Impact of Changing Social Structures on Stress and Quality of Life: Individual and Social Perspectives.

Report on Work package 5

STRESS **IMPACT**

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List of abbreviations

ISCO = International Standard Classification of Occupations

LTA = Long Term Absence

NACE = Classification of Economic Activities in the European Community

OHS = Occupational Health Services

SII = Social Security Institution

Introduction

Long term sickness absence has become a key issue in many European countries. Of particular concern has been the increase of the proportion of mental disorders in long term absences. Across Europe it appears that stress and burnout are amongst the most frequently mentioned work related health complaints (Paoli, 1997; Merllié & Paoli, 2001; Weiler, 2004)). Stress and burnout are a major cause of absenteeism from work, costing society a substantial amount of money and causing people a great deal of worries and problems. The increase of mental disorders as a reason for absence and disability is particularly interesting, because the prevalence of mental disorders in the entire population has not increased (e.g. Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2001).

It is generally acknowledged that our society has changed considerably over the past decades. In particular structural changes, such as changing social and working contexts and the introduction of new technology are believed to be important change agents. These societal factors play a major role in the background contributing to the stress process, in the sense that these factors often constitute demands that exceed people's capacities to cope.

It is acknowledged that, although the group of long-term absentees is substantial, information concerning this group is scarce. Developing adequate return-to-work-policies does require information concerning these peoples' present living conditions, health, future perspectives and other factors that might influence their decisions concerning absenteeism and work resumption (e.g. Henderson, Glozier, & Holland Elliot, 2005). This project's aim is to fill (part) of that gap in the knowledge base on long-term absenteeism. Part of this project is a survey of LTA's enquiring after their experiences on being absent from work, their current health and living conditions, their job(s) before becoming absent, and future perspectives. This report describes the main findings of this survey.

Long term absence and incapacity benefit

In the various EU-countries the percentage of people claiming Incapacity Benefits (IB, or the national equivalent) has been on the rise over the last decade, leading up to almost 10 % of the working population in 2002 in the UK. Around 30 % of this group of people on IB has been diagnosed with 'mental and behavioural disorders'. In most West-European countries it has become the major reason for receiving incapacity benefits. Figure 1 shows the development in The Netherlands. The incidence of stress accounts for over 30 % of all absence from work and is the most frequent cited reason for absence from work, followed by musculo-skeletal problems. There is

a sharp decline noticeable in 2003, this is most likely caused by a technical change in assessment criteria that took effect in 2002 and 2003. This explanation is supported by the steep increase in the category 'rest' which coincides with the decline in 'psychological disorders'. Other EU countries show a similar picture (Bergendorff et al., 2002). Some studies suggest that mental health problems are under-represented in the official statistics because they remain unrecognised or are 'disguised' by somatic complaints (Hensing & Spak, 1998; Stansfeld et al., 1995). There still seems to rest a taboo on mental health problems or psychological disorders.

Figure 1: Disability incidence rate by diagnosis in The Netherlands (source: Workers Insurance Authority)
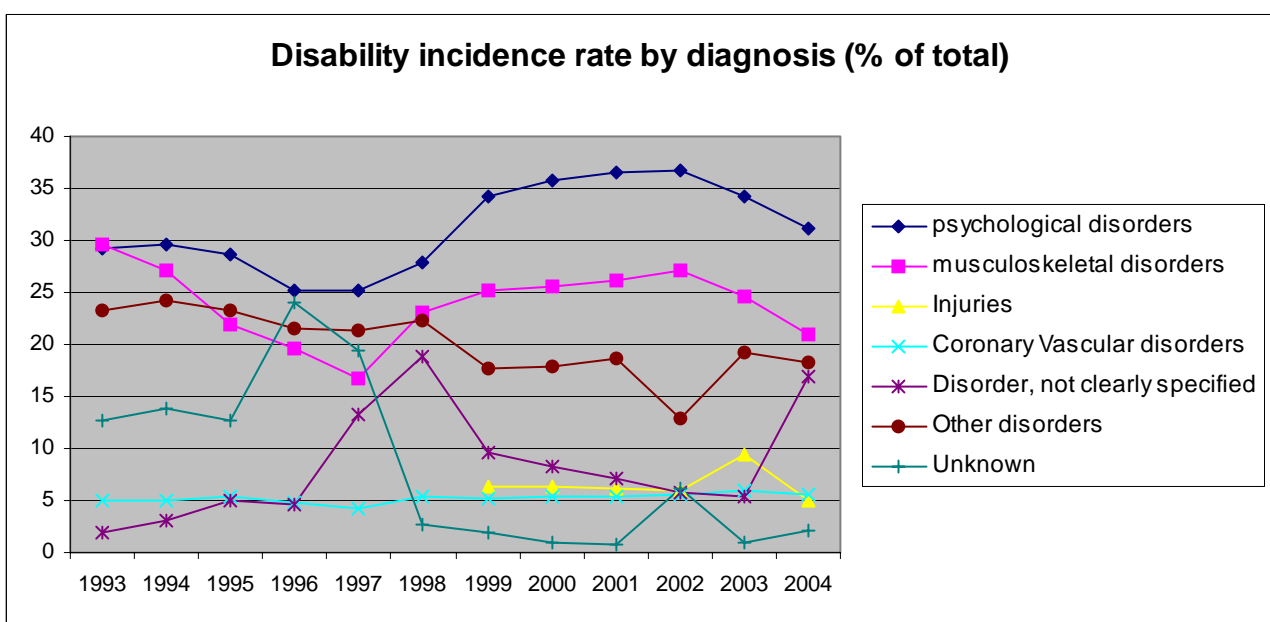
Governmental organisations in various countries have estimated that between 30 – 60 % of all sickness absence is related to 'mental or emotional disturbances'. Therefore it is assumed that the majority of the people with mental and behavioural disorders actually have stress-related complaints. However, 'stress' is not an official diagnostic category, and therefore it is difficult to make an exact assessment of the number of Incapacity Benefit recipients who actually are suffering from stress. Since registration systems for sickness absence and long term absence in various countries are not comparable, cross-national studies on this topic are difficult and are only feasible by collecting specific information on this topic. There is little information available on long-term absentees. It appears that when people are absent from work, they also disappear from all kind of statistics. In order to be able to formulate adequate polices on return to work, it is necessary to 'know' who the people are who are absent, what kind of jobs they had, et cetera. In particular, since most literature on intervention and rehabilitation strategies focus on people with physical health

(injuries, cardiovascular) problems, while it is the group of people with mental health problems that has been growing in the last decade, and of which the least information is available that justifies this study. This means that we need to have information: demographic information and information on current health status, life style, and what kind of jobs they were employed in, what characteristics these jobs had, etc.. Jobs with particular characteristics apparently imply a higher risk for (long term) absenteeism compared to other jobs (cf. D'Amato & Zijlstra, 2003).

Absence from work can signify many different problems, and therefore usually a distinction is made between frequency and duration of absence. Absence *frequency* has been associated with a 'voluntary' component of absence, indicating that the medical condition is a less compelling reason for absence, whereas absence *duration* has been seen as a measure of involuntary absence, which can be attributed to an illness or injury. Therefore, it is argued that long spells are better measures of health status than short spells, which are often also influenced by a number of other factors (Marmot et al., 1995). There, indeed, are differences between the determinants of short and long spells of sickness absence. For example, socio-economic class seems to be a strong correlate for long but not for short spells of absence (e.g. Vahtera et al., 1996). This is why in many studies short and long spells are studied separately. However, the cut-off point is usually somewhat arbitrary and depends on the registration policy of the country or the company studied. Some of the studies are not clear on their definition of absence, concentrate mostly on short leaves of absence, or use only spells of absence, without referring to their length, which makes the information of these studies difficult to incorporate into models of long term sickness absence.

In this study we are primary interested in long term absence, which we have defined as at least lasting 6 weeks. However, due to the differences in national registration systems, that have been used to recruit participants for this study, the actual length of absence can be substantially longer.

Long-term absence, disability and stress related disorders in Finland
The scale of sickness absence has increased slowly but steadily in recent years in Finland, which can be seen in Figures 1 and 2 (Pohjalainen 2005, Kela 2005). The number of absence spells reached a peak in 2002 (figure 2) but the total number of days of absence (figure 3) has continued to rise indicating that on average individual spells of absence age getting longer. The main reasons for sickness absence are musculoskeletal disorders and mental disorders. The proportion of these groups has increased especially in absences lasting over 180 days. The direct cost of sickness allowance to the Social Security Institution in 2004 was 221 million euros for musculoskeletal disorders and 147 million euros for mental disorders, and increase of 9 and 6 percent respectively from the year 2003.

Figure 2. Spells of absence due to musculoskeletal disorders, mental disorders and cardiovascular diseases 1996-2004.
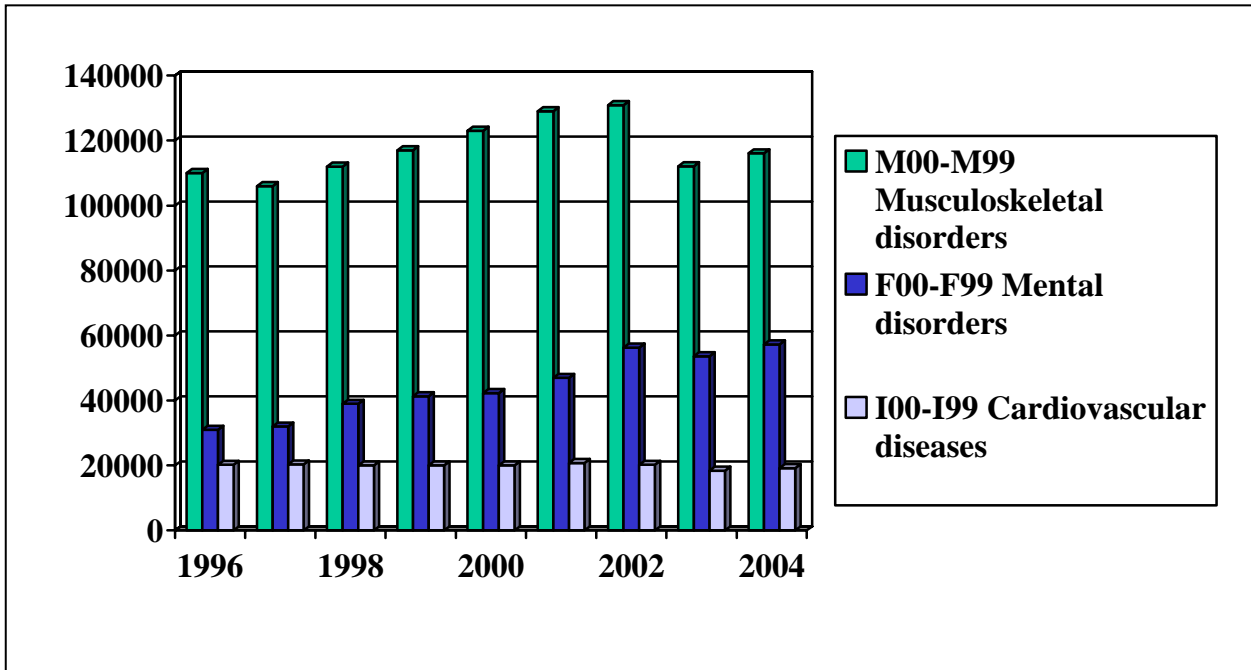

Figure 3. Days of absence compensated by the SII for musculoskeletal disorders, mental disorders and cardiovascular diseases 1999-2004.
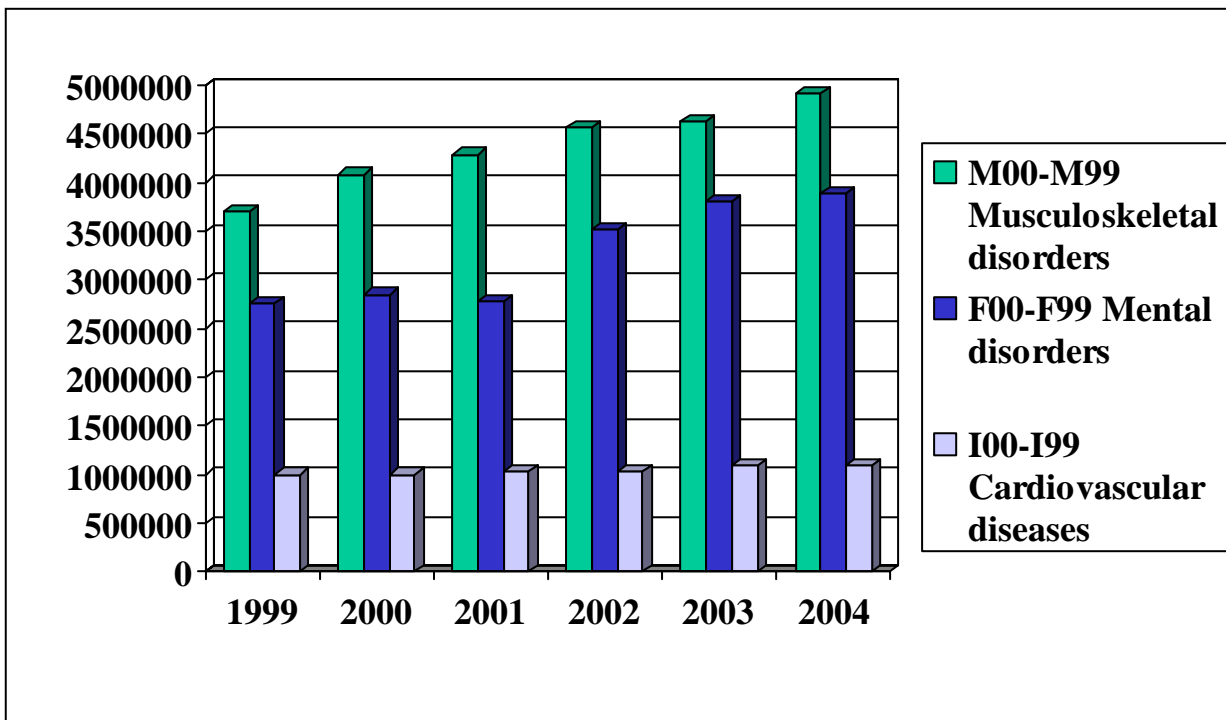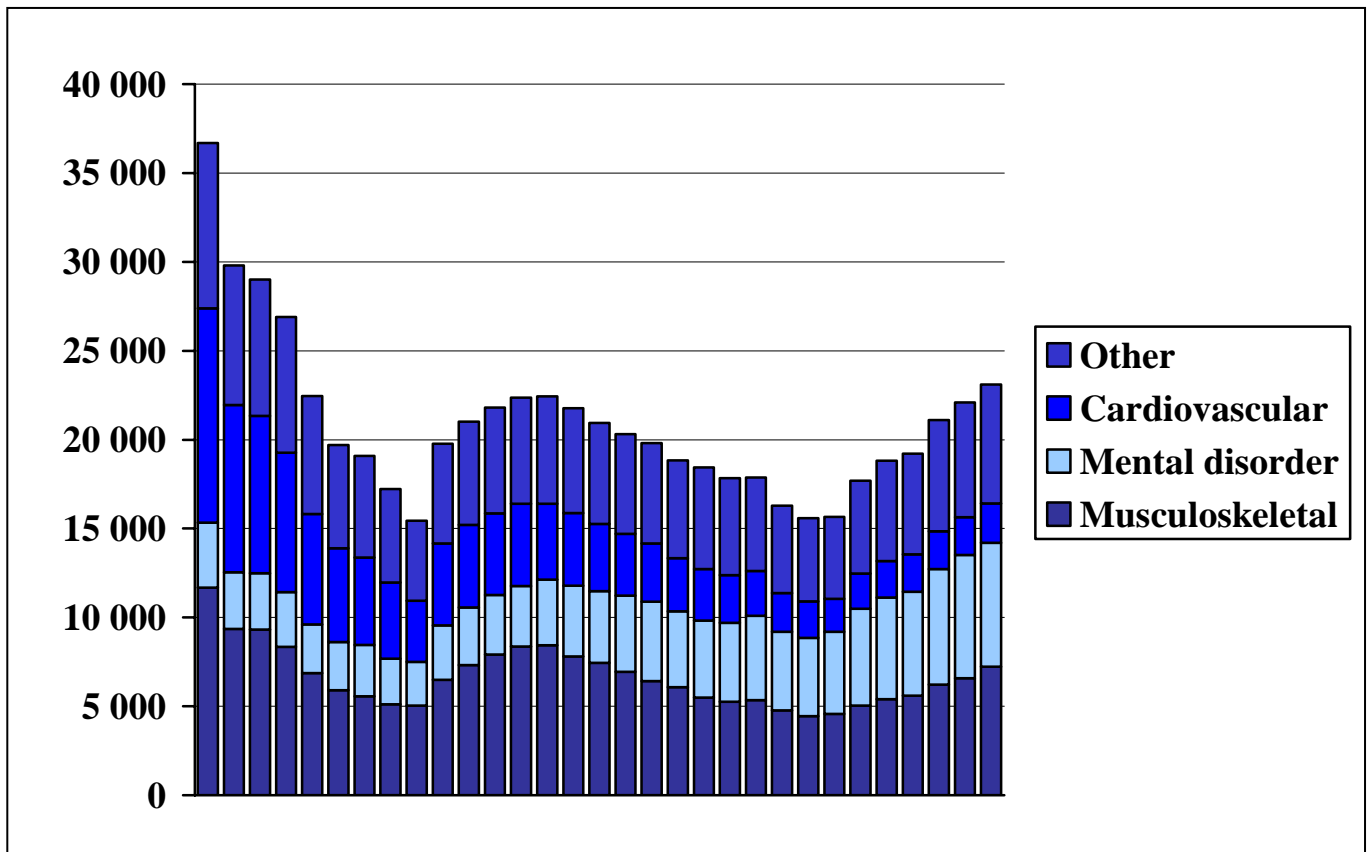
Figure 4. New disability pensions according to main cause in the private sector 1974-2004.

The number of new disability pensions has fluctuated somewhat in recent decades (figure 4), but at the moment seems to be increasing again (Pohjalainen, 2005, Eläketurvakeskus, 2005). The biggest increase is on disability pensions due to mental disorders, which account for 40 percent of all new disability pensions at the moment. The increase in the mental disorders is almost totally due to mood disorders and particularly depression. New disability pensions based on mood disorders increased four times from 1000 new cases in 1988 to almost 4000 new cases in 2003. The costs of disability pensions were altogether 2242 million euros in the year 2004, with mental disorders accounting for 34 % of the costs (Pohjalainen, 2005).

Changing work life, stress and long term sickness absence

From a review of the literature (cf. D'Amato & Zijlstra, 2003) it became apparent that work related factors can constitute a particular risk for mental health problems, such factors can include the organization of work, productivity issues, and personal relationships at work. A number of models and theories have been developed to describe and explain the etiology and epidemiology of stress (Cooper & Payne, 1988; Hobfoll, 1989; Holt, 1982; Kahn & Byosiere, 1992; Karasek & Theorell, 1990; Lazarus & Folkman, 1984; Sauter & Murphy, 1995). The most prominent of these nowadays include the job demands-job decision latitude model (Karasek, 1979), the Person-Environment fit model (French et al, 1982), the 'Transactional model' (Lazarus & Folkman, 1984) and the Effort-

Reward Imbalance model (Siegrist, 1996). In particular high work demands, job insecurity, and low level of job control seem to be risk factors for mental health problems. A variety of instruments have been developed to explore how these operate within a particular workplace (see e.g. Cox and Griffiths, 1994; Cox, Griffiths, & Rial-Gonzales, 2000; D'Amato & Zijlstra, 2003). Various parameters of stress, e.g. somatic, behavioural, emotional and cognitive are all moderately correlated to sickness absence (Nielsen et al., 2002). Psychological distress, both general and job related, predict increased absences irrespective of demographic variables (Hardy et al., 2003).

Health status and life style

Some of the strongest predictors of sickness absences are previous spells of absences and previous ill health (Andrea et al., 2003; Farrel & Stam, 1988). Self-rated health status is a good predictor of sickness absences (Marmot, 1994). Lifestyle factors, such as overweight, smoking and sedentary lifestyle are strongly associated with sickness absence, but not alcohol consumption (e.g. Kivimäki et al.,1998; Ala-Mursula et al. 2002). Sleep appears to have a beneficial effect on recovery from illness, in particular quality of sleep appears to be associated with good health (cf. Groeger, Zijlstra, & Dijk, 2004).

Demographic aspects

Various demographic aspects have been found to be associated with sickness absence. In general there is a clear relationship between age and health: older people have more health complaints. However, in the workforce this relationship is not always clear, due to either sampling strategy, self-selection of 'healthy workers', but the general tendency is that age increases the risk for long-term absenteeism (Bergendorff et al., 2002).

Also socio-economic class is related to sickness absence (e.g. North et al., 1993; Fuhrer et al., 2002), sickness absence rates are lower for people with a higher education (Ala-Mursula et al., 2002). The greatest divide seems to be that white-collar (non-manual) workers are less absent than blue-collar (manual) workers. This trend can be seen in many European countries and in various sectors of employment (Alexanderson et al. 1994; Benavides et al, 2003; Fuhrer, et al. 2002). However, there seems to be a relationship with the type of the complaints. Psychological problems seem to be over-represented among white-collar workers, whereas blue-collar workers have more physical problems (Riksförsekrinsverket, 2002). Public sector workers have a higher ratio of long-term absences than private sector workers (Riksförsekrinsverket, 2003; Bergendorff et al., 2002). There is some evidence that large organisations have higher rates of absence than smaller ones (Voss et al. 2001; Vahtera et al. 1997).

According to a number of European studies women have a higher level of absence due to sickness than men (e.g. Bergendorff et al., 2002; North et al., 1993; Niedhammer et al., 1998; Voss et al., 2001). However, no satisfactory explanation has been found thus far. There seems to be very little evidence that the so-called double burden of family and work increases sickness absences in general (Mastekaasa, 2002; Ala-Mursula, 2002; Sonnentag & Zijlstra, in press). Having a family, and number of children do not seem to be risk factors for absenteeism as such. It should be noted, however, that most studies are cross-sectional, meaning a healthy worker selection only within the women with (care for) children. Hardly any longitudinal studies have been performed. Also, self-reported absence has been associated with having young children (i.e. under six years) and with difficulties with childcare (Eriksen et al., 2000). These factors also moderated the association between burnout and absence. This suggests that having a family has both positive and negative effects on sickness absence and that excessive strains due to family responsibilities may result in absenteeism or at least increase the risk of stress related illnesses.

This question, whether (or to what extent) stress arises from work or from other life domains, has been a topic of debate among policy makers, employers and trade unions for some time now. The answer to this question would have implications for determining the level of responsibility of various parties, and therefore also for their costs to solve the problem, and the policies to be put in place. However, it may very well be that this question can, as a matter of principle, not be answered. The various life domains (work and non-work) constitute different kind of demands, and it will be very difficult to assess which factor contributes at a particular moment to peoples' levels of stress. Moreover, the relevance of the various factors/demands will vary over time, and be related to peoples' career and stage of life.

This can probably best be illustrated by using the metaphor of a bucket that is filled with water from different taps. At some point the bucket will be full and the water will spill over if no water is taken out. It will be difficult to assess which tap (or even which drop) actually causes the bucket to spill over. It will be equally difficult to ascertain, when people are confronted with various demands (from different life domains), which of the demand(s) is most responsible for the stress. In fact all demands contribute to the stress and if there is no alleviation in one of the life domains it is likely that the demands will exceed the persons capacity to cope with these demands and they are likely to be perceived as a threat.

However, the most constant and notable demand across the board are the demands from work. Work demands are aspects from the public domain for which an employer has a responsibility, in contrast to aspects of the private life domain. Moreover, work demands can be changed, but many stressors from daily life (divorce, bereavement, etc.) can not be prevented. Nevertheless, the issue of stressors from work and private life domains will have to be addressed in this study; therefore, from a conceptual point of view, aspects of various life domains need to be included in the conceptual framework for this study.

Another reason to look into the topic of 'return to work' is that the work force in Europe is ageing and in order to sustain the productivity at work in Europe, and retain the level of welfare for all Europeans, as many workers as possible should be retained for work. Also the costs for the social security system in most European countries need to be reviewed in order to be sustainable. This means that from the economic perspective our society cannot afford to leave people standing aside. Also for individuals the psychological costs of being excluded from participating in society are unacceptable.

This project has arisen from the acknowledgement that we do not sufficiently understand the general process that affect workers' decisions to either report sick or resume work again. Also a better understanding of the influence of the national systems and their (in)effectiveness to make people return to work (and thus retain workers for the labour force) is required.

The conceptual model for this study

Sickness absence, but also work resumption, can be conceived as the result of a decision making process. People decide to stay at home and not go to work for a particular reason, usually because they feel that they are unable to work, or to deal with the demands of work. This decision making process can be conceived as passing a threshold (cf. Allegro & Veerman, 1998). Our expectation is that there will be a variety of factors influencing this decision. Evidently people's health will be one of these factors, but probably not the only factor. Other factors that might be relevant are the 'opportunity' to be absent (or the necessity to go to work – feeling indispensable), but also the 'necessity' to stay at home (family situation) may play a role. Likewise people need to make a decision (i.e. pass a threshold) in order to return to work again. And again a variety of factors are believed to influence this decision, amongst which health.

This project aims to explore what factors influence peoples' decision to pass the threshold of reporting absent, and also resuming work again, and what is their relative weight in this process.

This evidently includes looking into work-related factors and personal circumstances, and also into what kind of interventions have taken place. The conceptual model that has been developed can provide some guidance here.

Figure 5: Conceptual model of threshold
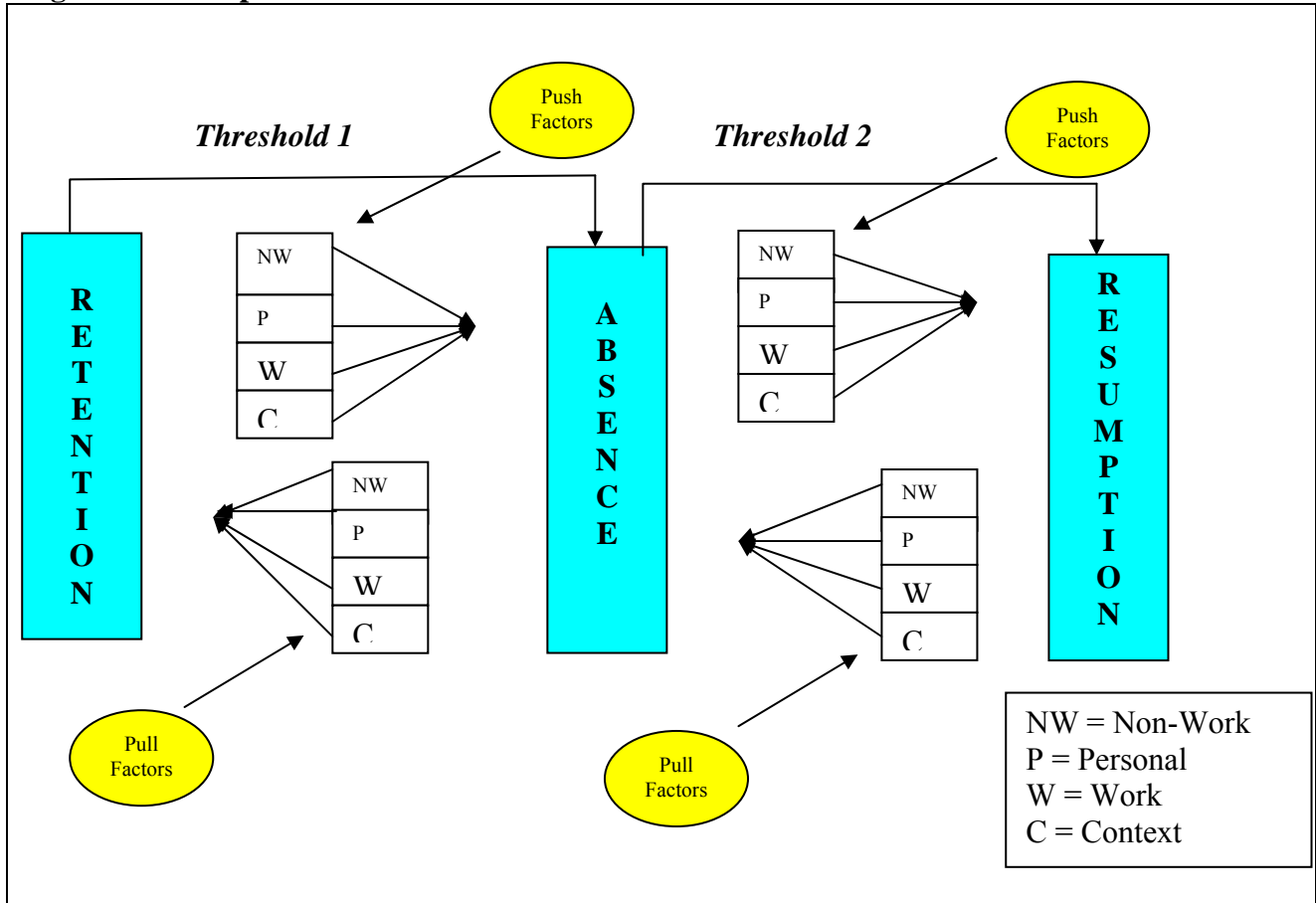
The conceptual model represents the various classes of variables that need to be taken into account. There are factors related to the personal characteristics (personality, health situation, life style, social economic class), to people's work situation (type of organisation, job characteristics, social support, etc.), the non-work domain which includes the family situation and social network, and context variables such as financial situation, geographic location, but also what (health) services are available, etc.

The model is presented as a 'push and pull' model, indicating that some factors will 'push' people away from work (into absence) and other factors will 'pull' people into work (away from absence). Whether a particular factor will actually work as a 'push' or a 'pull' factors is not always clear on forehand. For some factors it might be clear, i.e. poor job characteristics and unhealthy work situations will contribute to people becoming absent from work, or rather 'push' people away from work. On the other hand, interesting and satisfying work and feeling valued and indispensable will

generally help people to stay in their work, i.e. 'pull' people to work. When an individual has to make a decision concerning staying at home (i.e. reporting sick) or going to work it is conceivable that various factors will exert different influences upon that individual. These factors will originate from the various life domains and will affect the threshold people will have to take between work and absenteeism.

Of course, peoples' estimate of their own working capacity to deal with the demands of work is relevant as well with respect to their decision, and this, together with their motivation, is likely to affect their future perspectives. Therefore these elements need to be included in the survey.

The main goal of this survey is to provide a description of the most relevant characteristics of the group of people who are long-term absent from work for stress-related reasons. Implicit in this aim is to make a comparison between the groups of people with (stress-related) mental health problems and those absentees that have other than mental health (i.e. physical health) problems, or the group that has both type of problems (co-morbidity). A second aim is to determine which factors are likely to influence their decision to report absent from work and/or to return to work.

Mental health and stress-related disorders
The first aim of this study implies that a distinction needs to be made between 'mental health' versus 'non-mental health' problems. However, first it is useful to clarify the distinction between 'stress' and 'mental health'. 'Mental health problems' refers to psychological disorders of a clinical nature (more or less severe), and includes a much wider group of 'patients' than we are targeting for stress impact. The problems these people have are not necessarily stress-related, and may be dispositional, or resulting from a trauma. On the other side of the spectrum are the mental health problems related to stress and burnout. Stress and burnout are closely related constructs and the distinction between them is somewhat unclear. Nevertheless, they both relate to situations in which people have been over-stretched for a long period without sufficient opportunities to recover from the strains that have been put upon them. This results in a dysphoric and dysfunctional state in individuals often without major psychopathology (Bril, 1984; Schaufeli & Enzmann, 1998). Typical characteristics include high levels of (emotional or psychological) exhaustion, and feelings of reduced personal competence, or self-efficacy, accompanied by depressive feelings. This prevents people from functioning adequately in their job, and from using appropriate coping strategies, thus causing a negative spiral. People are at risk when they perceive a chronic imbalance between their input (effort, time) and the output (material and immaterial rewards) in their work (Siegrist, 1996, Schaufeli, et al., 1993) and usually do not recover from this situation without outside help or

environmental rearrangement (Brill, 1984). Part of the aim of this survey is to make an inventory of the services that these people know of and to what extent they are being used. And subsequently what services and/or interventions are helpful in people returning to work.

This study takes place in the six different EU countries involved in this project. In each of these countries the same methodology and instruments have been employed. A questionnaire has been designed of which the raw skeleton would be applicable and useful in each country. When necessary, country specific (minor) amendments to the questionnaire have been made.

To summarize, the key questions to be answered in this survey are:
1) what are the demographic characteristics of long-term absentees,
2) what are the psychological characteristics of long-term absentees,
3) which factors (including availability and use of services, etc.) contribute to predicting peoples' absenteeism, and or work resumption.
4) to what extent can people who are absent for stress-related reasons (mental health problems) be differentiated from other long-term absentees. This differentiation should also include other than demographic factors, i.e. life style, general health, job characteristics, psychological aspects, etc.

Method

To answer the above questions it was decided that a survey would be the most appropriate method for data collection. A survey enables to collect a large amount of data in a standardized way. Therefore a questionnaire was developed that was administered in all participating countries to a sample of Long Term Absentees (LTA). For each country the objective was to collect information from a national representative sample of LTA's.

Figure 6. Sampling timeframe in different countries.
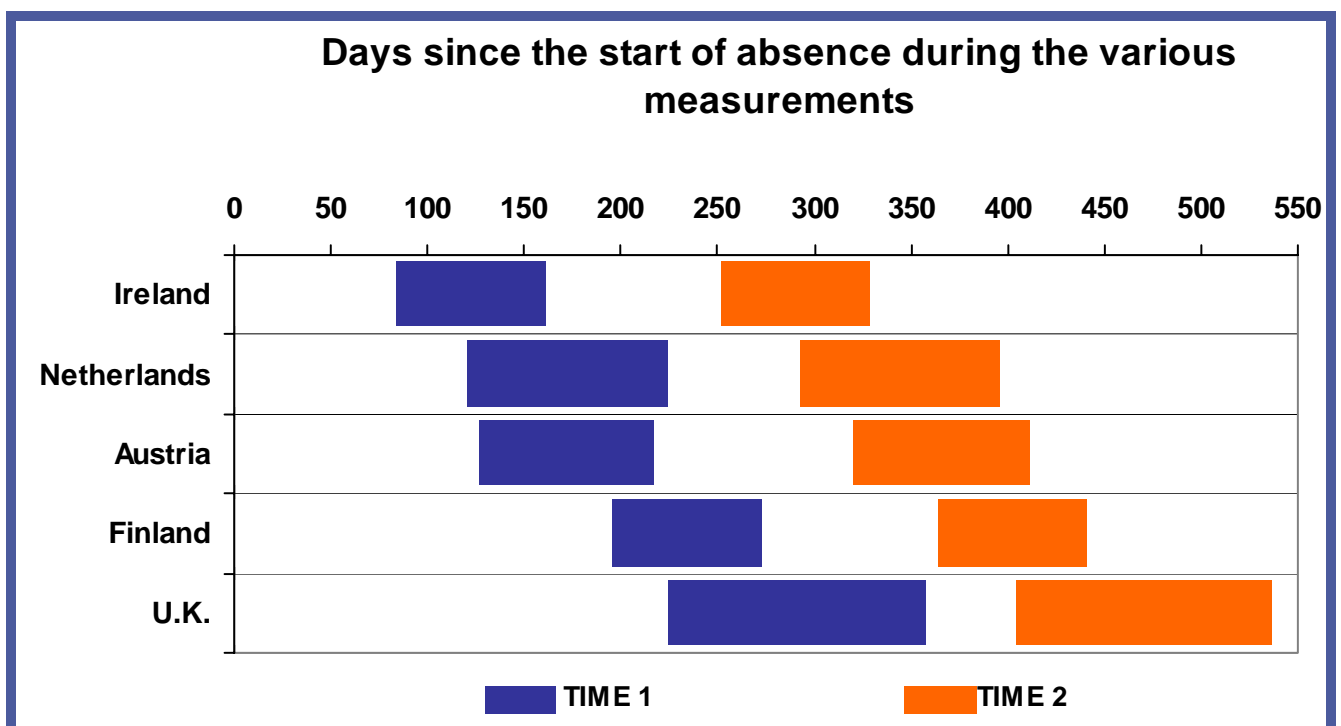
Note. The boxes represent 80% of the cases

In Finland the sample was collected from the Social Security Institutes (SII) register, which covers all persons in Finland who have applied for sickness allowance. Therefore all persons who are currently receiving sickness allowance were represented in our sample. The registry is reliable though there might be a small delay from the start of the sickness absence until the allowance claim is registered, but this should only play a role in the beginning of the absence period. Because our sample has been absent for quite a long period there should not be any biases in the register. The sampling procedure is described in more detail in figure 7.

Figure 7. Sampling procedure in Finland

All persons (N=1984) who had started their sickness absence between 26.9.2003-28.11.2003 and were still absent 11.6.2004 were picked from the SII register. They were sent an info letter and a participation form with screening questions to confirm that they 1) were working before the start of the absence period, 2) were still currently on sickness absence, 3) had not been back to work for over a month since the start of the absence for the current illness.

↓

579 participation forms were returned, to all of whom a questionnaire was sent during June 2004.

↓

492 questionnaires were returned, from which nine had covered their identification number and could not be reached for the follow-up.

↓

483 follow-up questionnaires were sent on 7.12.2004, of which 445 were returned.

↓

Of the 445 returned questionnaires 437 could be linked with time1 data.

Sample descriptives and non-response analysis

The basic descriptives of the sample attained from the SII register are presented in table 1. The sample descriptives are divided in those who participated in the study (respondents, N=491), those who were sent a screening letter but did not participate (basic sample non-respondents, N=1493), and a sub sample of them who returned the screening letter, and were deemed eligible for the study, but did not return the first questionnaire (eligible non-respondents, N=92).

Descriptives of the respondents

The biggest illness groups for which sickness allowance was granted were musculoskeletal disorders, altogether 191 cases in the sample (38.8%) and mental disorders, 136 cases (27.7 %). Of the mental disorders the most common specific diagnosis was depression (103 cases, F32&F33). All other illness categories are collapsed into the other group, altogether 33 % of the respondents.

The majority, 57.8 %, of the respondents were female. Most of the respondents, 58.9 %, were married, 22 % were divorced, 15 % were single never married, and 3 % widowed. The respondents gross annual income was on average 22 822 Euros, but there was quite a large distribution of 8832

Euro standard deviation. They were on average 52 years old with a standard deviation of 7.7 years. The respondents had been absent for on average 236 days for which sickness allowance was paid, 6 days per week. Information on education and work characteristics were not available from the SII register but only from the questionnaire answers. Of the respondents 40 % had only a basic education, 22% intermediate general or professional education, 10 % had a high school education (matriculation exam), 20 % had a higher professional education, and 8 % an academic education. 58 % worked in the public sector, 39 % in the private sector and 3 % in non-profit organisations. The biggest sectors of employment (NACE classification) represented were manufacturing 21 %, healthcare 19 %, and transport 12 %.

Non-response analyses

For non-response analyses, the three different sample groups were compared pairwise. The comparisons and their significance based on t-test and chi-square test can be seen in table 1. For the cause of the absence, there were significantly more people in the respondents in the mental disorder group and less people in the other diagnosis group compared to the basic sample non-respondents. The respondent did not differ from the eligible non-respondent as to their cause of absence. Significantly more women than men participated in the study both compared to the basic sample and the eligible non-respondent group. The respondents did not differ in marital status nor on average income from the basic sample non-respondent nor the eligible non-respondent groups. The mean age of the respondents was slightly higher than both the total non-respondent and the eligible non-respondent groups. They did not differ in the length of the absence from the total non-respondents nor from the eligible non-respondents.

Because of data privacy survey data could not be linked directly with the SII register. To ensure that the diagnoses that people reported themselves in the questionnaires could be trusted as accurately corresponding to their objective status, comparisons were made between the SII register information on primary diagnoses and the self-reported existence of a physician's diagnose on illness on the group level. Special attention was paid to diagnoses of mental disorders, because mental health problems might be underreported due to different reasons. In the SII register 136 persons had a mental disorder diagnose (F00-F99, ICD-10) as a primary diagnose for sickness absence, as for in the questionnaire survey 151 persons reported that they had a physician's diagnosed mental disorder. In the discrepant cases mental health disorder could be a secondary illness or it has been diagnosed after the SII benefit claim. All in all the non-response analyses did not reveal any major discrepancies between the respondents and the non-respondents, nor biases in the questionnaire answers. Because the sampling included all people in the register, therefore

covering the total Finnish population of absentees within the sampling timeframe at one moment in time, the data can be interpreted to reflect reliably the current situation.

Table 1. Demographics of the respondents and non-respondents from the SII register.

	A. Respondents N=491	B. Basic sample non-respondents N=1493	C. Eligible non-respondents N=92	Comparison	
ICD-10 diagnosis					
Mental disorder	136	324	27	A-B	χ^2 (df, 2) =10.49***
Musculoskeletal disorder	191	566	36	A-C	χ^2(df, 2) =0.16
Other	164	603	29	C-B	χ^2(df, 2) =4.03
Gender					
Male	207	761	49	A-B	χ^2(df, 1) =11.48***
Female	284	732	43	A-C	χ^2(df, 1) =3.88*
				C-B	χ^2(df, 1) =0.18
Marital status					
Single	75	254	9	A-B	χ^2(df, 3) =6.66
Married	289	934	61	A-C	χ^2(df, 3) =2.45
Divorced	110	262	19	C-B	χ^2(df, 3) =3.45
Widowed	17	42	3		
Registered partnership	0	1	0		
Income					
Mean	22822.5	22306.24	22974.24	A-B	t (df, 1982) =0.96
Std	8832.32	10673.76	9429.3	A-C	t (df, 581) =0.15
				C-B	t (df, 1583) =0.59
Age					
Mean	51.984	50.806	49.717	A-B	t (df, 1982) =2.82***
Std	7.685	8.871	9.078	A-C	t (df, 581) =2.25**
				C-B	t (df, 1583) =1.14
Number of sickness absence days					
Mean	236.504	237.223	236.132	A-B	t (df, 1982) =0.31
Std	43.157	43.828	39.303	A-C	t (df, 581) =0,08
				C-B	t (df, 1583) =0.23

Note: *p<.05, **p<.01, ***p<.001.

Survey

The analyses of the survey are based on two approaches, breakdown analyses and logistic regression analyses. The breakdown analyses are used for to look how all variables measured in the survey are differentiated between groups of people. Three variables are used in breakdown tables as divisional variables. The first is "stress" or general psychological morbidity, which was constructed on the basis of three factors of mental functioning i.e. emotional exhaustion, depression, and general self-efficacy. A more detailed description of the "stress"-variable is in Appendix C. The second breakdown variable is the self-reported main reason for sickness absence. The respondents were asked whether the main reason for their absence was a physical illness, a mental illness or a combination of a physical illness and mental illness. This distinction was validated against the physician diagnoses the respondents indicated they had from a list of medical diagnoses. The third breakdown variable which was also used as an outcome in logistic regression was return to work at time 2. The respondents were asked to indicate whether they had 1) returned to work completely, 2) returned to work partially or on a therapeutic basis or 3) not returned.

The breakdown tables for all variables in the survey can be found in appendix A. The significance of the variables in the breakdown tables is marked so that if the difference is statistically significant AND the estimate for effect size r>.1 there is a triangle next to the category that differs. The direction of the triangle indicates also the direction of the difference. Every marked group is significantly different from the other and/or the comparison group(s). All comparisons are made 'horizontally', i.e., per row. ▲: p<0,05 for significantly high 'scoring' groups; '▼' for significantly low 'scoring' groups.

The total list of all items and scales used in the questionnaire can be found in appendix B. There are three different types of variables used in the breakdown tables and logistic regression, first nominal categories (e.g. gender), second yes/no dichotomies (e.g. do you have children under 18 living in the household) and third trichotomies (low, medium, high), which were made for the scales and other continues variables (e.g. depression) based on tertiles of the total sample population of five countries.

In the text the most interesting variables are described according to the stress and the main reason for absence breakdown. Return to work breakdowns are not described in the text because return to work is examined more closely by constructing logistic regression models for the most important variables in predicting return to work. Multivariate logistic regression was used to look at predictors of return to work at time 2. The outcome variable in the logistic regression model was work

resumption asked in the time 2 questionnaire, i.e. whether the absentees had 1) returned to work completely 2) returned to work partially or on a therapeutic basis or 3) not returned. For the regression models full resumption and partial resumption were grouped together. In the logistic models the comparison therefore is between those who have not resumed work at all and those who have resumed work either fully or partially.

The logistic models are constructed so that four different models are analysed first. These models represent different domains in life: personal variables, work related variables, family related variables and contextual variables. The domain specific variables are predetermined on a theoretical basis and are same for all countries participating in the study. These variables are first looked at within the domain specific model and then the most relevant variables from each model are selected into a fifth model. This overall model is constructed for each country separately and includes the most relevant variables relating to work resumption in that country.

Results

Demographics

Gender

For the main reason for absence, women were more likely than men to report that their absence was due to mental reasons whereas men were more likely to report to have a physical reason. In the stress measure women were more likely to be in the high stress group and men in the medium stress group.

Education

Those who had an academic education were more likely have a mental reason and not a physical one for their absence. People up to lower professional education had significantly lower rates of mental reasons for their absence. In the stress measure those who had completed high school were more likely to be in the medium stress group and those with an academic education in the high stress group.

Marital status

Single people were more likely to have a mental reason for absence. Those cohabiting had a lower rate of having a co-morbid status. In the stress measure divorced had a higher incidence of high stress.

Living alone or with other people

Those respondents who live alone were less likely to be in the physical reason category. They were also more likely to be in the high stress group.

Multiple income

People with multiple income in their families were more likely to be in the medium stress category and less likely in the high stress category whereas people who do not have multiple income where more likely to be in the high stress group and less likely in the medium stress group. There were no differences in the main reason for absence distinction.

Personal average monthly income

There were no differences between income classes in either the main reason for absence or the stress measure.

Household average monthly income

There were no differences between income classes in either the main reason for absence. In the stress measure, people with household income of over 1800 euros had a lower rate of high stress.

Making a living without work

There were significantly more people in the mental reason group, who evaluated that they could not cope financially without returning to work.

Job characteristics

Job title (ISCO-88 classification)

Technicians and clerks were less likely to be in the physical reason group, and clerks were also more likely to have a mental reason for their absence. Plant and machine operators were less likely to have an mental reason but more likely to have a physical reason for their absence. The professional groups showed no differences in the stress measure.

Contract hours per week

People who worked for 35 hours or less were more likely to belong to the comorbid group as people who worked 36-40 hours were less likely to be in the comorbid group. There were no differences between contract hours worked in the stress measure.

Extra hours per week

People who worked extra for three hours or less were more likely to have a physical reason for absence as people who worked extra for over 3 hours were less likely to have a physical reason. There were no differences between the extra hours worked in the stress measure.

Job tenure

There were in the mental group more people with less than 20 years of tenure and less people with more than 31 years of tenure. Within the people with over 30 years of tenure there were more physical reasons for absence. There were no differences in job tenure in the stress measure.

Work sector (NACE classification)

In manufacturing there were more people less likely to have a mental reason for absence. In the building sector people were more likely to have a physical reason and less likely to have a comorbid reason for absence. In public administration people were less likely to have physical reasons and in educational sector people were more likely to have a mental reason and less likely to have a

physical reason for their absence. In the stress measure people in the building sector were less likely to have high stress and people in other community services were more likely to have high stress.

Psychosocial work factors

Job demands

Those with low job demands were most likely to be absent for physical and less likely for both mental and comorbid reasons. Conversely, high job demands were associated with being absent for mental reasons or co morbid reasons and not for physical reasons. In the stress measure people with low job demands had low levels of stress and were not likely to have high stress. Also people with high job demands were most likely to be in the high stress category and less likely to have medium or low levels of stress.

Job control

There were no differences in job control between the different reasons for absence. In the stress measure people with low job control had high levels of stress and were not likely to be in the low stress category. People with high job control were most likely to be in the low stress category and less likely to have high levels of stress.

Co-worker support

People with low levels of co-worker support were more likely to have mental or comorbid reason and less likely to have physical reason for their absence. People with medium levels of co-worker support were more likely to be in the physical group and people with high levels of co-worker support were also more likely to have a physical reason, and less likely to have a mental reason for their absence. People with low co-worker support were more likely to be in the high stress group and less likely in either medium or low stress group. People with medium levels of co-worker support were more likely to have medium levels of stress and less likely to have high stress. Those with high co-worker support were more likely to be in the low stress and not in the high stress group.

Supervisor support

People with low supervisor support were less likely to be on sickness absence based on a physical reason and more likely for a co-morbid reason. Those with medium levels of supervisor support were less likely absent for mental and co morbid reasons and more likely absent for physical reasons. In the stress measure people with low supervisor support were more likely in the high

stress category than in the low or medium stress groups. People with medium supervisor support, on the other hand, were more likely to be in the medium but not in the high stress category.

Overcommitment

People with low overcommitment to their work were more likely to be absent for physical reasons than mental or comorbid reasons. In the medium overcommitment category people were more likely to have a physical reason than a comorbid reason for absence. Those in the high overcommitment group were more likely have a mental or comorbid reason for absence than a physical reason. As for stress, those with low overcommitment were more likely to also have low levels of stress and less likely to have high stress. In the medium overcommitment category also medium stress was more common and high stress less common and finally in the high overcommitment group low and medium levels of stress were less common but high levels of stress more common.

Job reward

In the low reward group people were more likely to have a mental or comordid reason for their absence and less likely to have a physical reason. Conversely, on the high reward group people were less likely to belong to the mental or comorbid groups and more likely to be in the physical group. People with low reward were also less likely to have low or medium levels of stress but more likely to have high stress. Those in the medium reward group were also more likely to be in the medium stress group and those in the high reward were less likely to have high stress but more likely to have low levels of stress.

Job insecurity

There were no differences in the main reason for absence groups in regard to job insecurity. Those with low job insecurity also were more likely to have low levels of stress and less likely to have high levels of stress whereas those with high job insecurity were more likely to have high stress and not low levels of stress.

Job satisfaction

Those with low job satisfaction were more likely to have a mental or comorbid reason for their absence and less likely a physical reason. Those with a medium level of job satisfaction were more likely to have a physical reason and not a mental reason and those with high job satisfaction were more likely to have a physical reason for their absence. In the stress measure people with low job satisfactions were less likely to have low or medium stress and more likely to have high stress, people with medium job satisfaction showed medium levels of stress and were less likely to have

high stress as for those with high job satisfaction they were more likely to have low levels of stress and not likely to have high stress.

Life-style

Working hours of partner/spouse

Those whose partner/spouse had decreased their working hours were more likely to be in the comorbid category and less likely in the physical category. Those whose partner/spouse's work hours had not changed were more likely to be in the physical reason category and not in the mental reason category.

Alcohol consumption

People who were absent on mental reason were less likely to say their alcohol consumption had not changed.

Smoking

Those whose smoking had decreased were less likely in the comorbid category. Those whose smoking had increased were more likely in the mental category. Also those whose smoking had decreased were less likely in the high stress group.

Eating

Those whose eating habits had not changed were most likely in the physical category and less likely in the mental category, whereas those whose eating had increased were more likely to be in the mental and not in the physical category. Similarly those whose eating habits had not changed were most likely in the low stress category and less likely in the high stress category, whereas those whose eating had increased were more likely to be in the high stress and not in the low stress category.

Social relationships within the house

People whose social relationships within the household had not changed were more likely to have a physical reason and not a mental or comorbid reason for their absence. Also they were less likely to have high levels of stress.

Sleeping problems

Those in the lowest category of having problems with their sleep were more likely to have a physical reason for absence and less likely to have a comorbid reason. Conversely those in the

highest category of sleeping problems were more likely to have a comorbid cause of absence and not a physical cause.

Health characteristics

General health

Those who evaluated their general health condition to be (very) bad were more likely to have a comorbid reason for absence than a mental reason, and conversely those who evaluated their health as good, were more likely to have a mental reason and not a comorbid reason for absence. Similarly those who evaluated their general health condition to be (very) bad were more likely to have a high level of stress than a low level of stress, and conversely those who evaluated their health as good, were more likely to have a low level of stress and not a high level.

Illness caused by work

People with a physical reason were more likely to evaluate that their condition was not associated with their work and people with a comordid reason for absence were more likely to evaluate their illness having being influenced by work.

Depression (CES-D Scale)

Those with low scores on the depression scale were more likely not to have a mental or comordid reason but a physical reason for absence. Those with a medium level of depression were more likely to have a physical reason for absence. Those with high scores on the depression scale were more likely to have a mental or comordid reason for absence and not a physical reason.

Exhaustion (OLBI-scale)

Again those with low scores on the exhaustion scale were more likely not to have a mental or comordid reason but a physical reason for absence. Those with a medium level of exhaustion were more likely to have a physical reason for absence and not a comorbid reason. Those with high scores on the exhaustion scale were more likely to have a mental or comordid reason for absence and not a physical reason.

Disengagement (OLBI-scale)

People with low scores on the disengagement scale were more likely not to have a mental reason but a physical reason for absence. Those with a medium level of disengagement were more likely to have a physical reason for absence and not a comorbid reason. Those with high scores on the disengagement scale were more likely to have a mental or comordid reason for absence and not a

physical reason. On the stress measure people with low scores on the disengagement scale were more likely to have low levels of stress and less likely on the other hand to have high level of stress. Those scoring medium levels on the disengagement scale were more likely not to have high levels of stress and finally those with high levels of disengagement were more likely also to have high levels stress and not low or medium levels.

General self-efficacy

Those with low scores on the self-efficacy scale were more likely to have a mental or comordid reason but not a physical reason for absence. Those with a medium level of self-efficacy were more likely to have a physical reason for absence and not a mental or comorbid reason. Those with high scores on the self-efficacy scale were more likely to have a physical reason and not a mental or comorbid reason for absence.

Stress measure

Only 1% of those absent for mental reasons and 4 % of the comorbid group scored low on the stress measure, i.e. people in the low stress group were more likely to have a physical condition. Those in the medium stress group also more likely to be absent for physical reasons and not for comorbid reasons. Those in the high stress group were most likely to be people absent for comorbid reasons (80 % of the co morbid group were in the high stress category) or for mental reasons (71 %). Only 22% of the physical group were in the high stress group.

Work ability

Those who evaluated their work ability as very poor, were more likely on sickness absence for comorbid reasons and less likely for mental reasons. Those in the medium work ability group were more likely to have a physical reason and less likely a comorbid reason. Those in the highest work ability group were more likely to be absent for mental reasons. In the stress measure those who evaluated their work ability as very poor, were more likely to have high stress and not medium levels of stress. Those in the highest work ability group were more likely to have low levels of stress and not high stress.

Number of previous absences

Those with less than two previous periods of absence before the current one were more likely to have a physical reason and not a comorbid reason for their absence. Conversely those with more then three absence periods before the current one were more likely to be in the comorbid group and less likely in the physical group. Those with less than two absence periods were also less likely to

have high stress and those with more than three absence periods were more likely to have high levels of stress.

Was absence unexpected

People absent for comordid reasons were less likely to say that their absence was unexpected and more likely to feel that they had seen it coming for some time. Those who thought that the absence was unexpected were more likely to have low levels of stress and not high stress and those who could see their absence in their future were less likely to have low stress and more likely to have high stress levels.

Services and interventions during absence

Contacts with general practitioner

Those who had not had contact with their GP during absence were more likely to have a mental reason than a physical reason, while those who had had contact were more likely to have a physical and not a mental reason for absence. In the stress measure those with no contact with their GP were more likely to have high stress whereas those with contacts with their GP were less likely to have high stress.

Contacts with occupational health physician and /or nurse

Those with no contact with OHS during their absence were more likely to have a physical reason and not a comorbid reason for absence. Conversely those with contacts with OHS were less likely to have a physical reason and more likely to have a comorbid reason for absence. Those who had not had contacts with OHS were more likely to have low stress than high stress and those with contacts were more likely to have high stress than low stress.

Contacts with psychiatrist or psychologist

Nearly all (94 %) of the mental group and also of the comorbid group (82%) had had contacts with a psychiatrist and /or psychologist during absence compared to only 9% of the physical group. In the stress measure those with high stress were more likely to have had contacts with a psychologist or psychiatrist where as the medium and low stress groups were less likely.

Contacts with physiotherapist and or sports physician

Those who had not had contacts with a physiotherapist were more likely to be in the mental group and less likely in the physical group. Conversely those who had had contacts with a physiotherapist were less likely to be in the mental group and more likely to be in the physical group.

Contacts with alternative health practitioner and / or other professional

People with a mental reason for absence were more likely to have visited an alternative health practitioner and those absent for a physical reason were less likely to have had contacts with alternative health practitioners.

Interventions at the workplace

People in the mental category were less likely to have received interventions (work arrangements, medical or psychological interventions) before their current absence at their workplace. They were however more likely to have received these after their absence had started.

Contacts with workplace during absence

Those who had not had any contact with their supervisor during their absence were more likely to be absent for comorbid reasons and not for physical reason and conversely those who had had contacts with their workplace during absence were more likely to have a physical reason and not a comorbid reason for absence.

Those who had had contacts with colleagues during their absence were more likely to have a physical reason for absence and also low levels of stress, whereas those who had not had contacts with colleagues were more likely to be absent for mental reasons and also were more likely to have high stress levels.

A return to work co-ordinator

Those who said that there was a specific person that was coordinating their return to work in their workplace were more likely to have a physical reason for absence and not a mental reason. They were also more likely not to have high levels of stress. Those who said explicitly that there was no one coordinating their return to work were more likely to have a comorbid reason for absence and not a physical reason.

Expectations on return to work

Expect to return to work in the future

Those, who expected to return to work within 6 months were more likely to be absent for mental reasons and those who thought they will not return to work anymore were more likely to be absent for comorbid reasons. Those in the low stress group were more likely to anticipate that they would

return to work whereas those in the high stress group were more likely to think that they would not return to work anymore.

Where to return from absence

People who predicted that they would return to their previous profession but with another employer were more likely to be absent for mental reasons and not for physical reasons. Also those who expected to return to a different job with a new employer were more likely to be absent for mental reasons. Those with low stress were more likely to expect to return back to the job where they were absent from or to a new job but within the same employer.

Factors influencing return to work

Logistic regression was used in order to examine which variables measured in the first questionnaire while the subjects were still absent predicted whether the person had returned to work or not at the time of the second questionnaire 6 months later. The outcome variable predicted was if the person had returned to work either fully or partially versus those who had not returned to work at all. To evaluate the different perspectives related to absence and work resumption the variables were examined in four separate models based on different domains which have an influence on the situation: personal factors, work-related factors, non-work related factors and contextual factors. After examining the relevant variables in these models a comprehensive model was constructed to incorporate the most important variables in the same model.

Personal factors and return to work

The significance of personal factors in predicting return to work is presented in table 2. Altogether 14 variables were entered in the model, of which only three had a significant effect in predicting return to work. Quite logically good general health was a significant predictor of return to work. Also women were twice as more probable to return to work than men. Also education had a significant impact on return to work. Those in the three highest education categories were three times more likely to return to work than those with only a basic education. Surprisingly psychological factors like depression or exhaustion did not affect return to work. Also previous absences were not found to be predictive or return to work. All in all these personal factors accounted for about 18 % of the variance in returning to work.

Table 2. Personal factors predicting return to work

	Cox & Snell R^2=.186			
	N=347	Odds ratio	95,0% C.I.	
Gender	Male	1		
	Female	**1.98**	1.01	3.89
Age	<=35	1		
	36-45	1.64	0.46	5.83
	46-55	1.40	0.43	4.61
	>55	0.34	0.10	1.20
Education	Basic	1		
	Intermediate	1.76	0.74	4.19
	High school	**3.02**	1.03	8.84
	Professional	**2.35**	1.07	5.19
	Academic	**2.93**	1.05	8.16
Marital status	Married	1		
	Co-habiting	0.87	0.35	2.12
	Single	1.06	0.37	3.03
	Divorced	0.55	0.20	1.55
	Widowed	5.37	1.18	24.51
Personal monthly income	Less than 899 €	1		
	900 - 1799 €	1.73	0.85	3.54
	1800 € or more	2.04	0.60	6.95
Multiple household income	No	1.00		
	Yes	0.72	0.35	1.47
Exercise	Low	1		
	Medium	0.85	0.46	1.58
	High	1.16	0.45	2.99
Sleeping problems	Low	1		
	Medium	0.89	0.41	1.96
	High	0.93	0.42	2.06
General health	Poor	1		
	Good	**2.99**	1.48	6.04
General self-efficacy	Low	1		
	Medium	0.79	0.41	1.54
	High	1.07	0.46	2.51
Depression	Low	1		
	Medium	0.84	0.37	1.88
	High	0.58	0.21	1.60
Emotional exhaustion	Low	1		
	Medium	1.82	0.78	4.24
	High	1.80	0.79	4.10
Absences in the preceding year	Less than 3 periods	1		
	3 periods or more	1.32	0.62	2.82
Time in absence in the preceding year	< 1 week	1		
	2-3 weeks	0.80	0.31	2.08
	>3 weeks	0.70	0.30	1.60

Note. The statistically significant odd ratios are bolded

Work-related factors in return to work

The significance of work-related factors in predicting return to work is presented in table 3. Altogether 8 variables were entered in this model, of which three had a significant effect in predicting return to work. People working in the private sector were 1.8 times more likely to return to work than those working in the public sector. Those with high cognitive demand in their work were less likely to return to work, as were also those who had an insecure employment situation. Together these work-related factors accounted for 9 % of the variance in return to work.

Table 3. Work-related factors predicting return to work

	Cox & Snell R^2=.091		
	N=404	Odds ratio	95,0% C.I.
Sector of employment	Public	1	
	Private	**1.83**	1.11	3.04
	Non-profit	3.42	0.95	12.31
Size of workplace	<10 employees	1	
	11-50 employees	0.87	0.49	1.54
	>50 employees	1.20	0.64	2.26
Emotional demands	Low	1	
	Medium	0.81	0.44	1.49
	High	1.44	0.69	3.03
Cognitive demands	Low	1	
	Medium	0.70	0.40	1.24
	High	**0.36**	0.19	0.69
Job control	Low	1	
	Medium	1.74	0.95	3.19
	High	1.66	0.85	3.22
Job satisfaction	Low	1	
	Medium	1.04	0.59	1.81
	High	0.80	0.33	1.91
Job insecurity	Low	1	
	High	**0.58**	0.34	1.00
Overcommitment	Low	1	
	Medium	1.03	0.52	2.05
	High	1.02	0.51	2.00

Note. The statistically significant odds ratios are bolded

Non-work factors and returning to work

The significance of non-work factors in predicting return to work is presented in table . Three variables were entered in this model, of which only work-family balance was found to have a significant effect in predicting return to work. Those with medium levels of work family balance were twice as likely to have returned to work than those with low levels of work-family balance. Altogether, however , these three non-work variables accounted for only 2% of the variance in return to work.

Table 4. Non-work factors predicting return to work

	Cox & Snell R^2=.02		
	N=431	Odds ratio	95,0% C.I.
Work-family balance	Low	1	
	Medium	**2.08**	1.12	3.89
	High	1.67	0.90	3.07
Number of adults in the household	One	1	
	2 or more	0.77	0.48	1.24
Children in the household	No	1	
	Yes	1.57	0.93	2.67

Note. The statistically significant odd ratios are bolded

Contextual factor and return to work

The significance of contextual factors in predicting return to work is presented in table 4. Altogether 10 variables were entered in this model, of which two had a significant effect in predicting return to work. Quite surprisingly if the absentee did not have anyone coordinating their return they were almost three times more likely to have returned. This could be however only an indication that the ones who had a coordinator were in a much worse situation to start with. The other significant contextual factor was that people who had their job position held open for them during their absence were substantially more likely to have returned to work than those whose job was not held open during their absence. Altogether these contextual variables accounted for 18% of the variance in returning to work.

Table 5. Contextual factors predicting return to work

N=258		Cox & Snell R^2=.181			
		N=258	Odds ratio	95,0% C.I.	
Return to work- policy	No		1		
	Yes		1.67	0.65	4.30
Sickness absence- policy	No		1		
	Yes		0.95	0.50	1.81
Work arrangements made in the workplace during absence	No		1		
	Yes		2.00	0.74	5.41
Vocational rehabilitation in the workplace during absence	No		1		
	Yes		2.11	0.99	4.46
Medical / psychological interventions provided by employer during absence	No		1		
	Yes		0.99	0.30	3.31
Contact with supervisor during absence	No		1		
	Yes		1.01	0.49	2.07
Contact with colleagues during absence	No		1		
	Yes		1.15	0.49	2.72
Contact with return to work case manager	No		1		
	Yes		0.48	0.26	0.91
A person co-ordinating return to work	Yes		1		
	No		**2.70**	1.21	6.06
	Don't know		0.83	0.36	1.94
Job position kept open	No		1		
	< 6 months		7.83	0.29	214.54
	6-12 months		**16.32**	3.60	74.01
	>12 months		**6.09**	1.12	33.05

Note. The statistically significant odd ratios are bolded

Comprehensive model of return to work

The variables included in the comprehensive model were selected on the basis of theoretical and practical significance based on the four situational models. The variables included were gender, education, general health, sector of employment, cognitive demands at work, job insecurity, work-family balance and whether a job position was held open for the absentee. In the comprehensive model (table 6) four variables were significantly predicting return to work. Having a professional or a academic occupation was associated with a 2 to 3 fold increase in the likelihood of returning to work than having only a basic education. Having a good general health was associated with a 4 times higher likelihood of returning to work than those with poor health. Those with high cognitive demands in their work were very much less unlikely to return to work than those with low cognitive demands in their work. Finally the highest odds or returning to work were among those who had their job position held open compared to those absentees who did no have a job to return to. Although initially significant in the situational models, gender, sector of employment job insecurity and work family balance did not prove to be significant in the comprehensive model were other

factors were accounted for simultaneously. Altogether the comprehensive model accounted for 21% of the differences between the returned and the not returned.

Table 6. Comprehensive model of predicting return to work

		Cox & Snell R^2=.21		
		N=383	Odds ratio	95,0% C.I.
Gender	Male		1	
	Female		1.51	0.81	2.80
Education	Basic		1	
	Intermediate		1.29	0.61	2.71
	Highschool		1.90	0.70	5.12
	Professional		**2.21**	1.07	4.56
	Academic		**3.65**	1.41	9.45
General health	Poor		1	
	Good		**4.23**	2.21	8.11
Sector of employment	Public		1	
	Private		1.59	0.88	2.87
	Non-profit		2.82	0.66	11.97
Cognitive demands	Low		1	
	Medium		0.63	0.34	1.17
	High		**0.31**	0.15	0.63
Job insecurity	Low		1	
	High		0.59	0.32	1.08
Work-family balance	Low		1	
	Medium		1.85	0.87	3.92
	High		1.11	0.52	2.36
Job position kept open	No		1	
	< 6 months		2.51	0.19	33.39
	6-12 months		**7.95**	2.55	24.79
	>12 months		**4.97**	1.41	17.53

Note. The statistically significant odd ratios are bolded

Discussion

Correlates of main reason for absence

Mental group

There were many demographic characteristics that were associated with being absent for mental health reasons. Women were more likely than men to report that their absence was due to mental reasons. Also those who had an academic education were more likely have a mental reason and those with lower professional education had significantly lower rates of mental reasons for their absence. Single people and people who evaluated that they could not cope financially without returning to work were more likely to have a mental reason for absence. Clerks were more likely and plant and machine operators were less likely to have a mental reason. Those with less than 20 years of tenure were more likely and people with more than 31 years of tenure less likely to have a mental reason. In the educational sector people were more likely to have a mental reason whereas in the manufacturing sector people were less likely absent for mental reasons.

Psychosocial work characteristics that were pronounced in the mental reason category were high job demands, low co-worker support, high overcommitment to work, experience of low reward from work and low job satisfaction. An increase in smoking and eating habits was also more common in the mental group.

The mental group evaluated their work ability and overall health to be higher than the other groups, but were more likely, however, to be in the highest category in the scales measuring psychological symptoms, i.e. depression, exhaustion, disengagement and the overall stress measure. They also were more likely to be in the low self-efficacy group.

The mental group were less likely to have had contacts with their GP, than the other two groups, but nearly all had had contact with a psychiatrist or a psychologist. They were also more likely to have visited an alternative health practitioner. They were more likely not to have received any interventions prior to their absence, but more likely to have received interventions during their absence. Also they were more optimistic on returning to work in the future than the other two groups.

Comorbid group

People in the comorbid category were less likely to have a cohabiting living arrangement and were more likely to work shorter weeks before their absence (<35 h/week). On the psychosocial work factors the comorbid group was associated with high job demands, low co-worker support, low supervisor support, high overcommitment, low reward from work, and low job satisfaction.

The partner/spouses of persons in the comorbid group were more likely to have decreased their working hours. The comordid category was also characterised by having more sleeping problems than the other groups. They also evaluated their general health to be worse than the others. They also were more likely to feel that their condition was due to work. They were also more likely have high levels of depression, exhaustion, and disengagement, and on the other hand low levels of self-efficacy. Also 80 % of the comordid group fell in the high stress category. They were also more likely to evaluate their work ability as poor. They had had absences in the past also and were more likely to see that the current absence was something that they had seen coming.

They were more likely to have had contacts with OHS and nearly all had had contacts with a psychiatrist and /or psychologist during absence. They were also more likely not to have had

contacts with their supervisor nor had they anyone who was coordinating their return. They also were more pessimistic about returning to work again.

Physical group

Those absent based on a physical reason were more likely men, and with other than academic education. They were also less likely to be single. On the professional level plant and machine operators and on the sector level building sector workers were more likely to have a physical reason for their absence whereas people working in probably physically less demanding jobs in public administration and education sector were less likely to have a physical reason for absence. People with physical reason were also more likely not to work overtime and to have over 30 years of tenure.

Psychosocial factors associated with the physical group compared to the mental and comorbid groups were low overcommitment, high reward from work, and high job satisfaction. People in the physical group were also less likely to have low levels of supervisor or co-worker support, job control nor high job demands.

The lifestyle factors of the physical group had not changed during absence. The physical group also had the lowest rate of sleeping problems. They also were more likely to evaluate that their condition was not due to their work. They had lower scores on depression, exhaustion, and disengagement and therefore also on the general stress measure than the other two groups. They also had higher levels of self-efficacy.

Those with less than two previous periods of absence before the current one were more likely to have a physical reason. They were also more likely to have had contact with their GP, a physiotherapist and their workplace but not with OHS. They were also more likely to say that there was someone in the workplace coordinating their return.

Correlates of stress

Women, people with academic education, those divorced, single and with only one income in the family were all more likely to have high levels of stress. Psychosocial factors associated with the high stress group were high job demands, low job control, low levels of both co-worker and supervisor support, high overcommitment to work, low reward received from work, job insecurity, and low job satisfaction. The high stress group also had more sleeping problems, their eating had increased during absence and they were more likely to feel detached from their work.

The high stress group also evaluated their health and workability to be poor, they were more likely to feel that their illness was caused by work, they had higher levels of depression, and more previous absences. They also acknowledged that their absence was due to a process and they had seen it coming. The high stress group was more likely to have had contact with OHS and a mental health professional during their absence but not with a GP nor with their colleagues from work. The high stress people in general (63%) did not expect to return to work again.

All in all, the common models of stress factors, although not directly tested here, were associated with people in our high stress group. The main components of Karasek's demand-control-support model (Karasek & Theorell, 1990) and Siegrist effort- reward model (Siegrist, 1996) were associated with the high stress group.

An interesting difference between the high stress group and the mental health group is that the mental group were more positive about returning to work and the high stress group more negative. It can be noted that the high stress group and the mental health group are not the same, from the high stress group 25 % were from the mental and 40 % from the comorbid group. This explains, why for instance, the high stress group was more pessimistic about returning to work than the mental group. Suffice to say that the diagnosis for absence did not play a large role in the future return to work.

Factors predicting work resumption

Altogether 24.5 % (107 persons) had resumed work at the 6 month follow-up. Of those who returned 74 % had returned to they same job they had before the absence, 10 % returned to a different job but with the same employer and 9 % returned to a different job with a new employer. Actually one of the most important factors in returning to work form sickness absence was the employment situation of the absentee. The objective fact whether the absentee had their job position held open or not had the highest odds in predicting return to work. Also a more general subjective evaluation of job insecurity was a strong predictor of return to work. Good job security and a possibility to return to a familiar job can be seen as a very important prerequisite of successful return to work. In a situation where employment possibilities are scarce due to e.g. downsizing, long term absentees are disadvantaged due to already diminished resources. Both the absentees motivation to return to a competitive labour market and the employers motivation to hire a person with previous health problems may be low. Long term absence can also be an exit route out of a too tight labour situation. News about downsizing and other personnel cutbacks can influence both the

employees decision to seek absence and the employers motivation keep personnel or even to actively favour transition to social benefit systems.

Another important perspective on return to work found was the impact of complexity and knowledge. People whose job required a high level of cognitive skills and attention were less likely to return to work. However, those with a higher education were more likely to have returned to work. It can be hypothesised that they may be a mismatch between the education and resources of the employees and the cognitive demands placed on them. Nowadays jobs require more and more information processing and are in a state of constant change. More educated persons can adapt more easily to the changes and may have more possibilities to change their work if their health poses challenges. Also, when deteriorated health consumes persons resources the current pace of technological and structural changes can be too big a challenge to keep up with the resources left.

The health situation of the absentee is of course an essential element in the process of returning to work. Those who evaluated their health to be good were substantially more likely to have returned to work. In the time 1 questionnaire when all participants were still absent they evaluated their general health on a scale from 1 to 5 on average at 1.9 (std 0.8). Those who eventually returned to work at time 2 evaluated themselves healthier than those who did not return (2.1 vs. 1.8, t=-3.03, p<.001) already in time 1. At time 2 the health of those who did not return had stayed the same (1.8) but the health of those who had returned had improved slightly (2.3). However, it can be noted that the difference in health is not large between those who returned and those who did. When examining the predictive models of return to work, it can be seen that controlling the health status attenuates the effects of other variables somewhat but there are factors described previously that predict return to work significantly even though the health status is taken into consideration.

Recommendations

In this study two things emerged as important factors in return to work after a long sickness absence: employment stability and education/know-how.

Clearly employment stability plays a key role in the process of staying in the labour force or moving permanently out of it. Both objective measure of employment stability in the form of is it possible to return to the previous job and the subjective more abstract question of job insecurity both proved to be good indicators of return to work. At the moment form of employment are moving in the direction where flexibility and short commitments are becoming a norm. Temporary employment contracts, outsourcing and rent-labour bring an element of constant competition and

change to the employees. Though beneficial in some aspect, this type of employment policy does not favour an employee who has limited resources due to health problems. Quite logically people look for solutions where their future is predictable. Rigid employment structures are, however, a thing of the past. Also, the motivation for employers to keep their staff depends on the market situation. Solutions where it is profitable for the employer to invest in the long and healthy careers of their employees should be promoted.

The other essential element is adapting to changes. This is where education and personal skill play a key role. Today's jobs are complex and require a level of initiative and self-directedness from the employee. Simple operative tasks are done by machines and employees need a host of skills e.g. in information technology or customer service. To keep up with these demands employees are faced with constant learning and the need to acquire new skills. Higher basic education gives better tools for employees to learn new skills also. Also attitudes and familiarity to learning influence whether employees are motivated to keep up with the changing work demands. In this study if a job posed high cognitive demands people were less likely to return to work. However, it is difficult to try to reduce cognitive demands at work, although individual adaptations and redeployment to new task are possible in single cases. However on a general level lifelong learning programs and personnel training programs are essential in order to maintain the capacities of the labour force. Special attention should be paid to those with low basic education or in those sectors of employment where changes are expected.

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