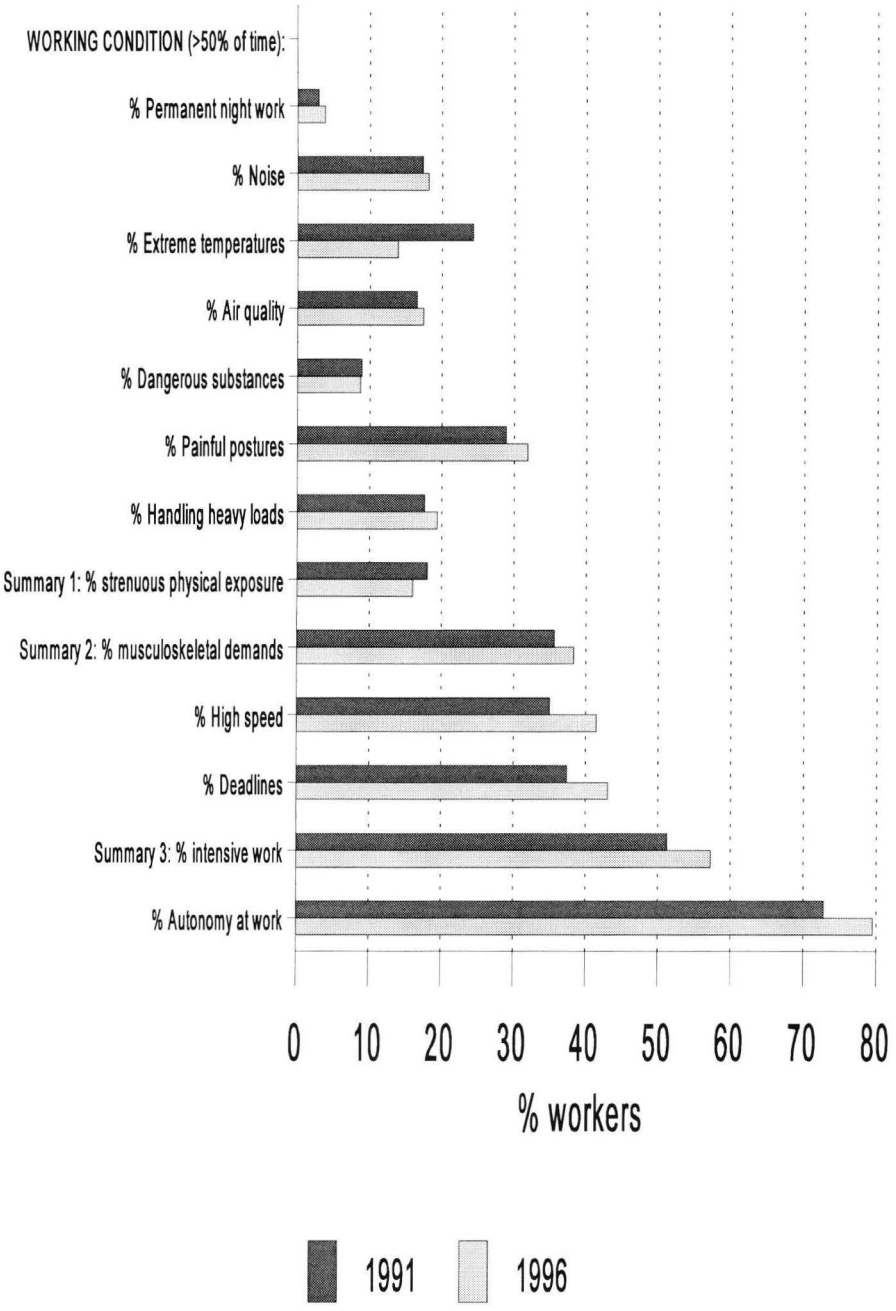


Figure 19. Indicators working environment: the development of the working environment in the European Union (12 member states) from 1991 to 1996 (source: ESWE 91, 96).

The development of the working environment in the European Union
In figure 19, the development of the working environment can be followed. Not all questions in the two surveys were the same, which makes it impossible to use all the indicators from figure 18. For those questions which were the same, this graph shows some tendencies. In four years time, the working environment has degraded for the following indicators: permanent night work, noise, air quality, painful postures, handling heavy loads (musculoskeletal demands), working at high speed and with deadlines. The following indicators show improvements: extreme temperatures, handling dangerous substances and materials, physical demands and job control.

3.4 Indicators from other sources

Table 3.2 contains a list of domains which are not covered by the ESWE. Indicators can only be constructed for these domains by using other sources. For some of these domains, there are only some national sources available. Either these variables are included into the ESWE, either these data are collected in another way.

Table 3.2 Domains covered by other sources.

Work environment dimension	Source
Indicators for means	
- company policy:	
. *occupational health policy*	NATIONAL 1
. *occupational health infrastructure:*	NATIONAL 1
- company doctor	
- work council	
- work environment council	
. *risk assessment*	NATIONAL 1
Non-manipulative indicators	
- worker characteristics:	
. *trade union affiliation*	
Indicators for secondary results	
- company level	
. *safety situation*	NATIONAL 1
. *accidents at work*	
- number of accidents	ECHP
- working days lost	ECHP
. *occupational diseases*	ESAW
- number of diseases	
- working days lost	

In supplement 3, a proposal is made for the construction of these indicators.

4 Production of indicators

This chapter proposes a plan for the production of indicators on the working environment at the European level. In the previous chapters, the most important (informative and problem oriented) indicators on the working environment have been defined and described. On each of these indicators, information has to be collected and maintained. We first propose a method for maintaining the system of indicators. Secondly, a proposal is formulated for collection of data on these indicators and for production of reports on these indicators.

4.1 A method for maintaining the system of working environment indicators

The starting point for a system of indicators on the working environment is that the system should be as concise as possible and remain stable for over a long period of time. Stability of the system is the basis for collection of social statistics and for social reporting. Only then, time series can be collected and valid comparisons between and within countries can be made.

There are, however, always reasons to adapt the system of indicators to new circumstances. Changes can be required for different reasons. For example,

- the development of the social situation in the European Union. Working environment policy can lead to the abolishment of certain risks. The economic development can lead to the rise of new risks for which the current system of indicators does not suffice.
- Another source for change can be shifting policy priorities. New priorities could require new indicators. It is also possible that the use of the social indicators changes. The proposed system is based on informative and problem oriented indicators. It could be necessary to develop programme oriented indicators.
- A further possibility is that scientific developments lead to the discovery of new risks. It is also possible that scientific communities change their definition of risks/categories.

All of these factors lead to the necessity for the EFIWLC and the European Commission to have a consultation system to maintain, modify and drop indicators on the working environment.

A consultation system should be built around a project or programme leader who consults with experts and with political and social groups on the necessary adaptations of the system

of indicators. A system in which the EFILWC could play a central role is described in the following box.

Consultation system for the indicators on the working environment

Project leader + secretariat: the EFIWLC would be the central coordinating institution for the maintenance of the indicators on the working environment.

Steering group: the EFIWLC would consult a whole range of expert institutes and organisms. Experts are for example: the different national working environment institutes, Eurostat and the data collection institutes.

Consultation group: the political and socio-economic connection, which is important for the legitimization of the indicators, could be achieved through the board of the EF or through the European Commission (and European Parlement).

This consultation system would have two tasks. The first task is to evaluate the current state of the system of indicators. This could be done with different research projects and programmes. A second task is, when necessary, to amend the system of indicators.
The EFIWLC would have the task of mounting a system of periodic consultation. The time frame for changes to the system of indicators would minimally be four years, the periodicity of the current EF survey. This consultation system should be built around the European Foundation Survey on the Working Environment. More experience with such consultation systems can be found at Eurostat.

4.2 Method for data collection and publication

Next to a maintenance procedure, results from the different European and national surveys on the working environment should be collected and used in some form of social reporting. A good example how this could be done is the method of Eurostat. This method is described in the box. Starting from the Eurostat-experience, a proposal is made for a EF-publication system on the working environment.

Dissemination of results by Eurostat:
Eurostat's final goal with the EUROSI-project is the construction of a Social Indicator Databank which will form the backbone of social reporting. This databank is intended to be made accessible on-line to internal and external users. Next to this databank, Eurostat has a broad system of publication on the different social (and other) statistics it administers. Following publications are planned: the social portrait of Europe and a pocket book with summary information on the social indicators.

A European Foundation publication system on the working environment, could consist of a databank and publicised materials.

Such a databank would consist of three elements:

- a central database on the European working environment indicators: the EF already possesses a databank on the working environment. This HASTE-databank could fulfil the same function as the NewCronos-databank. At this moment, the HASTE-databank only contains little data from the EF Survey or from other national surveys. With the indicator-system proposed in this report, the HASTE-databank could present the main data on the working situation in Europe and in the different countries. It should be investigated to find out to which degree the HASTE-databank could be included in NewChronos.
- a database with data from national surveys: the HASTE-databank could also contain data from the different national working environment surveys. Only harmonised data should be taken in and added to the the figures and graphs from the EF. Such a goal will still require a lot of work to harmonise the different national surveys[2].
- the EF should also use the Eurostat-databank as an information outlet.

Next to these datasources, there should also be a system of publicised materials. These materials should present the gross figures on the working environment situation in Europe, sector specific figures and standardized figures. The following reports could be envisaged:

- a survey report on the ESWE with a background report on the indicators based on the ESWE,
- yearly reports in which data from the national surveys is presented, and
- topic reports on working environmental issues.

2 For the Nordic-countries, this task is done by the Danish Data Archives.

5 Conclusion

The goal of this report was to develop indicators for the working environment starting from existing working environment statistics. The European Foundation Survey on the working environment is seen as the major source for the development of such indicators.

Four steps have been taken to develop these indicators.

The first step was the definition of the type of social indicators which should be collected on the working environment. Our conclusion is that, at this moment, the indicators on the working environment can only be either informative or problem oriented indicators. Informative indicators should describe the working environment system in Europe and the changes which take place in it. Problem-oriented indicators point towards policy situations and actions on specific problems in the working environment. To construct such indicators, mainly survey data should be used. The ESWE is the main data source for the construction of indicators on the working environment at the European level.

The second step was an inventory of surveys and data sources on the working environment. Both tasks were done in chapter 2 of this report.

The third step was the deduction of valid informative and problem oriented indicators from the ESWE and other sources. For the construction of these indicators, the Eurosi-methodology from Eurostat was used. The complete list of indicators encompasses some 56 indicators on the following risks and means: physical exposure; musculoskeletal job demands; psychological job demands; information on the working environment; sex equality; safety and health output.

The final step was the development of a plan for the production of indicators on the working environment at the European level. The EFILWC has a central role in the execution of this plan. In this plan, a method for the maintenance of the system of working environment indicators was described. The second part of this plan contains several recommendations on how to preserve and present the data in this system of indicators. The main elements in these recommendations are that the data should be presented in the HASTE-databank and that the EFILWC should have a system for publication of the data from this databank.

The result of this project is a first step to European social reporting in the field of the working environment.

References

AARTS LJM, DERCKSEN WJ, DE JONG PR. Arbeidsongeschiktheid; een internationale vergelijking. In: SMA, 48e Jaargang, nr.12, December 1993, 755-769.

ARBEJDSMILJOINSTITUTTET. Rapport om Nordisk projekt nr. 42.70.04, 1988, 9 p.

BIBB/IAB (Hrsg.). Neue Technologien: Verbreitungsgrad, Qualifikation und Arbeitsbedingungen - Analysen aus der BIBB/IAB-Erhebung 1985/86. Beiträge zur Arbeitsmarkt- und Berufsforschung Band 118, Nürnberg: IAB, 1992.

CARLEY M. Social Measurement and Social Indicators - Issues of Policy and Theory. London: Allen & Unwin, 1981.

CLARKE RC, DARBY KV, KING KL, KING RP, OTTO EH. Methodology for the harmonization of European occupational accident statistics. Luxemburg: Eurostat, 1992.

DELEECK H, BERGHMAN J, HEDDEGEM P VAN, VEREYCKEN L. Social Security between Reality and Dream. Theory, Research, Policy. Deventer-Antwerpen: Van Loghum-Slaterus, 1980.

DHONDT S. Monitoring Occupational Health and Safety in Europe: Time Constraints and its Implications. Leiden: TNO-PG, May 1994.

DHONDT S, ANDRIES F, JANSEN R, KANDOLIN I, KAUPPINEN-TOROPAINEN K, NOGARENA C. Monitoring Occupational Health and Safety in Europe: Time Constraints and Autonomy. Description and Implications. Leiden: TNO-PG, May 1995.

DIRECTION DE L'ANIMATION, DE LA RECHERCHE, DES ÉTUDES ET DES STATISTIQUES. Conditions, organisation du travail et nouvelles technologies en 1991. In: Dossiers statistiques du travail et de l'emploi. n 90-91-92, Juin 1993. (DARES, 1993a)

DIRECTION DE L'ANIMATION, DE LA RECHERCHE, DES ÉTUDES ET DES STATISTIQUES. Les horaires de travail en 1991. In: Dossiers statistiques du travail et de l'emploi. n 98-99, Octobre 1993. (DARES, 1993b)

EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS. First European Survey on the Work Environment 1991-1992. Dublin: EFILWC, 1992. (EFILWC, 1992a)

EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS. Catalogue of Systems for the Monitoring of Working Conditions Relating to Health and Safety. Dublin: EFILWC, 1992. (EFILWC, 1992b)

EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS. The European Health and Safety Database (HASTE). Luxembourg: Office for Official Publications of the European Communities, 1995.

EUROSTAT. Labour Costs. Updating 1989-1992. Luxemburg: Eurostat, 1994. (isbn 92-826-8508-x)

EUROSTAT. Social protection expenditure and receipts 1980-1993. Luxemburg: Eurostat, 1995 (ISBN 92-827-4127-3)

EUROSTAT. Variable List: Household Budget Surveys 1994 Wave (for comparative tabulation purposes), Luxemburg: Eurostat, June 1995.

EUROSTAT. WORKING CONDITIONS E/3. Specifications for Phase 1 of Pilot Project on Work Accidents in Europe. (European Statistics on Accidents at Work (ESAW)). Luxemburg: Eurostat, December 1994 (version 2)

EUROSTAT. WORKING CONDITIONS E/3. Pilot project specifications for cases recognised in 1995. (European Statistics on Occupational Diseases) (DOC E2/IS/2/1995), Luxemburg: Eurostat, February 1995 (3rd edition).

EUROSTAT. WORKING PARTY "SOCIAL INDICATORS AND SOCIAL REPORTING". Progress report. (DOC E2/IS/2/1996). Luxemburg: Eurostat, 1996a.

EUROSTAT. WORKING PARTY "SOCIAL INDICATORS AND SOCIAL REPORTING". Results of the inventory exercise in the EU and EFTA Member States (DOC E2/IS/3/1996). Luxemburg: Eurostat, 1996b.

GIER E DE. Implementation of EC Directives on working conditions and product safety: possibilities and limitations. Amsterdam: Hugo Sinzheimer Institute, 1991.

GIER HG DE, BLOEMHOFF A, DHONDT S. Public Servants and Working Conditions. Regulations and policy in the Netherlands, Great Britain, Spain, Germany and France. The Hague: Netherlands Ministry of the Interior, 1994.

HEALTH AND SAFETY COMMISSION. Annual Report 1991/1992. London: HSMO, 1992.

HILDEBRANDT VH, DOUWES M. Musculoskeletal job demands and work: a questionnaire for the musculoskeletal system: the validity of self reported body postures and back pain when comparing professional categories. Voorburg: Ministerie van Sociale Zaken en Werkgelegenheid, Directoraat-Generaal van de Arbeid, 1991.

HOUTMAN I, GOUDSWAARD A, DHONDT S, VAN DE GRINTEN M, HILDEBRANDT V, KOMPIER M. Evaluation of the Dutch Monitor Mental and Physical Stress. Den Haag: VUGA, April 1995.

INRA. Eurobarometer 44.2. Questionnaire and fieldworkinstructions. Brussels: INRA, 15 november 1995.

JANSEN R, STOOß F (her.). Qualifikation und Erwerbssituation im Geeinten Deutschland. BIBB/IAB-Erhebung 1991/92. Berlin/Bonn: BIBB, 1993.

KARASEK RA. Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. In: Administrative Science Quarterly, June 1979, Vol.24, 285-308.

KUORINKA I, JONSSON B, KILBOM A%, VINTERBERG H, BIERING-SØRENSEN F, ANDERSSON G, JØRGENSEN K. Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. In: Applied Ergonomics, 18(3), 1987, 233-237.

LAURSEN P (e.a.). Harmonised statistics of occupational diseases in the European Community - a proposal. Final report. Copenhagen: Danish Working Environment Service, 1994.

MACARENA GARCIA M, ALMODOVAR MOLINA A. Comparative study of five European questionnaires on working conditions. Barcelona: INSHT/CNCT, 1991, 27 blz.

MONTSERRAT T. Results of collective bargaining in Europe. Concept of a European questionnaire. (Working Group Working Time Statistics). Luxembourg: Eurostat, 2 February 1995.

ID. Comparable indicators of weekly working hours. (Working Group Working Time Statistics). Luxembourg: Eurostat, 2 February 1995.

NOSSENT S, GROOT B DE, VERBOON F, PANTRY S. European Working Environment in Figures. Availability and quality of occupational health and safety data in sixteen European countries. Dublin: EFILWC, 1996

OCDE. Mesure du bien-être social. Progrès accompli dans l'élaboration des indicateurs sociaux. Paris: OCDE, 1976.

ØRHEDE E. The working environment in the EC. Copenhagen: DNIOH No. 90-4030-32, november 1991, 43 p.

ØRHEDE E. A comparison of Eight European questionnaires on working environment. Copenhagen: DNIOH, 1992.

OUDHOF J, EVERAERS P. European Social Indicators. A review of the extended short Eurostat list of social indicators. The Hague: CBS, 1996.

PACK J, BUCK H. Arbeitssystemgestaltung in der Serienmontage. Bestandsaufnahme und Gestaltungsmöglichkeiten. (Reihe 2: Fertigungstechnik, Nr. 261), Düsseldorf: VDI Verlag, 1992.

PAOLI P. Second European Survey on Working Conditions - 1996. Dublin: EFIWL, February 1997. (in press)

PINHEIRO J. Developing a Eurostat indicator of average annual working time. (Working Group Working Time Statistics), Luxembourg: Eurostat, 2 February 1995.

PIOTET F. Policies on Health and Safety in Thirteen Countries of the European Union. Volume II: The European Situation. Dublin: EFILWC, 1996

STATISTIKA CENTRALBYRÅN. Arbetsmiljön 1989/1991. Statistika meddelanden. Örebro: Statistics Sweden, 1992.

STEVENS G. Workplace injury: a view from HSE's trailer to the 1990 Labour Force Survey. In: Employment Gazette, december 1992, 621-638.

WALTERS D. The Identification and Assessment of Occupational Health and Safety Strategies in Europe. Volume 1: The National Situations. Dublin: EFILWC, 1996

WARR P. Work, Unemployment and Mental Health. Oxford: Clarendon Press, 1987.

WIKMAN A. English summary - Nordic Questionnaire. Statistics Sweden 212, 1992.

WIKMAN A. Developing Social Indicators - A Survey Approach Exemplified by the Working Environment. Urval 21. SCB. 1991.

WIKMAN A, WÄRNERYD B. Measurement errors in survey questions: explaining response variability. In: Social Indicators Research, 1990, 22, 199-212.

Supplement

Supplement 1

Important European directives on the working environment.

Equal opportunity

75/117/EEC Council Directive of 10 February 1975 on the approximation of the laws of the Member States relating to the application of the principle of equal pay for men and women

Council resolution of 12 July 1982 on the promotion of equal opportunities for women (382 Y 0721(02)

Second Council resolution of 24 July 1986 on the promotion of equal opportunities for women

Council conclusions of 26 May 1987 on protective legislation for women in the Member States of the European Community (387 Y 0707(03)

92 131 EEC Commission recommendation of 27 November 1991 on the protection of the dignity of women and men at work

Council Directive 92 85 EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeading (tenth individual Directive withen the meaning of Article 16 (1) of Directive 89 391 EEC)

Safety and health in particular industries

Resolution of the European Coal and Steel Community Consultative Committee concerning the Safety and Health Commission for the Mining and other Extractive Industries

ECSC Council of Ministers: Decision concerning the terms of reference and rules of procedure of the Mines Safety Commission

Decision of 11 March 1965 of the Representatives of the Governments of the Member States, meeting with the Special Council of Ministers, amending the Decision of 9 July 1957 concerning the terms of reference and rules of procedure of the Mines Safety Commission

74/326/EEC: Council Decision of 27 June 1974 on the extension of the responsibilities of the Mines Safety and Health Commission to all mineral-extracting industries

Council resolution of 29 June 1978 on an action programme of the European Communities on safety and health at work

80 501 EEC Council Directive of 24 June 1982 on the major-accident hazards of certain industrial activities

87 216 EEC Council Directive of 19 March 1987 amending Directive 82 501 EEC on the major-accident hazards of certain industrial activities

Council Directive 92 91 EEC of 3 November 1992 concerning the minimum requirements for improving the safety and health protection of workers in the mineral-extracting industries through drilling (eleventh individual Directive withen the meaning of Article 16 (1) of Directive 89 391 EEC)

Council Directive 92 104 EEC of 3 December 1992 on the minimum requirements for improving the safety and health protection of workers in surface and underground mineral-extracting industries (twelfth individual Directive withen the meaning of Article 16 (1) of Directive 89 391 EEC)

Council Directive 92/57 EEC of 24 June 1992 on the implementation of minimum safety and health requirements at temporary or mobile construction sites (eighth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

Council Directive 93/103 EEC of 23 November 1993 concerning the minimum safety and health requirements for work on board of fishing vessels (thirteenth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

Occupational diseases

66/462/EEC Commission Recommendation of 20 July 1966 to the Member States on the conditions for compensation of persons suffering from occupational diseases (366 X 0462)

Working time

Council resolution of 18 December 1979 on the adaptation of working time

Council Directive 93/104 EEC of 23 November 1993 concerning certain aspects of the organization ot the working time

Safety & Health infrastructure

Commission Recommendation to the Member States on company medical services

66/464/EEC Commission Recommendation of 7 July 1966 addressed to the member states and concerning medical control of workers exposed to particular risks

74/325/EEC: Council Decision of 27 June 1974 on the setting up of an Advisory Committee on Safety, Hygiene and Health Protection at Work

Council Resolution of 21 December 1987 on safety, hygiene and health at work

88 383 EEC Commission Decision of 24 February 1988 providing for the improvement of information on safety, hygiene and health at work

89 391 EEC Council Directive of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work

89 654 EEC Council Directive of 30 November 1989 concerning the minimum safety and health requirements for the workplace (first individual directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

Resolution of the Council and the representatives of the Governments of the Member States, meeting within the Council, of 16 December 1991 concerning a Community action programme on the accessibility of transport to persons with reduced mobility

91 692 EEC Council Directive of 23 December 1991 standardizing and rationalizing reports on the implementation of certain Directives relating to the environment

Council Directive 92/58 EEC of 24 June 1992 on the minimum requirements for the provision of safety and health signs at work (ninth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

Council Regulation (EC) No 2062/94 of 18 July 1994 establishing a European Agency for Safety and Health at Work

Council Directive 94/45 EC of 22 September 1994 on the establishment of a European Works Council or a procedure in Community-scale undertakings and Community-scale groups of undertakings for the purposes of informing and consulting employees

95 319 EC Commission Decision of 12 July 1995 setting up a Committee of Senior Labour Inspectors

Physical, biological and chemical exposures

Directive laying down the basic standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiations

76 579 Euratom Council Directive of 3 June 1976 laying down the revised basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation

80 836 Euratom Council Directive of 15 July 1980 amending the Directives laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation

80 1107 EEC Council Directive of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work

82 605 EEC Council Directive of 28 July 1982 on the protection of workers from the risks related to exposure to metallic, lead and its ionic compounds at work (first individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)

83 477 EEC Council Directive of 19 September 1983 on the protection of workers from the risks related to exposure to asbestos at work (second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)

86 188477 EEC Council Directive of 12 May 1986 on the protection of workers from the risks related to exposure to noise at work

88 364 EEC Council Directive of 9 June 1988 on the protection of workers by the banning of certain specified agents and/or certain work activities (Fourth individual Directive within the meaning of Article 8 of Directive 80 1107 EEC)

89 655 EEC Council Directive of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

89 656 EEC Council Directive of 30 November 1989 concerning the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace (third individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

90 269 EEC Council Directive of 29 May 1990 on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers (fourth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

90 270 EEC Council Directive of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment (fifth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

90 394 EEC Council Directive of 28 June 1990 on the protection of workers from the risks related to exposure to carcinogens at work (Sixth individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

90 641 Euratom Council Directive of 4 December 1990 on the operational protection of outside workers exposed to the risk of ionizing radiation during their activities in controlled areas

90 679 EEC Council Directive of 26 November 1990 on the protection of workers from risks related to exposure to biological agents at work (seventh individual Directive within the meaning of Article 16 (1) of Directive 89.391 EEC)

91 322 EEC Commission Directive of 29 May 1991 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work

95 320 EC Commission Decision of 12 July 1995 setting up a Scientific Committee for Occupational Exposure Limits to Chemical Agents

Social security and contracts

75/457/EEC Recommendation of the Council of 22 July 1975 on the principle of the 40-hour week and the principle of four weeks'annual paid holiday

82 857 EEC Council recommendation of 10 December 1982 on the principles of a Community policy with regard to retirement age

91 383 EEC Council Directive of 25 June 1991 supplementing the measures to encourage improvements in the safety and health at work of workers with a fixed-duration employment relationship or a temporary employment relationship

91 533 EEC Council Directive of 14 October 1991 on an employer's obligation to inform employees of the conditions applicable to the contract or employment relationship

Council resolution of 30 June 1993 on flexible retirement arrangements

Supplement 2

Construction of the indicators on the European working environment.

In this supplement, an overview is given of the construction of the indicators presented in chapter 3 of the report. For each of the indicators, we will give a standard report. This report is based on the reporting procedure used by Eurostat (Oudhof & Everaers, 1996). The standard report pro indicator consists of following seven paragraphs:

- general information on the indicator: Q-ESWE = number of the question in the ESWE (see: INRA, 1995); domain and name; place of the indicator in the EUROSI-project;
- definition: the definition is largely dependent on the current use in existing surveys. If it is possible to use other international definitions or recommendations, then this will be done.
- purpose of the indicator,
- measurement definition: this part contains instructions on how to measure the indicator. Only the preferred measurement will be given.
- relation to other indicators: interdependency between indicators,
- quality: this section looks at some possible data problems,
- comment: those elements which are important when making between-country comparison will be accentuated.

Because the indicators are constructed on survey data, the information can be desegregated in numerous ways. The main variables for desegregation are: sex, age, job title, nationality, size of company, public/private company, business activity of company, length of time in main paid job and chronic impairment or permanent health problem. The number of participants in each country-survey of the ESWE is limited to 1000, which limits the number of desegregation possibilities in a table.

In the reports, a difference is made between the following sample populations:

- all workers: the total population of ESWE,
- employed: all those workers in the ESWE with a contract,
- self-employed and others: all those workers which do not have a contract.

The following domains are described in the inventory:

- EMP - employment, (+ earnings and income, education),
- INFOR- information on the working environment,
- PHY - physical exposure, chemical and biological exposure,
- MUSDE - musculoskeletal job demands,
- PSYDE - psycho-social job demands,
- EMOTI - emotional job demands,
- SH - satisfaction and health output.

EMPLOYMENT

Domain: Q-ESWE: 12	EMP-1 Employment (Eurosi - Emp-6)
1. Name	employed working less than 35 hours
2. Definition	% of employed working less than 35 hours
3. Purpose	measure of one aspect of conditions of employment: work duration. This indicators makes it possible to distinguish between part time and fulltime employed persons. Full-time employed workers are those working less than 35 hours a week.
4. Relation to other indicators	see EMP-1a
5. Quality	EF-results can be compared with Eurostat-data. See also: Montserrat, 1995a and b.
6. Measurement definition	total number of employed workers .... =a employed workers less than 35 hours p/w.... =b indicator: 100 * b/a
Comment:	the EF-results ask about the main job. About 12% of respondents in the EF-survey have two jobs. It isn't known how long these persons with two jobs work on the whole.

Domain: Q-ESWE: 12	EMP-1a Employment (Eurosi - Emp-7)
1. Name	employed working more than 48 hours
2. Definition	% of employed working more than 48 hours
3. Purpose	measure of one aspect of conditions of employment: work duration
4. Relation to other indicators	see EMP-1
5. Quality	EF-results can be compared with Eurostat-data. As is advised by Oudhof & Everaers, it should be tested wether this indicator delivers any surplus information above EMP-1 in a comparison between states. See also: Montserrat, 1995a and b.
6. Measurement definition	total number of employed workers .... =a employed workers more than 48 hours p/w.... =b indicator: 100 * b/a
Comment:	a European directive limits the maximum number of hours per working week to 48 hours. If this limit is exceeded, the presumption is that health is at risk. With this indicator, an insight is given of those countries and branches of industry which do not conform to the European legislation.

Domain: Q-ESWE: 7, 20f	EMP-2 Employment
1. Name	job insecurity and temporary job employment
2. Definition	% of employed workers working with job insecurity or with temporary or fixed term employment
3. Purpose	measure of type of employment condition; insecurity is also a psychological job demand
4. Relation to other indicators	emp-2a
5. Quality	
6. Measurement definition	total number of employed workers .... = a number of workers having insecure job or with temporary or fixed term employment .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 7	EMP-2a Employment (Eurosi - Emp-9)
1. Name	temporary job employment
2. Definition	% of employed workers having a non-permanent main job: fixed term contract, a temporary agency contract
3. Purpose	measure of one subgroup of employed workers
4. Relation to other indicators	emp-2
5. Quality	EF-results can be compared with Eurostat-data.
6. Measurement definition	total number of employed workers .... = a temporary employees = b indicator: 100 * b/a
Comment:	this indicator also says how much workers have a 'normal' contract: [1- EMP3]

Domain: Q-ESWE: 19, 18 a b c	EMP-3 Employment
1. Name	irregular working times
2. Definition	% of all workers not having to work in shift work, permanent at night, permanent at weekends
3. Purpose	measure of one aspect of conditions of employment
4. Relation to other indicators	
5. Quality	EF-results can be compared with Eurostat-data.
6. Measurement definition	total number of all workers .... = a total shift workers, night workers, weekend workers .... = b indicator: 100 * (1-b)/a
Comment:	differences can be made for employed, self employed

Domain: Q-ESWE: 19	EMP-3a Employment (Eurosi - Emp-10)
1. Name	night and shift work
2. Definition	% of employed workers doing night work (at least 5 times a month) and/or shift work
3. Purpose	measure of one aspect of conditions of employment
4. Relation to other indicators	11.d: extra payment
5. Quality	EF-results can be compared with Eurostat-data.
6. Measurement definition	total number of employed workers .... = a total shift workers and night workers (5 nights a month) .... = b indicator: 100 * b/a
Comment:	analysis by type of shift system is possible. 5 times a month corresponds to at least one working week at night. This encompasses for those working in shift systems with a night shift. Less than 5 times a month can be seen as coincidental night work.

Domain: Q-ESWE: 18a	EMP-3b Employment (Eurosi - Emp-11)
1. Name	permanent night work
2. Definition	% of employed workers doing permanent night work (more than 1 nights a month)
3. Purpose	measure of one aspect of conditions of employment; with 14 nights, a workers is about three quarter of the time working at night. This figure can be compared to the 1991-survey.
4. Relation to other indicators	11.d: extra payment
5. Quality	EF-results can be compared with Eurostat-data. Warning: Eurostat-data doesn't specify how much days a month this kind of work is done. Eurostat may overexagerate the number of night workers. A second warning is given by Paoli (EFILWC, 1992a): the definition of night is not the same in all countries.
6. Measurement definition	total number of employed workers .... = a total night workers (more than 14 nights a month) .... = b indicator: 100 * b/a
Comment:	answering category has changed in comparison to 1991

Domain: Q-ESWE: 18 b, c	EMP-3c Employment
1. Name	permanent sunday work
2. Definition	% of employed workers doing permanent sunday work
3. Purpose	measure of one aspect of conditions of employment: permanent sunday work blocks the possibility of participation in a whole range of social activities.
4. Relation to other indicators	11.d: extra payment
5. Quality	
6. Measurement definition	total number of employed workers .... = a total workers working sundays (4-5 times month).... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 13	EMP-4 Employment (Eurosi - GI-1)
1. Name	commuting time to work
2. Definition	4a: mean time spent per day by working persons, not working at home address, to travel directly from home address to main working address or vice versa 4b: percentage of workers commuting more than 1 hour a day 4c: percentage of workers commuting more than 2 hours a day
3. Purpose	measure of one aspect of employment; indicating one aspect of necessary daily mobility
4. Relation to other indicators	combination with EMP-9
5. Quality	EF-results can be compared with Eurostat-data.
6. Measurement definition	. total number of employed workers .... = a total sum (minutes per day /pw) all employed workers, not working at home .... = b number of workers commuting more than 1 hour a day .... = c number of workers commuting more than 2 hours a day .... = d indicator: b/a; 100 * c/a; 100 * d/a
Comment:	This indicator pertains to the population of workers not working from home.

Domain: Q-ESWE: 15j	EMP-5 Employment
1. Name	working at home
2. Definition	5a: % of all workers working around 1/4 of the time or more at home 5b: % of all workers working around 3/4 of the time or more at home
3. Purpose	measure of type of working environment; 1/4 of the time: includes permanent home workers and teleworkers 3/4 of the time: this variable indicates the 'pure' home workers
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of workers .... = a number of workers working at home (more than 1/4 of the time) .... = b number of workers working at home (more than 3/4 of the time) .... = b indicator: 100 * b/a; 100 * c/a
Comment:	one could also distinguish lesser degrees of working at home: employers in the service industry are trying to use the home as a means to cut down on their own housing costs. To measure this phenomenon, we look at 'workers staying 1/4 of the time' at home.

Domain: Q-ESWE: 11	EMP-6 Employment
1. Name	% of all workers paid on piece rate or productivity payments
2. Definition	type of payment system
3. Purpose	knowledge on the number of workers which do not have a precise idea how big their income is
4. Relation to other indicators	
5. Quality	Eurostat. No validation known.
6. Measurement definition	total number of workers .... = a number of workers paid on piece rate or productivity payments .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 11	EMP-6a Employment
1. Name	% of all workers paid for additional hours of work
2. Definition	compensation for working overtime
3. Purpose	knowledge on degree of paid overtime
4. Relation to other indicators	
5. Quality	Eurostat. No validation known.
6. Measurement definition	total number of workers .... = a number of workers paid for additional hours of work .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 11	EMP-6b Employment
1. Name	% of employed workers compensated for poor working conditions and special working hours (such as: night work, weekend work)
2. Definition	type of compensation system
3. Purpose	knowledge on the number of workers which have to work under poor working conditions or special working hours, and have a financial compensation for it
4. Relation to other indicators	EMP-6, all working condition variables
5. Quality	No validation known.
6. Measurement definition	total number of employed workers .... =a number of workers compensated for poor working conditions and special working hours .... =b indicator: 100 * b/a
Comment:	this indicator is somewhat dubious: it is unclear if remuneration should soften the health effects bad working conditions have or only lead to greater acceptability of the averse health effects of certain poor working conditions. The policy implications of such an indicator are therefore unclear.

Domain: Q-ESWE: 9	EMP-7 Psychological job demands (Eurosi - WC-1)
1. Name	supervisory responsibilities
2. Definition	% of employees managing 10 or more persons directly
3. Purpose	describes a relevant aspect of the quality of functions and professions. Management functions or professions are generally high-quality.
4. Relation to other indicators	General quality of employment will be measured globally by work satisfaction.
5. Quality	EF-results can be compared with Eurostat-data. Eurostat connects this question to the question if the person is responsible for personnel matters and promotion. Eurostat data is considered to be rather good. Validation of the question is not known.
6. Measurement definition	total number of employed workers .... =a total number of employed workers managing 10 or more persons .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 7	EMP-8 Psychological job demands
1. Name	job status
2. Definition	% of employees employed, self-employed
3. Purpose	type of employment situation
4. Relation to other indicators	all indicators
5. Quality	EF-results can be compared with Eurostat-data.
6. Measurement definition	total number of workers .... = a total number of employed workers .... = b total number of self-employed workers .... = c indicator: 100 * b/a; 100 * c/a
Comment:	

INFORMATION ON THE WORKING ENVIRONMENT

Domain: Q-ESWE: 16; 23d; 26	INFOR-0 Information on the working environment
1. Name	participative organisation
2. Definition	% of all workers well informed about risks, who are consulted by boss, colleagues and workers representative and who decide together with colleagues on subjects
3. Purpose	measure of number of workers who are conscious that they are informed about risks, have the possibility to decide on what is happening ; to monitor results of policies to improve on the working environment
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers well or very well informed about risks .... = b number of workers saying yes to questions 26 c, e .... = c number of workers saying yes to question 26 b .... = d number of workers saying yes to question 23d .... = e number of workers either in b, c, d or e = f indicator: 100 * f/a
Comment:	

Domain: Q-ESWE: 16	INFOR-1 Information on the working environment
1. Name	no information about risks at the job
2. Definition	% of all workers very badly or quite badly informed about risks
3. Purpose	measure of number of workers who are conscious that they are not informed about risks; to monitor results of policies to improve on the working environment
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers very badly or quite badly informed about risks .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 26	INFOR-2 Information on the working environment
1. Name	degree to which workers are not consulted on working environment, work-related problems
2. Definition	2a: % of all workers working who are not consulted about work related problems by their boss or employee representative 2b: % of all workers working who are not consulted about changes in the organisation of work and/or working conditions
3. Purpose	measure of type participation at work (industrial democracy); to monitor results of policies to improve on the working environment
4. Relation to other indicators	INFOR-1
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying no to questions 26 c, e .... = b number of workers saying no questions 26 b .... = c indicator: 100 * b/a; 100 * c/a
Comment:	

Domain: Q-ESWE: 23d	INFOR-3 Information on the working environment
1. Name	degree to which workers decide about departmental issues
2. Definition	% of all workers working who decide with colleagues about departmental issues
3. Purpose	measure of type participation at work (industrial democracy); to monitor results of policies to improve on the working environment
4. Relation to other indicators	INFOR-1
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying yes to questions 23de .... = b indicator: 100 * b/a
Comment:	

PHYSICAL EXPOSURE

Domain: Q-ESWE: 14 a-g	PHY-0 Physical exposure
1. Name	sumscore for physical exposure
2. Definition	0a: mean number of physical exposures 0b: % of all workers working around half of the time or more with one physically demanding element in the environment 0c: % of all workers working around half of the time or more with two physically demanding elements in the environment 0d: % of all workers working around half of the time or more with three or more physically demanding elements in the environment
3. Purpose	measure of type of physical exposure
4. Relation to other indicators	personal protective equipment (15d); information about instruments (16)
5. Quality	
6. Measurement definition	total number of all workers .... =a reduction of answering categories for risks 14a, b, c, d, e, f, g to two categories: more than 50% of the time = 1; less =0 summation of number of risks per worker .... =b number of workers with one risks = c number of workers with two risks = d number of workers with three or more risks = e indicator: b/a; 100 * c/a; 100 * d/a; 100 * e/a
Comment:	

Domain: Q-ESWE: 14a	PHY-1 Physical exposure
1. Name	vibrations from hand tools, machinery etc
2. Definition	% of all workers working around half of the time or more with vibrating hand tools, machinery etc.
3. Purpose	measure of type of physical exposure
4. Relation to other indicators	personal protective equipment (15d); information about instruments (16)
5. Quality	see Wikman, 1991
6. Measurement definition	total number of all workers .... =a number of workers working with vibrating hand tools, machinery etc (more than 50% of the time) .... =b indicator: 100 * b/a
Comment:	health effects appear when workers are exposed during a long time to vibrations

Domain: Q-ESWE: 14b	PHY-2 Physical exposure
1. Name	risk of high levels of noise
2. Definition	% of all workers working around 1/2 of the time or more in a too noisy environment
3. Purpose	measure of type of dangerous physical exposure; poor social relations
4. Relation to other indicators	personal protective equipment (15d); information about instruments (16); health risks (31) and ear problems (34)
5. Quality	see Wikman, 1991
6. Measurement definition	total number of all workers .... = a number of workers working in noise that is so loud that you would have to raise your voice to talk to people (more than 1/2 of the time) .... = b indicator: 100 * b/a
Comment:	duration is important

Domain: Q-ESWE: 14c, d	PHY-3 Physical exposure
1. Name	risk of bad working temperatures
2. Definition	% of all workers working around half of the time or more in a too cold or too hot working environment
3. Purpose	measure of type of physical exposure
4. Relation to other indicators	personal protective equipment (15d); information about instruments (16); adjustment of temperature (17); health risks (31)
5. Quality	see Wikman, 1991
6. Measurement definition	total number of all workers .... = a number of workers working in temperatures which make you perspire even when not working or in low temperatures (more than 50% of the time) .... = b indicator: 100 * b/a
Comment:	same definition as in 1991

Domain: Q-ESWE: 14e, f, g	PHY-4 Physical exposure
1. Name	risk of touching or handling dangerous substances or products
2. Definition	% of all workers working around 1/4 of the time or more with dangerous substances (vapours, fumes, dust, products, substances, radiation)
3. Purpose	measure of type of chemical or biological exposure; measure of risks for personal safety (for this reason, the time level for contact with dangerous substances has been lowered to 1/4 of the time)
4. Relation to other indicators	personal protective equipment (15d); adjustment of ventilation(17); health risks (31) and health problems (34)
5. Quality	see Wikman, 1991
6. Measurement definition	total number of all workers .... = a number of workers working with dangerous substances or products (more than 1/2 of the time) .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 17, 14	PHY-5 Physical exposure
1. Name	personal discomfort
2. Definition	% of all workers working not capable to adjust their working conditions to their own comfort
3. Purpose	measure of personal discomfort; to find out to what degree organisational design does not give the possibility to adapt the working conditions to the own needs
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers with vibrations (14a) and not capable to adapt their position of desk, seat or instrument/equipment used .... = b number of workers working with high noise (14b) and not capable to adapt their instrument/equipment used .... = c number of workers working in bad temperatures (14c,d) and not capable to adapt the temperature .... = d number of workers with dangerous substances (14e,f,g) and not capable to adapt the ventilation or other elements of working situation .... = e indicator: 100 * (b+c+d+e)/a
Comment:	

MUSCULOSKELETAL JOB DEMANDS

Domain: Q-ESWE: 15	MUSDE-0 Musculoskeletal job demands
1. Name	sumscore risk of working in musculoskeletal demanding jobs
2. Definition	0a: mean number of musculoskeletal job demands 0b: % of all workers working around half of the time or more with one musculoskeletal demanding element in the environment 0c: % of all workers working around half of the time or more with two musculoskeletal demanding elements in the environment
3. Purpose	measure of type of musculoskeletal job demands
4. Relation to other indicators	personally adjustable comfort (17); health risks (31) and health problems (34)
5. Quality	
6. Measurement definition	total number of all workers .... =a reduction of answering categories for risks 15a, b, d to two categories: more than 50% of the time = 1; less =0 summation of number of risks per worker .... =b number of workers with one risks = c number of workers with two risks = d number of workers with three risks = e indicator: b/a; 100 * c/a; 100 * d/a; 100 * e/a;
Comment:	

Domain: Q-ESWE: 15a	MUSDE-1 musculoskeletal job demands
1. Name	risk of working in painful or tiring positions
2. Definition	% of all workers working around half of the time or more in a painful or tiring position
3. Purpose	measure of type of musculoskeletal job demands
4. Relation to other indicators	personally adjustable comfort (17); health risks (31) and health problems (34)
5. Quality	Strongly validated question (Wikman, 1991; Hildebrandt & a.)
6. Measurement definition	total number of all workers .... =a number of workers working in painful or tiring position (more than 50% of the time) .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 15b	MUSDE-2 Musculoskeletal job demands
1. Name	risk of carrying or moving heavy loads
2. Definition	% of all workers carrying or moving around half of the time or more heavy loads
3. Purpose	measure of type of musculoskeletal job demands
4. Relation to other indicators	personally adjustable comfort (17); health risks (31) and health problems (34)
5. Quality	Strongly validated question (Wikman, 1991; Hildebrandt & a.)
6. Measurement definition	total number of all workers .... = a number of workers carrying or moving heavy loads (more than 50% of the time) .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 15d	MUSDE-3 Musculoskeletal job demands
1. Name	risk of repetitive movements
2. Definition	% of all workers having around half of the time or more repetitive hand movements
3. Purpose	measure of type of musculoskeletal job demands
4. Relation to other indicators	personally adjustable comfort (17); health risks (31) and health problems (34)
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers working with repetitive movements (more than 50% of the time) .... = b indicator: 100 * b/a
Comment:	

PSYCHOLOGICAL JOB DEMANDS

Domain:	PSYDE-0 Psychological job demands
1. Name	sumscore risk of working with demanding job content
2. Definition	% of all workers working around half of the time or more with demanding job content: high intense jobs; low autonomy; low learning possibilities; bad social contacts (PSYDE 1 8)
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	control possibilities (20, 22); pace of work (21); health risks (31) and health problems (34)
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers working with demanding job content (more than 50% of the time) .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 15g, h, 20e	PSYDE-1 Psychological job demands
1. Name	intensity of work
2. Definition	1a: % of all workers working around 1/4 of the time or more at high speed, working to tight deadlines or having no time to finish job 1b: % of all workers working around half of the time or more at high speed, working to tight deadlines or having no time to finish job 1c: % of all workers working around 3/4 of the time or more at high speed, working to tight deadlines or having no time to finish job
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	control possibilities (20, 22); pace of work (21); health risks (31) and health problems (34)
5. Quality	validated question (Karasek, 1979)
6. Measurement definition	total number of all workers .... = a number of workers working at high speed (more than 25% of the time) or working to tight deadlines or having no time to finish job .... = b number of workers working at high speed (more than 50% of the time) or working to tight deadlines or having no time to finish job .... = c number of workers working at high speed (more than 75% of the time) or working to tight deadlines or having no time to finish job .... = d indicator: 100 * b/a; 100 * c/a; 100 * d/a;
Comment:	

Domain: Q-ESWE: 21 a-e	PSYDE-2 Psychological job demands
1. Name	pace of job: socially paced; machine or norm paced
2. Definition	% of all workers working according to type of pace: 2a: dependent on colleagues, dependent on people, dependent on direct control 2b: dependent on production norms, dependent on machine or moving of product
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying yes to questions 21 a, b, e .... = b number of workers saying yes to questions 21 c, d .... = c indicator: 100 * b/a; 100 * c/a
Comment:	

Domain: Q-ESWE: 23 e, f, 15c	PSYDE-3 Psychological job demands
1. Name	repetitive and monotonous work
2. Definition	% of all workers working with monotonous tasks, no job rotation and with repetitive tasks
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question 23 e or 23 f or more than 50% of the time repetitive tasks .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 23 c, e, g, h; 25	PSYDE-4 Psychological job demands
1. Name	learning organisation
2. Definition	% of all workers working with unforeseen problems in job, learning things, with complex tasks, with job rotation and with training in last 12 months
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	vocational training
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question 23 c, e, g and h .... = b number of workers having more than one day training in last 12 months ... = c total number of workers in learning organisation: b and c indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 24	PSYDE - 5 Employment
1. Name	overskilled (present) job
2. Definition	level of skill that is necessary for their present job demands
3. Purpose	indicates the mismatch between skills and job demands
4. Relation to other indicators	
5. Quality	This measure resembles the 'overqualification'-measure from Eurostat (E-4). Questions: - underskilling is probably of particular interest for certain occupations
6. Measurement definition	total number of all workers .... = a total number of all workers with demands too low for skills .... = b indicator: 100 * b/a
Comment:	

Domain:	PSYDE-0 Psychological job demands
1. Name	sumscore absence of autonomy
2. Definition	% of all workers working with autonomy
3. Purpose	measure of type of psychological job demands
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... =a sum of number of workers saying no to questions 20 b, c, d and 22 a, b, c .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 20b, c, d	PSYDE-6 Psychological job demands
1. Name	degree of temporal autonomy
2. Definition	% of all workers working with temporal autonomy
3. Purpose	measure of type of psychological job demands: control on job time
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... =a number of workers saying yes to questions 20 b, c, d .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 22	PSYDE-7 Psychological job demands
1. Name	degree of job autonomy
2. Definition	% of all workers working with task, method or speed autonomy
3. Purpose	measure of type of psychological job demands: job content control
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... =a number of workers saying yes to questions 22 a, b, c .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 15i, 20a, 23d	PSYDE-8 Psychological job demands
1. Name	social content of work
2. Definition	8a: % of all workers working around half of the time or more with customers, passengers, pupils, patients; 8b: % of all workers having support form colleagues; deciding with colleagues 8c: 8a + 8b
3. Purpose	type or psychological working environment
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... =a number of workers working with customers, passengers, pupils, patients (more than 50% of the time) .... =b number of workers with support; or deciding with colleagues .... =c indicator: 100 * b/a; 100 * c/a; 100 * (b+c)/a
Comment:	

Domain: Q-ESWE: 27	EMOTI-0 Emotional job demands
1. Name	emotional job demands
2. Definition	% of all workers working with emotional job demands
3. Purpose	measure of type of psychological job demands: intimidation, discrimination, unwanted sexual attention
4. Relation to other indicators	equal opportunities (28)
5. Quality	underreporting may be expected
6. Measurement definition	total number of all workers .... =a number of workers saying yes to questions 27 a, b, c, d, e, g, h .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 27	EMOTI-1 Emotional job demands
1. Name	violence at work
2. Definition	% of all workers working with physical violence, intimidation, unwanted sexual attention
3. Purpose	measure of type of violence
4. Relation to other indicators	equal opportunities (28)
5. Quality	underreporting may be expected
6. Measurement definition	total number of all workers .... =a number of workers saying yes to questions 27 a, b, d .... =b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 27	EMOTI-0 Emotional job demands
1. Name	discrimination at work
2. Definition	% of all workers working with discrimination
3. Purpose	measure of type of discrimination
4. Relation to other indicators	equal opportunities (28)
5. Quality	underreporting may be expected
6. Measurement definition	total number of all workers .... = a number of workers saying yes to questions 27 c, e, g, h .... = b indicator: 100 * b/a
Comment:	

SATISFACTION AND HEALTH SITUATION

Domain: Q-ESWE: 31, 32, 34c01	SH-0 Satisfaction and health situation
1. Name	sumscore health affected or at risk by work
2. Definition	% of all workers with health affected or at risk by work
3. Purpose	knowledge on the loss of working capacity caused by work-related health problems
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a sum of workers with one day or more absenteeism p/w, workers with health affected by work and workers with health at risk because of work .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 32	SH-1 Satisfaction and health situation (Eurosi - WC-4)
1. Name	working days lost due to work-related health problems
2. Definition	mean number of working days lost due to work-related health problems
3. Purpose	knowledge on the loss of working capacity caused by work-related health problems
4. Relation to other indicators	
5. Quality	Self reporting period might be too long for reliable reporting by worker.
6. Measurement definition	365 days a year .... = a average number of days absenteeism p/w .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 34c01	SH-2 Satisfaction and health situation
1. Name	health affected by work
2. Definition	% of all workers with health affected by work
3. Purpose	how many workers are sick from their work
4. Relation to other indicators	SSH-1, SSH-4
5. Quality	
6. Measurement definition	total number of all workers .... = a total workers with health affected by work .... = b indicator: 100 * b/a
Comment:	an analysis is possible for the kind of health effect

Domain: Q-ESWE: 31	SH-3 Satisfaction and health situation
1. Name	health at risk because of work
2. Definition	% of all workers with health at risk because of work
3. Purpose	how many workers work in a dangerous situation
4. Relation to other indicators	SSH-1, SSH-5
5. Quality	
6. Measurement definition	total number of all workers .... = a total workers with health at risk because of work .... = b indicator: 100 * b/a
Comment:	

Domain: Q-ESWE: 33, 36	SH-0 Satisfaction and health situation
1. Name	sumscore work satisfaction
2. Definition	% of all workers (12 hours p/w and more) satisfied with their work
3. Purpose	effects from bad working situation
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a sum of workers being very satisfied, workers not leaving employer because of dissatisfaction with work environment (SSH-5) .... = b indicator: 100 * b/a
Comment:	these effects can only be tertiary effects from working conditions. Work satisfaction also encompasses elements from other factors.

Domain: Q-ESWE: 36	SH-4 Satisfaction and health situation (Eurosi - WC-2)
1. Name	overall work satisfaction
2. Definition	% of all workers (12 hours p/w and more) (fairly) satisfied or very satisfied with their work
3. Purpose	according to Eurostat, gives an overall impression of the 'quality of work'
4. Relation to other indicators	supervisory responsibilities
5. Quality	EF-results can be compared with Eurostat-data. Eurostat-indicator is rather good.
6. Measurement definition	total number of all workers .... = a total workers being fairly or very satisfied .... = b indicator: 100 * b/a
Comment:	these effects can only be tertiary effects from working conditions. Work satisfaction also encompasses elements from other factors.

Domain: Q-ESWE: 33	SH-5 Satisfaction and health situation
1. Name	job change due to work environment in last 5 years
2. Definition	% of all workers changed job due to work environment in last 5 years
3. Purpose	dissatisfaction with work environment as a cause for leaving an employer
4. Relation to other indicators	SSH-2
5. Quality	Self reporting period might be too long for reliable reporting by worker.
6. Measurement definition	total number of all workers .... = a number of workers saying yes to questions 33 .... = b indicator: 100 * b/a
Comment:	

Supplement 3

Construction of additional indicators on the European working environment.

The following indicators cannot be constructed on the ESWE. Other sources are needed.

Domain: Source:	INFOR-3 Information on the working environment
1. Name	does the company possess a clearly defined occupational health policy?
2. Definition	% of all workers which declares that company has a clearly defined occupational health policy
3. Purpose	measure of number of informed workers; to monitor results of policies to improve on the working environment
4. Relation to other indicators	Infor-1, Infor-2
5. Quality	unknown
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	

Domain: Source:	INFOR-4 Information on the working environment
1. Name	does the company possess a well developed occupational health infrastructure?
2. Definition	% of all workers which declares that company has a well developed occupational health infrastructure
3. Purpose	measure of number of informed workers; to monitor results of policies to improve on the working environment This indicator reveals institutional differences between countries.
4. Relation to other indicators	Infor-1, Infor-2, Infor-3
5. Quality	unknown
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	This question can be analyzed in further detail: existence of company doctor, occupational health centre, work council, work environment council

Domain: Source:	INFOR-5 Information on the working environment
1. Name	does the company execute on a yearly base, a risk assessment?
2. Definition	% of all workers which declares that company executes a yearly risk assessment
3. Purpose	measure of number of informed workers; to monitor results of policies to improve on the working environment
4. Relation to other indicators	
5. Quality	unknown
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	

Domain: Source:	EMP-10 Employment
1. Name	affiliation to a trade union
2. Definition	% of all workers which declares to be member of a trade union
3. Purpose	to control the degree in which companies are influenced by trade unions in the company
4. Relation to other indicators	
5. Quality	Eurostat.
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	

Domain: Source:	SH-6 Satisfaction and health
1. Name	what is the safety situation in the company?
2. Definition	% of all workers which declares that company is a safe place to work
3. Purpose	
4. Relation to other indicators	
5. Quality	
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	

Domain: Source:	SH-7 Satisfaction and health
1. Name	number of accidents at work
2. Definition	% of all workers which declares to have had an accident in the last year (with three or more days off from work)
3. Purpose	
4. Relation to other indicators	
5. Quality	self reporting is known to be bad
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: (b/a) *100.000
Comment:	

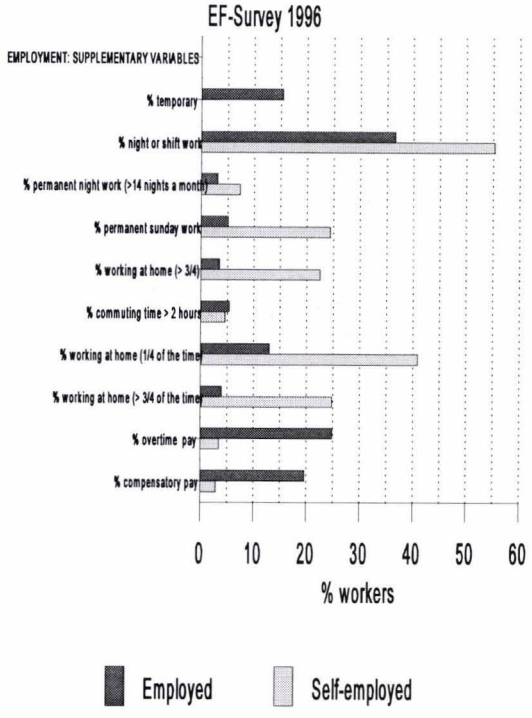
Domain: Source:	SH-8 Satisfaction and health
1. Name	working days lost due to accidents at work
2. Definition	mean number of working days lost due to accidents at work
3. Purpose	knowledge on the loss of working capacity caused by accidents
4. Relation to other indicators	
5. Quality	self reporting period might be too long for reliable reporting by worker; Eurostat 1998
6. Measurement definition	365 day a year .... = a average number of days lost to accidents p/w .... = b indicator: 100 * b/a
Comment:	

Domain: Source:	SH-9 Satisfaction and health
1. Name	number of occupational diseases
2. Definition	% of all workers which declares to have had an occupational disease in the last year
3. Purpose	
4. Relation to other indicators	
5. Quality	self reporting is known to be bad; Eurostat 1997
6. Measurement definition	total number of all workers .... = a number of workers saying yes to question .... = b indicator: 100 * b/a
Comment:	

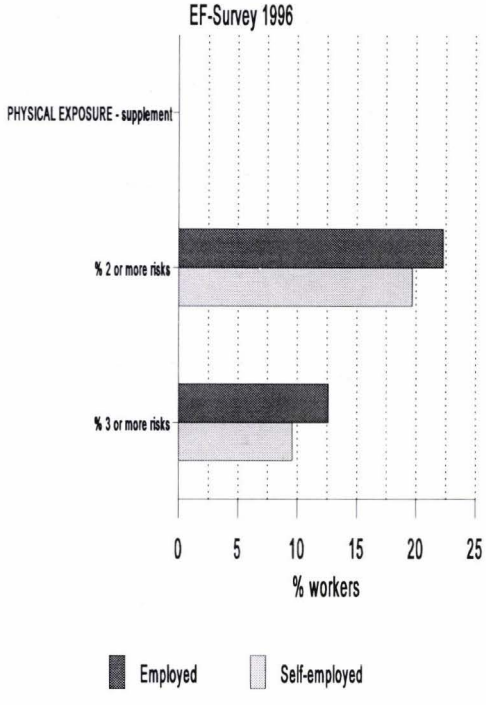
Domain: Source:	SH-10 Satisfaction and health
1. Name	working days lost due to occupational disease
2. Definition	mean number of working days lost due to occupational disease
3. Purpose	knowledge on the loss of working capacity caused by occupational disease
4. Relation to other indicators	
5. Quality	self reporting period might be too long for reliable reporting by worker; Eurostat 1998
6. Measurement definition	365 day a year .... = a average number of days lost to occupational disease p/w .... = b indicator: 100 * b/a
Comment:	

Supplement 4

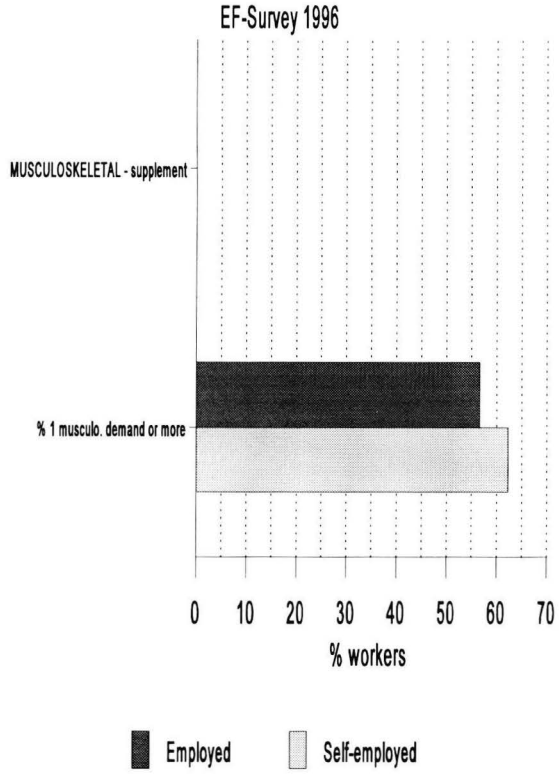
Graphs for supplemental indicators on the European working environment.



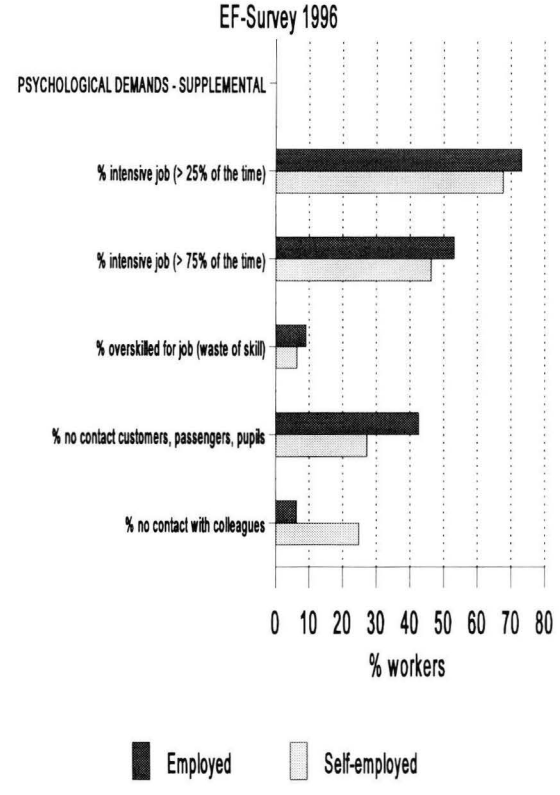
Supplement 1. Supplementary Indicators for employment variables.



Supplement 2. Supplementary indicators for physical exposure.



Supplement 3. Supplementary indicators for musculoskeletal demands variables.



Supplement 4. Supplemental psychological demands indicators.

Supplement 5

Comparison between Eurostat-data, the ESWE 1996, the French TOTTO 1991 and the German BIBB/IAB 1991. Comparison of datasets as a means to create indicators on the working environment.

In this supplement, we look at the degree current national surveys can be compared to the ESWE-survey. We will do this by looking at several indicators described in the report and, if suitable comparable indicators are not to be found, we will look at comparable questions from these surveys. Our comparison will limit itself to data from ESWE, from Eurostat (Labour Force Survey), from the French 1991-survey (TOTTO) and the German 1991-BIBB/IAB-survey. In this analysis, we will compare several graphical representations of the survey results. The survey questions will be analyzed for differences and possible effects on the distributions. Because the dates and the methodologies from the surveys differ, it is not reasonable to elaborate too much on the differences between the surveys. This analysis however, can show at what future developments of the surveys should be oriented.

ESWE and Eurostat: employment figures

In following graph, several employment indicators are compared.

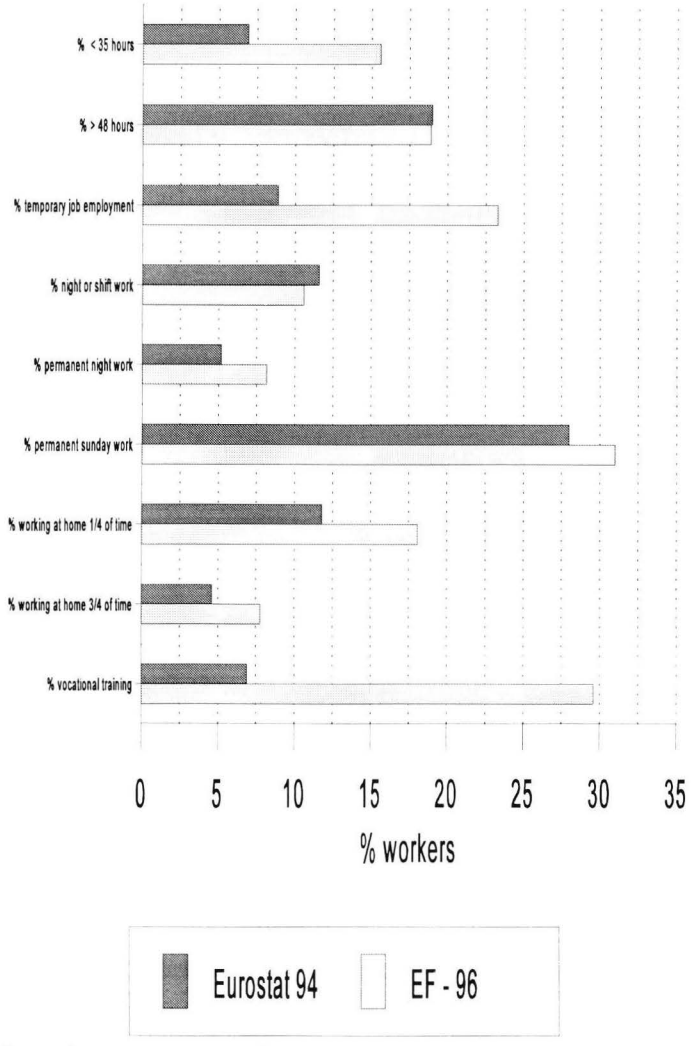


Figure 1. Comparison for employment variables between Eurostat and the ESWE.

The main differences are between the percentage of workers under 35 hours, the percentage temporary employment, the percentage workers working at home and the percentage workers following a vocational training. Most of these differences can be explained by different definitions. For the working hours, the ESWE includes the parttime workers for the under-35 hours. A selection on parttime workers is not yet possible in this survey. The higher percentage of workers working under 35 hours, can be explained by this difference. The difference between workers following a vocational training can also be explained by differences in definitions. The ESWE-definition is much broader than that of Eurostat. The other differences are not that easy explainable.

Table 1. Definitions used in the Labour Force Survey and the ESWE.

	Eurostat 1994	ESWE `996
Working hours	Persons in full-time employment, groups of hours usually worked per week (table 076).	Parttime workers are included in results. The definition of parttime is not used, so a selection is not possible.
Temporary employment	Employees with temporary job by reason (table 064-5).	Limited to fixed term contract and a temporary agency contract.
Night or shift work	Persons working shift work, in the evening or at night (table 060-1).	Employed workers doing night work (at least 5 times a month) and/or shift work.
Sunday work	Persons working on Saturday, Sunday or from home (table 062-3).	Employed workers doing permanent sunday work (4-5 times a month). % of workers working at home.
Training	Persons aged 25 to 59 years in full-time employment receiving training during the previous four weeks by type of training and sector of activity (table 066).	% of employed workers participating in paid vocational training in past 12 months (1 day or more).

France: Totto and ESWE

In figure 2, a comparison is made for the French TOTTO-survey (1991) and the ESWE (1996). We have limited ourselves to those questions for which there are comparable data.

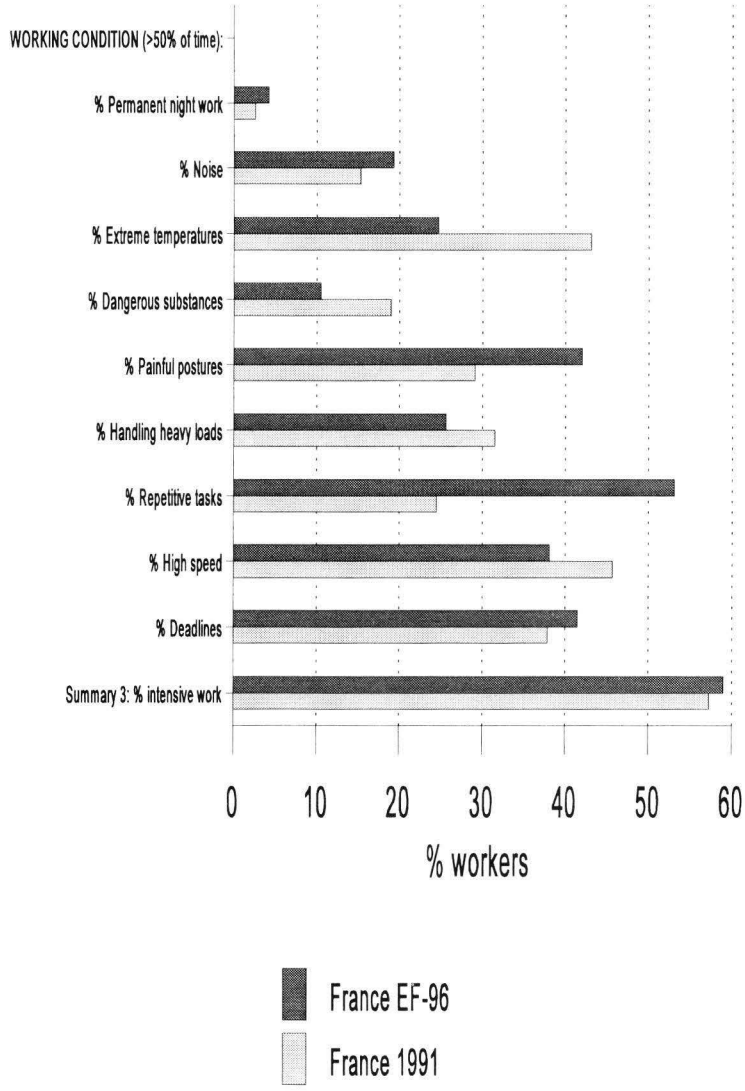


Figure 2. France: Comparison between Totto 1991 and ESWE.

Large differences in results can be found between the following indicators: extreme temperatures, painful postures and repetitive tasks. Extreme temperatures seem to be more precisely defined in the EF-survey which can explain the lower figures for the EF-survey. For repetitive tasks, the EF-definition is clearly broader than the Totto-definition. This shows in the results. The only remaining difference, painful postures, is not that easily explained. The other differences could show trend information, but a comparison with more recent data is required.

Table 2. Definitions used in the TOTTO 1991 and the ESWE.

	Totto 1991	ESWE 1996
Night work	nightwork: more than 101 nights	employed workers doing night work (at least 5 times a month)
Noise	able to hear someone raise his voice (not able to hear someone who is talking to the person)	noise is so loud that you would have to raise your voice to talk to a person (> 50% of the time)

	BIBB/IAB 1991	ESWE 1996
Handling heavy loads	carrying or moving loads (more than 20 kilo)	carrying or moving heavy loads
Repetitive tasks	always repeating the same movement (always + often)	tasks of less than 10 minutes
Intensive work	high time pressure/ job demands (always + often)	combination question:s working at high speed; working to tight deadlines
Autonomy	tasks are not dictated into every detail (always + often)	combination job and temporal autonomy

Conclusion

The previous analyses have shown that comparisons between surveys are possible. The graphs and tables have made it clear that the majority of the differences could be explained by differences in definition and that these definitional differences are confirmed in the graphs. It is necessary to look carefully at the differences between the definitions. Next to this step, it is necessary to try find data sources from the same measurement period. This was not yet possible in this report. Our main conclusion is that starting from different surveys, it is possible to create a valid source of information on the working environment in Europe.

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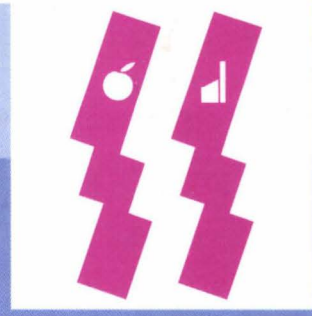

Indicators of Working Conditions in the European Union

While there seems to be an abundance of data on social issues, policy makers often lack the practical and simple data which will support their action. The present report explores how, in the field of working conditions and on the basis of existing harmonised data, synthetical indicators can be built. The intention is not to provide the ultimate set of indicators on this topic, but rather to show what can be achieved on the basis of existing data. Other indicators could (and should) be constructed if relevant data was available. A discussion should also take place on selecting what would be the most relevant indicators, and on constructing these indicators (what, for example, should include an indicator on "strenuous work"?).

The report also puts forward proposals for the construction of indicators and suggests ways of collecting and analysing data on a more regular and comprehensive basis. The aim of the Foundation is ultimately to provide a discussion basis on how to develop user-friendly indicators.

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