Project Title

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

Project Acronym/Logo

STRESS IMPACT

Work Package 5

Survey on People who are long-term Absence from Work: Austria

Author

Gert Lang

Forschungsinstitut des Wiener Roten Kreuzes (FRK) –
Research Institute of the Viennese Red Cross

WIENER ROTES KREUZ
FORSCHUNGSINSTITUT

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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).

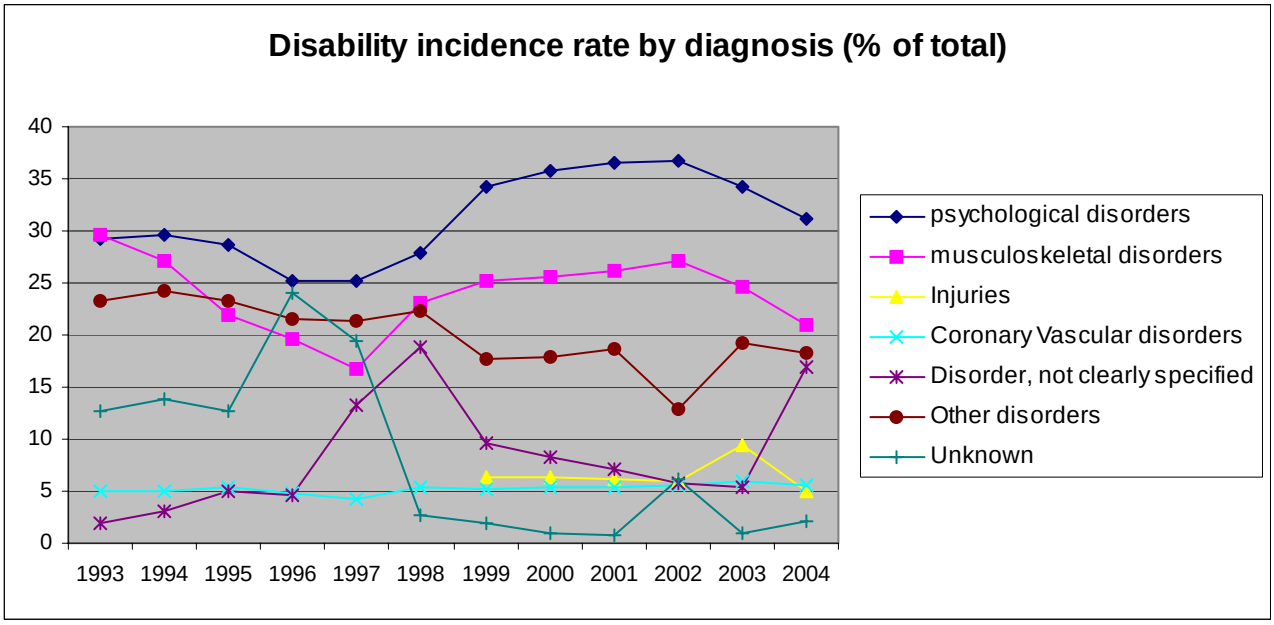
It is generally acknowledged that our society has changed considerably over the past decades. In particular structural changes, such as changing social and working contexts and the introduction of new technologies are believed to be important change agents. These societal factors play a major role in 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 with the knowledge based 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.

1 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 absences 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 get the following 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 in 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.

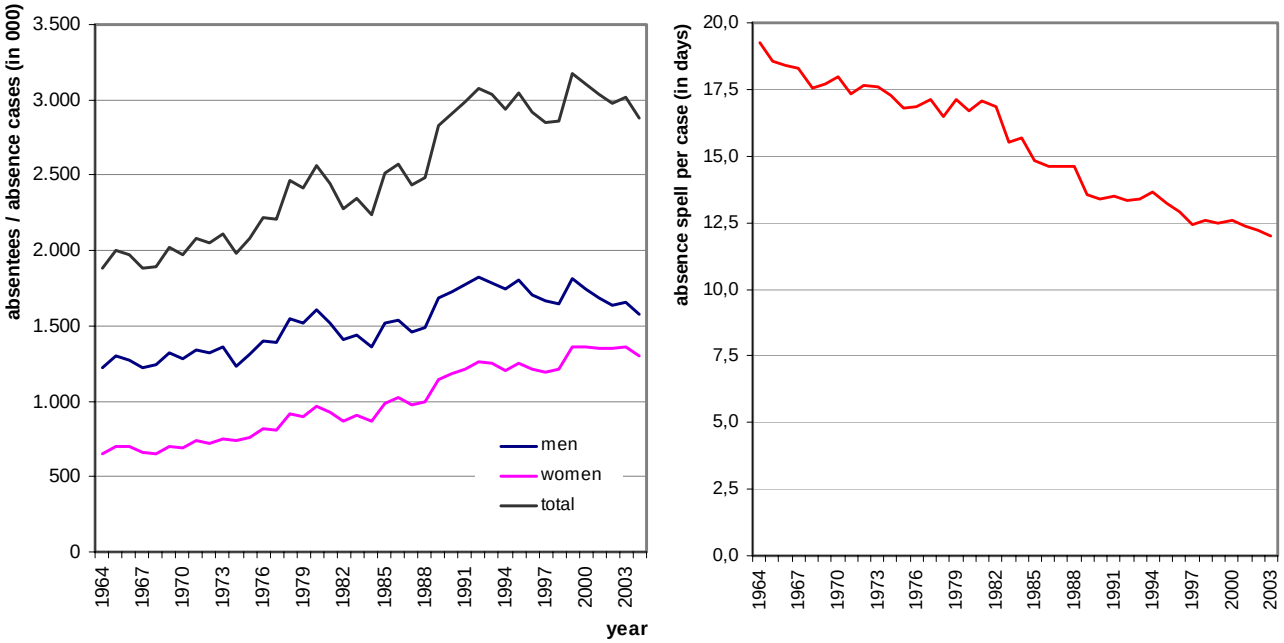
1.1 Country specific situation regarding long-term absence, disability and stress related disorders

The two figures below show statistics in sickness absence in Austria for forty years. Since 1964, sickness absence cases in Austria had an increase for both sexes. In 1964 there were 1.8 million cases of sickness absence and in 2003 there were about 3.0 million cases reported, 1.6 million cases for men and 1.4 million cases for women. In 2003, more than 36 million days were lost due to sickness cases (men: 20 million days, women: 16 million days).

Whereas the total number of insured employees over this time period (1964 – 2003) had increased (1964: 2.3 million, 2003: 2.8 million employees) the mean absence spell per sickness absence case has decreased. In 1964, every sickness absence case was in average 19.3 days absent from work; in 2003 the mean absence spell per case was only 12.0 days (12.3 days for men and 11.6 days for women). Taking into account the change in the number of employees, the incidence of sickness absence cases per insured and per year has increased over the last decades: the sickness incidence rate increased from 0.80 (1964) to 1.06 in 2003[1].

Figure 2: Total absence cases per year in Austria (1964 – 2004) – workers and employees

Figure 3: Absence spells per case (1964 – 2004) – in days for workers and employees

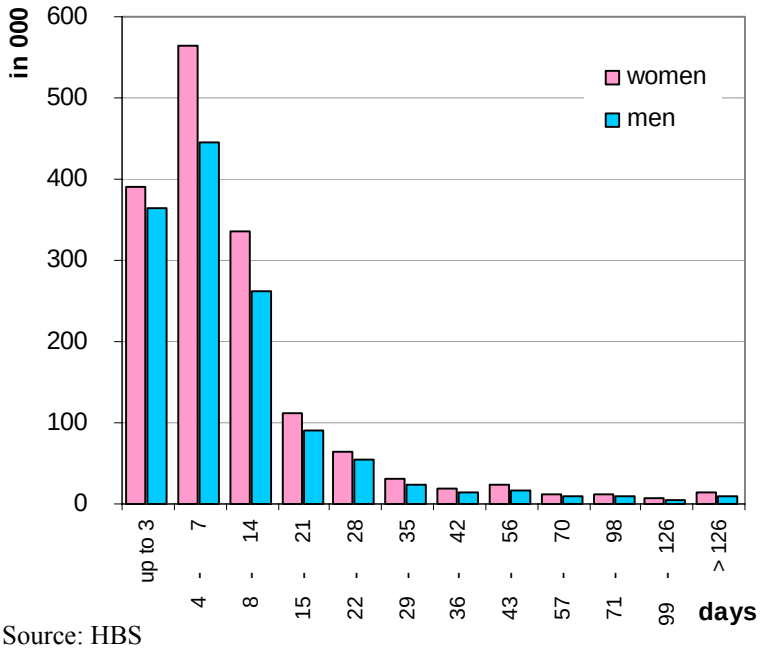


Source: HBS

[1] Sickness incidence rate (2003): 3.019 million sickness absence cases / 2.854 million insured workers and employees = 1.06

By looking at all sickness absence cases in Austria, it is recognizable that an absence is most often between 4 and seven days. In Austria, 1.76 million sickness absence cases were within one week (up to seven days), 800 thousand cases were between one and three weeks (8 to 21 days) and more than three weeks or 21 days there were more than 300 thousand cases reported in 2004. In other words: about 60% of all sickness absent cases were within one week, 28% were between 8 and 21 days, and 11% were longer than 21 days/3 weeks. As we can see in the next figure, the numbers for men are always below the numbers for women.

Figure 4: Sickness absence cases per days of absence by gender (in 000) – workers and employees 2004



Source: HBS

In 2004, the ten most often recorded sickness absence reasons for employees and workers are shown in the next table. There we can find the diagnostic group of psychiatric disorders. In 2004, about 52 000 cases (or 1.7%) were absent from work due to this diagnosis. In terms of absence days/spells there were lost more than 1.6 million days due to psychiatric disorders (about 5% of all absence days in 2004). The mean length of absence in days per absence case for psychiatric disorders is 2.6 times higher than the average absence case.

Moreover in December 2003, nearly 14% of all guaranteed retirements because of invalidity or reduced workability were recorded due to psychiatric disorders, another 15% were granted due to coronary diseases and more than one third were due to musculo-skeletal/muscle disorders.

Table 1: Top-10 Sickness absence groups by absence cases, days in 2004 – workers and employees

	Sickness absence group/diagnosis	absence cases	absence days	days per absence case
	Total	**2.883.794**	**34.978.228**	**12,1**
1	diseases of the musculoskeletal system	431.061	7.723.035	17,9
2	upper airway diseases	907.140	5.943.956	6,6
3	other occupational accidents (no toxication)	148.513	2.786.675	18,8
4	other non-occupational accidents (no toxication)	119.068	2.427.674	20,4
5	**psychiatric diseases**	**51.862**	**1.626.906**	**31,4**
6	other respiratory diseases	182.210	1.528.841	8,4
7	intestinal infections	253.368	1.240.502	4,9
8	non-specific symptoms and affections of the body	118.217	1.195.731	10,1
9	gastrointestinal tract diseases	92.705	1.014.341	10,9
10	upper intestinal diseases	50.331	254.309	5,1

Source: HBV

1.2 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). Nowadays the most prominent of these 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).

1.2.1 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).

1.2.2 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 or self-selection of 'healthy workers', but the general tendency is that age increases the risk for long-term absenteeism (Bergendorff et al., 2002).

Socio-economic class is also related to sickness absence (e.g. North et al., 1993; Fuhrer et al., 2002) and so 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 (Ala-Mursula, 2002; Sonnentag & Zijlstra, in press). Having a family, and a 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 person's 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.

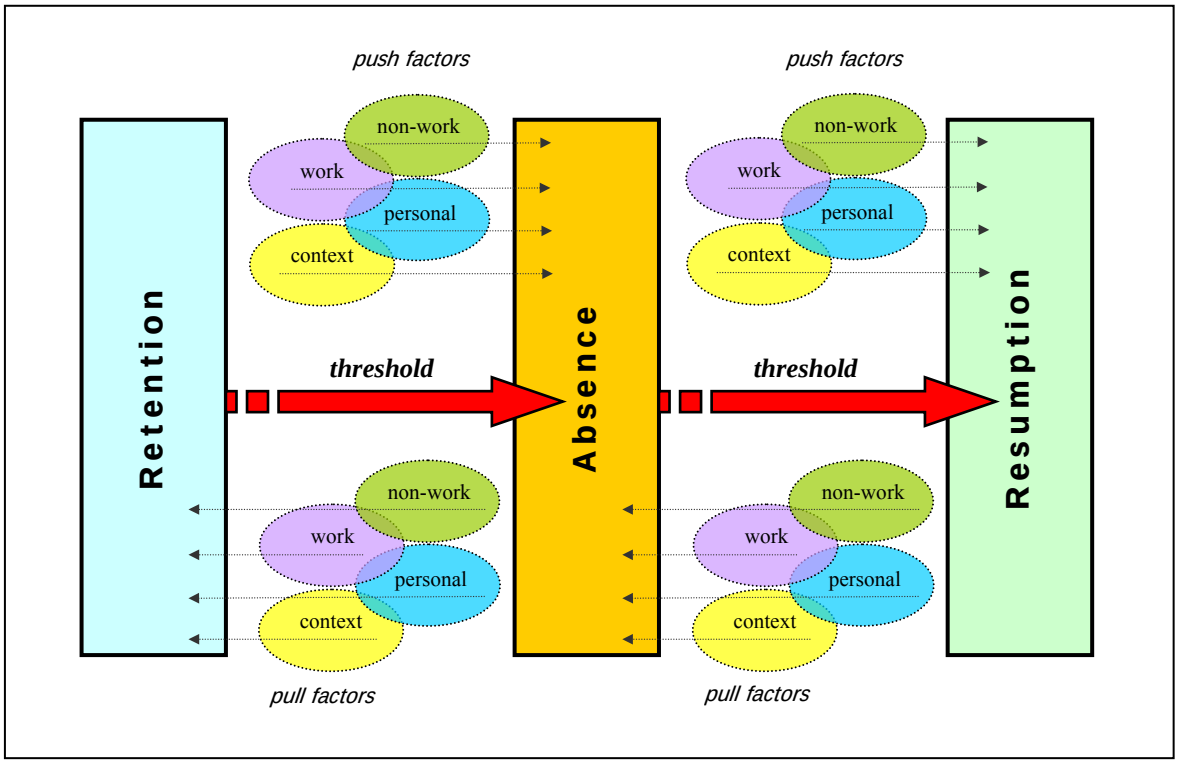
This project has arisen from the acknowledgement that we do not sufficiently understand the general process that affect workers' decisions to either report sick or resume work again. Also a better understanding of the influence of the national systems and their (in)effectiveness to make people return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

1.3 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 is 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.

1.4 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 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, minor country specific 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.

2 Method

To answer the questions above 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.

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 LTAs.

2.1 Sampling related aspects

2.1.1 Description of the register from which the sample is drawn

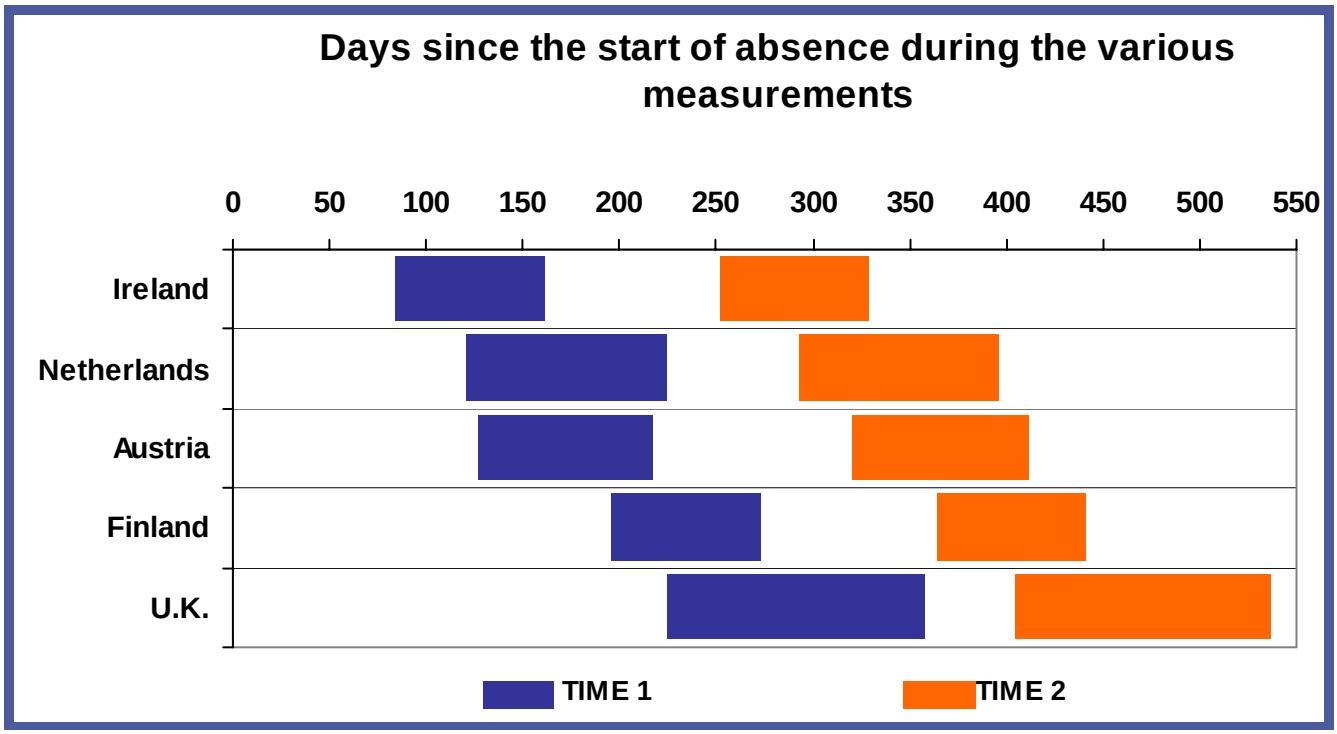
The Austrian social security system distinguishes between pension, accident and health insurance. For collecting the survey population only data of the health insurance system was necessary. Additionally this is the best database because nearly everybody (97.6%) of the Austrian population is health insured in the system. The Austrian health insurance system is differentiated in 23 different health insurance agencies, nine district health insurance funds, nine occupational health insurance funds and 5 other health insurance funds for special occupations[2] which are recording all relevant sickness absence data in their databases.

2.1.2 Sampling procedure

So, for drawing a sample population of long-term absentees between 12 and 20 weeks the task was to get a sample access to the different health insurances. Negotiations for the data access started before with the result that we got data access to sickness absence data of eleven of the 23 Austrian Health Insurance Associations. Differentiated by the Austrian Health Insurances we got data access to 6 of 9 district health insurances, 4 of 9 occupational health insurances and to one of 5 of the other health insurances. Totally, in these eleven Insurance Associations, 47% of all Austrian employees were health insured in 2002 and therefore access to nearly every second health insured person is given.

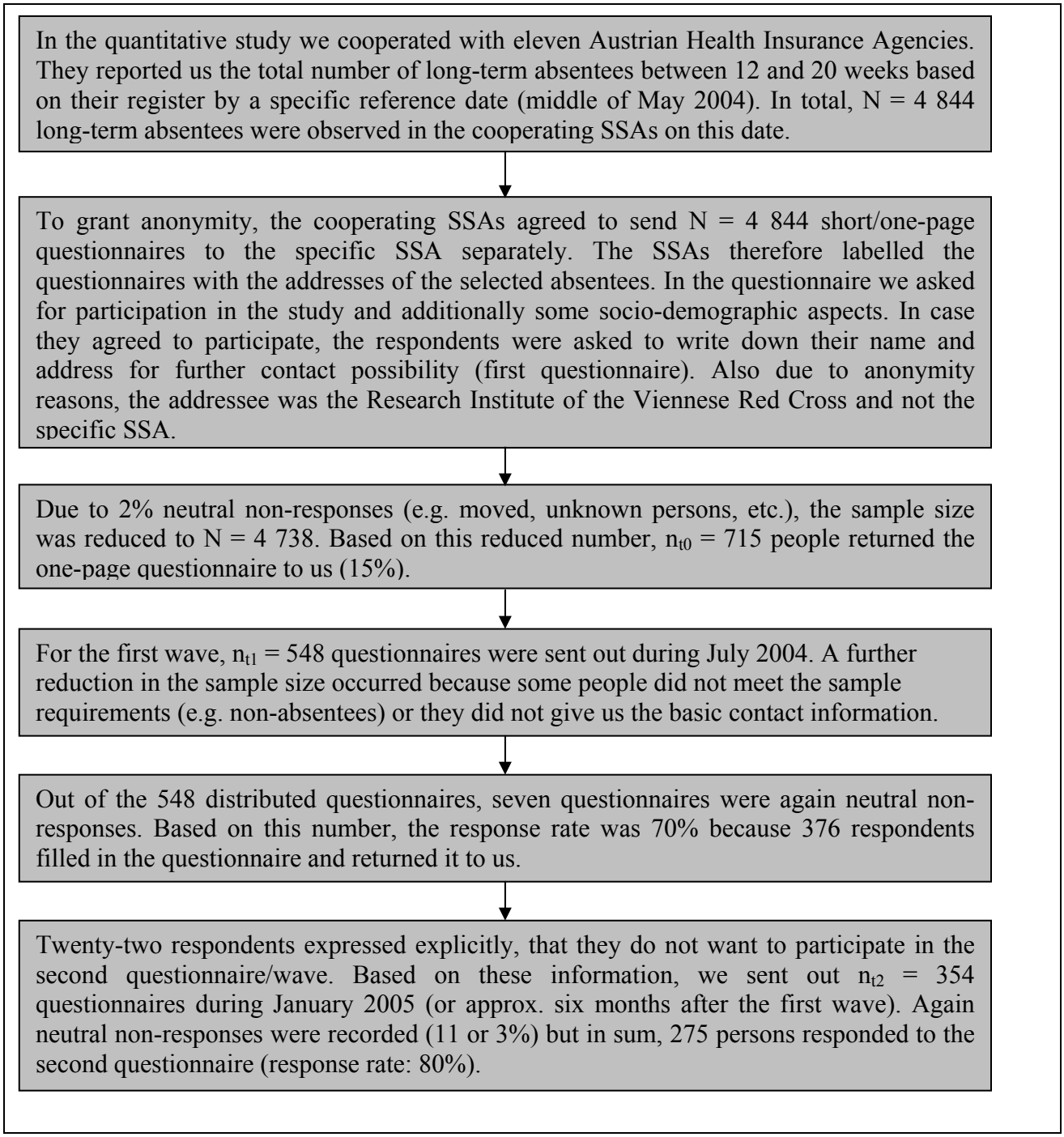
[2] These are the Insurance Institution for the Austrian Mining Industry, the Social Security Institution for Trade and Industry, the Insurance Institution of the Austrian Railways, the Social Security Institution for Farmers and the Insurance Institution for Public Service Wage and Salary Earners.

Figure 6: Days since the beginning of sickness absence at time 1 and 2 in the 5 countries



Note: The boxes represent 80% of the cases.

Figure 7: Sampling procedure in Austria



2.2 Sample description and non-response analysis

The description of the Austrian survey sample is shown in the next table. The study has a longitudinal design and so there are different sample sizes for each time point given. At time point t_0 (screening questionnaire) 548 long-term absentees met the criteria for the study, wanted to participate in the study and were reachable because they gave us their name and address for further contact.

A little bit more than half of the people were male (56%) and about 44% were female. Also about two fifth were in the age category between 51 and 60 years, one third (30%) had an age between 41 and 50 years, about one quarter of the people was below 40 and only 2% of the sample were older that 60 years at time point t_0.

Table 2: Sample description

	Screener	1st wave	2nd wave		d%	
	t_0	t_1	t_2	B-A	C-B	C-A
Total Sample Size (N=100%)	**548**	**376**	**276**			
Gender						
Male	56.0%	54.5%	53.7%	-1.5%	-0.8%	-2.3%
Female	43.8%	45.5%	46.3%	+1.7%	+0.8%	+2.5%
Age Category (in years)						
< 30	5.3%	5.1%	4.4%	-0.2%	-0.6%	-0.8%
31 – 40	17.7%	20.7%	20.4%	+3.0%	-0.4%	+2.7%
41 – 50	30.1%	29.0%	29.6%	-1.1%	+0.6%	-0.5%
51 – 60	44.2%	42.0%	43.0%	-2.1%	+0.9%	-1.2%
> 60	2.2%	1.3%	1.1%	-0.9%	-0.2%	-1.1%
n.A.	0.4%	1.9%	1.5%	+1.5%	-0.4%	+1.1%
Marital Status						
Married	63.5%	61.2%	60.0%	-2.3%	-1.2%	-3.5%
Cohabiting	6.0%	7.7%	7.0%	+1.7%	-0.7%	+1.0%
single (never married)	13.1%	13.8%	14.1%	+0.7%	+0.2%	+0.9%
divorced or separated	15.7%	16.0%	17.4%	+0.3%	+1.4%	+1.7%
Widowed	1.1%	1.1%	1.5%	+0.0%	+0.4%	+0.4%
n.A.	0.4%	0.3%	0.0%	-0.1%	-0.3%	-0.4%
Level of Education						
Lower professional education	69.7%	66.1%	66.3%	+3.6%	+0.2%	-3.4%
Completed high school	32.0%	27.4%	29.6%	-4.6%	+2.2%	-2.4%
Higher professional education	6.4%	5.4%	4.0%	-1.0%	-1.4%	-2.4%
n.A.	1.8%	0.3%	0.0%	-1.6%	-0.3%	-1.8%

The majority of the sample was living together with a partner. 64% were married and 6% cohabited with another person. Only 13% were singles (never married), 16% were divorced or separated and 1% was widowed.

Concerning the educational level of the respondents, two thirds had completed a lower professional education and one third had completed high school education. Only 6% had a higher professional education completed and in 2% of all cases we do not know the highest educational level.

In the last three columns of the table above there are the results of some computations, i.e. comparisons in the percentage distribution per variable categories. The column (B-A) compares the screening sample at t_0 with the sample of the first wave of the questionnaire, (C-B) compares the percentages of the samples of the first and the second wave, and (C-A) is the percentage comparison of the screening sample and the second wave.

As we can see, most of the differences in the sample distribution were small. But we can say that the second wave sample has – compared by percentage – more females and fewer males, more people within an age between 31 and 40, fewer people who are married and there are some changes in the educational structure of the second wave sample (note: all compared to the screening sample at t_0) but the differences are not very high and therefore no significant non-responses throughout the samples are observable.

The next table highlights also some interesting results concerning non-response, refusals and response patterns/rates of the Stress Impact samples in Austria. Compared to the total sample size, only little so called neutral non-responses emerged at the different sampling points. In the short questionnaire (screening questionnaire) at the beginning of the survey phase, most of the refusals were because of non-responses. This was also true for the first and the second wave of the survey phase but not as high.

Table 3: Non-response, refusals, and response rates

	Screening Questionnaire [t_0]		Survey Questionnaire 1st wave [t_1]		Survey Questionnaire 2nd wave [t_2]	
	n	%	n	%	n	%
Sample Size (gross)	**4.844**	**100.0%**	**548**[1]	**100.0%**	**354**[2]	**100.0%**
Neutral Non-response[3]						
Unknown person	18	0.4%	1	0.2%	2	0.6%
Moved	50	1.0%	2	0.4%	5	1.4%
Address incomplete	8	0.2%	1	0.2%	0	0.0%
Address missing	21	0.4%	0	0.0%	0	0.0%
Deceased	9	0.2%	2	0.4%	4	1.1%
Other reason	0	0.0%	1	0.2%	0	0.0%
Sample Size (Net)	**4.738**	**100.0%**	**541**	**100.0%**	**343**	**100.0%**
Refusals						
non-response	4.020	84.8%	156	28.8%	63	18.4%
returned questionnaire	0	0.0%	5	0.9%	4	1.2%
not excepted	3	0.1%	4	0.7%	0	0.0%
Response (gross)	**715**	**14.8%**	**376**	**68.6%**	**276**	**78.0%**
Response (net)[4]		**15.1%**		**69.5%**		**80.5%**

Notes:
[1] 548 Persons (i.e. 548/715 = 77%) met criteria for first survey
[2] Out of the 376 responders on the first survey, only 354 persons wanted to participate in the second survey explicitly
[3] Details reported from the postmen's remarks on the returning letter; gross response rate is calculated on the basis of the gross sample size and the net response rate on the basis of the net sample size (gross sample size minus neutral non-responses)

2.3 Survey

2.3.1 Breakdown variables

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 the 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 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 > 0.1 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.

2.3.2 Independent variables

The total list of all variables 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.

2.3.3 Multivariate regression analyses

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. The respondents were asked whether they 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.

3 Results

3.1 Main reasons for absence and levels of stress

Tables divided by the breakdown variables can be found in appendix A. In this section relevant differences between the breakdown groups and interesting variables are described.

3.1.1 Demographic characteristics

Physical reasons were more often found with males than with females. No statistical differences within levels or categories of stress could be found between males and females. The comparisons between broad age groups showed some significant differences in the main reason for absence and the stress score. Co-morbidity was the main reason for absence for people aged between 46 and 55 years. This group was more likely to have co-morbid absence reasons rather than other age groups. 50% of all co-morbid people were in the age between 46 and 55 years. Additionally, low levels of stress were more unlikely in the age category of 55 plus.

Within the low stress category there were also significant fewer people with lower education (up to lower professional education) than in other educational categories. Therefore the proportion of people with co-morbidity was more unlikely in the higher professional education category.

Low levels of stress were also more unlikely in single households with only one adult. Conversely, a lower stress level was more likely in bigger households (consisting of more than one adult). 80% of all people, who had a low level of stress, lived in households with more than one adult irrespective of the fact whether there were also children or other dependants or not.

Moreover, low levels of stress were also more likely in multiple income households. 70% of all people belonging to the low stress category lived in households with more than one income. Furthermore, high stress scores were more likely in single income households. Concerning the level of stress similar correlations could be found in terms of personal or household income structures. High stress levels were also more unlikely in higher income classes. This was true for the measures ‘average personal monthly income’ and ‘average household income per month’ (> 1 800 EUR). 63% of all people who scored low in stress were in the highest household income category. In addition to co-morbidity as main reason for absence, co-morbidity was also more likely in lower household income (< 899 EUR per month on average) than higher income classes (> 1 800 EUR). And the diagnosis “co-morbidity” for absence was also more likely if people had to care for an elderly or a disabled person. Last but not least, high stress levels were more likely if people thought, they could not make a living without returning to work. This has been stated by two thirds within

the category of high stress level. To complete the picture it can be said, there were neither significant differences in reasons for absence nor levels of stress and marital status or nor the existence of children (below 18 years of age in the household).

To sum up the relation between stress and demographic factors in the Austrian sample of LTAs: a low level of stress is correlated with young age (under 55), education, partner in the household, double income household, higher (household as well as personal) income and the conviction to be able to make a living without their returning to work. No correlation could be shown between the level of stress and the sex, marital status, children and dependants in the household.

3.1.2 Job characteristics

Analysed by different jobs, the proportion of people who reported sick due to a physical reason was significantly lower within clerks than in any other ISCO[3] category. Conversely, clerks were more likely to be absent due to mental reasons rather than to physical and co-morbid reasons. But as a matter of fact clerks have the largest proportion of stress (highest stress category); except for elementary occupations that have a significant higher proportion in the high stress category. 23% of people with a high stress level were people with elementary occupations.

The majority of people had a work contract with approximately 40 hours per week. People with work contracts over 40 hours (including overtime) were unlikely to have a medium stress level. People working less than 35 hours were more likely to have a low stress level. Workers with high job tenure (31 and higher) were unlikely to be in the high stress group. People working in the non-profit sector were more likely to have medium stress rather than low or high stress. People working in the health sector were more likely to be absent due to co-morbid reasons rather than for other reasons. 20% of all co-morbid people worked in the health sector. The proportion of physical problems as the main reason for absence was higher in agriculture and lower in banking. No differences could be found within the group of people with mental disorders as main reason for their absence.

No significant bivariate differences in reasons for absence and stress could be found regarding extra hours per week, job type (permanent vs. temporary) and size of workplace. As stated above in the sample of LTAs higher levels of stress are more common in clerks and elementary occupations and less common in people working fewer hours per week and people who have been working at the same job for years.

[3] International Standard Code of Occupations (ISCO)

3.1.3 Psycho-social work factors

People with high work control were more likely to have a physical reason for their sickness absence. Additionally, the proportion of people with high control was significant lower within the co-morbid group. Conversely people with over-commitment at work were more likely to have been absent from work due to co-morbidity rather than due to physical reasons.

The same conclusion can be drawn regarding to a supportive environment at work. A high co-worker and/or supervisor support was more likely in the group of people who were absent because of physical reasons and it was more unlikely in the group that stated to be absent due to co-morbid reasons. Conversely a physical reason for absence was more unlikely with low co-worker/supervisor support and it was more likely to be absent due to a co-morbid reason. Half of all people with co-morbid reasons for absence had low co-worker or low supervisor support.

High reward at work shows a similar pattern. It was more likely that highly rewarded people at work were absent for physical reasons than for co-morbidity, whereas low rewarded workers were underrepresented in the physical group and overrepresented in the co-morbid group.

The reasons for sickness absence were not very clear concerning the factors "of physical, emotional and cognitive demands". Only on the basis of emotional demands we can draw the conclusion that people with high emotional demands at work were more likely to be absent due to co-morbidity. For them it was unlikely to be absent due to a physical reason. In addition co-morbidity was more unlikely within the group of people with low emotional demands. So in this group it was more likely to be absent due to a physical reason as the emotional demands were low.

People with a low level of stress were more likely to have lower demands at work and the proportion of people with a high stress level was the highest when having had high demands at work. Conversely was the relationship between categories of control and levels of stress. Within the low stress level category, the proportion of people with high control was significantly higher and the proportion of people with low control was significantly lower than in the category of people with medium control at work. This relationship existed for the medium and the high group too. People with low control at work were more likely to fall into the high stress level group than into the low or medium stress level group. 60% of all people who scored high in stress had low control at work and only 6% of highly stressed people have held jobs with high control.

A similar relationship can be observed in terms of over-commitment and reward. Overcommitted people have the highest stress proportion of all categories (low, medium, high). 75% of all highly stressed people rated high in the measure for over-commitment. Conversely people with low over-commitment were more likely to be rated low in stress. Moreover, the reward structure at work was also interrelated with stress incidence: high reward at work "protects" against stress. In addition half

of the people (47%) who had a low stress level were highly rewarded and more than 60% of the high stress level group had low reward at work.

Other work characteristics concerning physical, emotional and cognitive demands at work had also their effects on stress. In the highest stress level group, people were significantly more likely to have high physical (47%) and high emotional demands (37%) at work. The correlation between cognitive demands and stress was not statistically significant but there was also a similar trend in the data: higher cognitive demands at work reflect on higher stress scores. The support of a supervisor and a co-worker was highly related with stress incidence. In general the following conclusion can be drawn: higher support at work produces more likely a lower stress level. More than 40% of the people who scored low in stress were highly supported by their colleagues and one of five with a low stress level had high supervisor support at worksite. Half of the people with a high stress level had low co-worker and about 60% had low supervisor support.

Job insecurity also follows the assumed direction: High job insecurity was associated with high levels of stress and vice versa. Two of three people in the high stress level group had low security concerning his/her job. 71% of all highly stressed people had low job satisfaction. The opposite was discovered in the low stress level group: higher job satisfaction results more likely in a low score in stress.

Not surprisingly, psychosocial work factors were related with stress: There was a positive correlation between the level of stress and the physical and emotional (and probably also the cognitive) demands of work as well as over-commitment. On the other hand stress was negatively correlated with the sense of control, the rewards and the supervisors' as well as co-workers' support experienced.

3.1.4 Life-style characteristics

Life-style factors in this project focused mainly on the changes regarding to different aspects of life since the absence. Besides we also concentrated on the frequency of exercise and physical activity as well as on the existence of sleeping problems.

First of all it can be said that people who were absent due to mental reasons were more likely to have an increase in their household duties than those absent for other reasons. Nearly 40% of the entire mental group have increased their domestic duties. Whereas stable (not changed) alcohol consumption was more likely in the physical group, the mental group was more likely characterised by increased alcohol consumption. An increase of alcohol consumption was also more likely in the co-morbid group than in the mental group. But also changes in the smoking behaviour were observed. Within the mental group, for instance, there were a significantly higher proportion of people who had increased their number of cigarettes. This can also be stated for someone whose

main reason for the absence was co-morbidity, whereas people of the physical group were more likely not to change their smoking behaviour. No changes were also more likely in the physical group concerning their eating habits. In the physical group the proportion of people with unchanged eating behaviour was lower than in the co-morbid group. Social and leisure activities have increased in the co-morbid group less often than in other groups and there were a high proportion of people were these activities have decreased (60%). A decrease of contacts with extended family members and friends was more likely within the mental group and the co-morbid group than within the physical group. The contact with this group of people was significantly lower in the physical group. 60% of the physical group reported no change in the contacts with their extended family and friends. 40% of the mental group and 45% of the co-morbid group stated a decrease of this type of contacts. Therefore the quality of social relationships was more likely to decrease in the group were the main reason for absence was co-morbidity. In comparison to that a decrease in the quality of these contacts was less likely in the physical group. Moreover, in the co-morbid group there were significant differences to the other groups concerning their charity/voluntary involvement because they were more likely to report a decrease in this area than other absence groups.

Compared with the mental group, people who were absent due to a physical problem were less likely and absent people who had a co-morbid problem were more likely to have high sleeping problems. Conversely, low sleeping problems were less likely within co-morbid and more likely within physical LTAs.

A summarizing view on the relationship between the reason of the absence and a possible change in lifestyle characteristics since the time of reporting sick could be: People with mental reasons for the absence were more likely to resume more domestic duties and change their lifestyle to the worse in many ways. They more often state to smoke more, drink more alcohol, decrease their social and leisure activities as well as their involvement in charity activities and have severer sleeping problems than before.

3.1.5 Health condition

At the beginning the respondents had to rate their own health – how good or bad it is. This rating has been made in comparison to other people with the same sex and the same age. Most of the interviewed people rated their health condition as (very) bad (80%) and only 20% said that it was good or even splendid. Moreover, people who were absent due to a co-morbid reason were more likely to rate their own health as (very) bad, while absentees with a physical reason were less likely to rate this way.

People who have a high tendency towards depressive feelings (CES-D) were more likely to be in the group of mental or co-morbid absence reasons than within the physical reason group. 70% of all

respondents who were absent due to a mental reason scored high in the depression scale. This rate was also very high within the co-morbid group – about two of three co-morbid people were in the high depression group. Conversely only one of four in the physical group reported to have high depressive feelings as one third of this group has low depressive feelings.

A similar picture can be drawn similarly from emotional exhaustion and disengagement. People who were absent due to a mental or co-morbid reason were more likely to be in the high exhaustion or high disengagement group, whereas people with physical problems were less likely to be in this highly exhausted or disengaged group. The relationship with self-efficacy was the opposite. People absent due to a physical reason were more likely to have medium or high self-efficacy. People who were absent due to mental or even co-morbid reasons were more likely to have low general self-efficacy.

Furthermore the level of stress was generally higher within the group of people who were absent due to a mental or co-morbid reason than those absent due to a physical reason. Low stress levels were more likely in the group with physical reasons than in the group with mental or co-morbid reasons.

Optimal ability to work was more likely within the physical group, whereas the co-morbid group was more likely to report a reduced workability. One-third of all absentees with physical reasons reported an optimal workability.

Half of all people from the physical group stated that previous absences were in total only two weeks at maximum and 40% of the co-morbid group reported that their absences in the last year were more than four weeks all together. Within the group of absentees who were absent due to mental reasons no significant differences could be found concerning previous absence spells.

Concerning the current absence period, two of three people reported that it was a gradual process and only one third said that it was due to a particular event (e.g. accident, diagnosis, etc.). But it was more likely for people with physical problems that it was a particular event instead of a gradual process. Two-thirds of the physicals physical group also said that their current absence was an unexpected event and this answer was more likely in this group and less likely in the co-morbid group. Conversely, co-morbid people were more likely to report that their illness was rather something that they were able to seen approaching than an unexpected.

People who rated their own health as (very) bad were less likely to have a low stress level but more likely to have a medium or a high stress level. 85% of all people with a medium stress level rated their own health as (very) bad and 95% of all highly stressed people said the same. People with self- stated optimal workability were more likely to belong to the low stress category and people who thought that they were incapable to work were more likely to report a high stress level and were less likely to perceive a low stress level.

Concerning the individual absence biography in the previous year not many significant correlations could be discovered. People who were at a maximum two times absent in the year before were more likely to have a low stress level. About 80% of the people in the low stress category reported 0 to 2 absences and only 20% of the low stress group reported more than two absences in the last year before the current absence. But if previous absences were lower than two weeks, these people were less likely to report a high stress level compared to the other stress groups (medium or low). Additionally, people with absence times from two to four weeks in the previous year were more likely to report a high stress level.

Particularly interesting is that absentees who thought that their current absence was due to a gradual process were more likely to have a high stress level and less frequently a low stress level. Moreover people who stated that their absence was something that they could have seen coming were more likely to have a high stress level.

3.1.6 Services and interventions

What kind of services and interventions did absentees use due to medical reasons during their absence period? Not many differences between the groups of interest could be discovered but some were quite meaningful.

For instance there were no differences in the contact structure concerning general practitioners (GPs). More or less about 90% had contact with a medical doctor across all absence categories and across all categories of stress. This reflects the high importance of GPs in the Austrian health system.

But the results also show that occupational health physicians (OHPs) were relatively unimportant. Across all groups the involvement of these experts was only about 10%. Significantly more people had contact with an OHP when the medical diagnosis was co-morbidity. Within the co-morbid group 18% had contact with an OHP.

On average, about 40% had contact with rehabilitation advisors, case managers or social security officers and therefore 60% had no contact with these services. No differences could be found across groups of absence reasons or categories of the level of stress.

But obviously big differences existed in the contact of mental health professionals (MHPs). 94% of all people who were absent due to a mental reason had contact with MHPs during the absence period and about 60% had contact with them when a co-morbid reason was the main diagnosis for their absence. Conversely it was less likely to have contact with mental health professionals when the reason for absence was due to a physical problem. Only 14% of them had contact with a psychologist or psychiatrist.

The correlation between different categories of stress and MHP involvement was the same but weaker. People who had contact with MHPs were more likely to have a high stress level and less likely to have a low stress level. Both were significant but the rate was not very high: Within the high stress level group only about half of the people reported the contact with MHPs during their absence period. Just about one-third of all medium stressed absentees had contact with MHPs. Conversely nearly 90% of all low stressed people had explicitly no contact with MHPs - neither with a psychologist nor a psychiatrist.

Surprisingly, there were no differences in the contact structure of physiotherapists, sports physicians, alternative health practitioners or other professionals and the different main reasons for absence. 40% of all interviewed absentees had contact with physiotherapists and sport physicians. Only 18% of all absentees had contact with alternative or other health practitioners.

3.1.7 Interventions at workplace

Interventions at the workplace can be divided into interventions before and after the sick leave. Besides a differentiation between work arrangements, vocational rehabilitation and medical/psychological interventions at both times – before and after the sick leave – can be made.

All in all the results showed that interventions at workplace were rare. Before the absence from work in 20% of all cases work arrangements were made. After the absence period only in 14% of all cases got work arrangements. Work arrangements before the sickness leave were more likely to be received by people who were absent due to a co-morbid reason. About one-third of all co-morbid people received work arrangements before their absence and these interventions were also more likely within this group after reporting sick (34%). On the other hand work arrangements after reporting sick were less likely within the group of people who were absent due to a physical reason. 19% of all respondents got vocational rehabilitation before their absence leave began and only 14% after their sick leave. Moreover only 11% got a medical and/or psychological intervention at workplace before and only 5% got this intervention type after the sick leave. Again, no differences in both intervention strategies could be found concerning different reasons for the absence, neither for people who were absent due to a mental or physical nor due to a co-morbid reason.

3.1.8 Contacts with workplace and between professionals

We also asked the respondents whether they had contact with their workplace and with professionals. Across all groups about half of the people stated not to have had contact with professionals during the absence period but 16% reported the existence of these contacts (more than one-third answered with “don’t know”).

Contacts between the manager and medical professionals reported only 13% of the interviewed persons and therefore more than half of the interviewees reported that there was no contact between these kinds of persons (one third stated “do not know”).

Within the workplace about 44% reported of the persistence of contact with the manager/supervisor during the absence period while more than the half reported no contact with them. Across all groups of absence reasons a contact was more likely when a physical reason was the main reason for their absence. It was less likely for people with co-morbid reasons and least likely for people with mental problems to stay in touch with their workplace. Moreover, this contact was also less likely when absentees fell into the high stress category and it was more likely with a low stress level.

The contact with colleagues at work also varied across most groups. Positively, about 60% of all absentees had contact with their colleagues at work. But it was less likely within the mental group to stay in touch with their colleagues but more likely within the group with physical reasons for their absence. In addition contacts with work colleagues were more likely if the stress level was low and less likely if the stress level was high.

3.1.9 Expectations on return to work

All in all, the expectations to return to work after the sick leave were very low. More than half of the absentees did not expect to return to work at all. One-third believed to return within half a year and 13% expected a return but not within six months. Compared with the average early return to work expectations (within six months) were more likely in the group of people with physical reasons for their absence and were less likely within the co-morbid group. In contrast the non-return to work expectations was more likely within the co-morbid and less likely in the physical group. To sum up, nearly 80% of all co-morbid, approximately 60% of all mental and 50% of all absentees due to a physical reason did not expect to return to work at all.

Moreover, no or little hope to return to work was also more likely if the stress level was high and less likely with a low stress level. The reason for this was that people with a low stress level were more optimistic to return to work within the next six months.

If expectation to return to work existed, the option mentioned most often was to return to the same job at the same employer (28%). 23% of all people interviewed stated they expected to return to work to a different job but at the same employer. About 15% thought that they would return either to the same job at a different employer or a different job at the same employer. The return to work option at the same job/employer was more likely for people who were absent due to a physical reason and less likely for people with co-morbid reasons. This alternative was also more likely at people with a low stress level and less likely with a high stress level. Furthermore the option to

return to work at the same job but with a different employer was more likely for people with co-morbid absence reasons than for “physical”. The possibility to return to a different job with a different employer was more likely for people who were absent due to a mental problem and less likely for people with physical absence reasons.

3.1.10 Time 2

Six months after the first survey with a second questionnaire people were asked about the real return to work options. Sadly, only one-third of the interviewees returned to work again, either completely or partially and two-thirds of the respondents did not return to work again by that time. Within the people who were absent due to a co-morbid reason the proportion of non-returnees was higher than within the physical or mental group. Returnees who returned completely to work were to find more often within the physical group and people who returned just partially more often had been absent from work due to a mental than due to a physical reason.

The correlation between returnees and non-returnees in terms the stress level was also meaningful. Non-returnees were more likely highly stressed and therefore less likely people with a low stress level. Coherently, people who returned to work were more likely low stressed and less likely high stressed people.

We have already discussed possibilities to return to work concerning the same/other job or same/different employer in the previous chapter. In this context returnees were asked about their possibilities to return to work too. “Another kind of job” was chosen more often by people who were absent due to a mental reason and less often by people absent with physical reasons. The second group mentioned returned more often to the same job and this significantly more often than people with mental problems. The “same job” option for returnees was also significantly more likely for people with a low stress level while another type of job was less likely for people of the low stress category.

First of all the main reason returning to work instead of staying absent - due to a medical reason - was because of a partial recovery from a disease and about 40% stated this as key explanation for their work resumption. For 27% the total recovery from a disease was the main argument to return to work. One-third also stated that sick leave benefits were reduced and therefore this event was another important reason for returning to work. Additionally, one-third of all respondents mentioned “the need to work” as an argument for work resumption too. Furthermore, 13% of all people stated that their financial situation influenced their work resumption and about 15% ticked that something else (not further specified) had a substantial reason for the decision to go back to work again. It is noteworthy, that there were no differences concerning influencing aspects of the decision to resume work and the reasons for absence or different levels of stress.

3.2 Factors predicting a return to work

3.2.1 Personal factors

Surprisingly, not a single one of the personal factors were able to predict the return to work in connection with the multivariate model. As a matter of fact a few meaningful tendencies and patterns could be found and so that a conclusion can be drawn based on the results (*see the next table*). Returning to work was more likely in the following groups: Women, younger absentees (below an age of 35) rather than older absentees, higher amount of personal monthly income and households with multiple incomes, low sleeping problems and better health, high general self-efficacy, low level of emotional exhaustion and depressive feelings.

Table 4: Personal factors predicting a return to work

	Cox & Snell R^2=0.221 N=181	**Odds ratio**	**95.0% C.I.**	
Gender	Male	1		
	Female	1.72	0.70	4.21
Age	<=35	1		
	36-45	0.65	0.17	2.39
	46-55	0.32	0.08	1.25
	>55	0.29	0.06	1.34
Education	Basic	1		
	Intermediate	1.33	0.44	4.04
	High school	0.48	0.07	3.28
	Professional	2.37	0.66	8.52
	Academic	1.28	0.11	15.58
Marital status	Married	1		
	Co-habiting	0.52	0.09	3.13
	Single	1.25	0.31	5.07
	Divorced	1.11	0.29	4.24
	Widowed	5.44	0.19	156.94
Personal monthly income	Less than 899 €	1		
	900 - 1799 €	1.45	0.49	4.25
	1800 € or more	2.08	0.43	9.93
Multiple household income	No	1		
	Yes	2.32	0.86	6.25
Exercise	Low	1		
	Medium	1.98	0.83	4.73
	High	2.39	0.66	8.65
Sleeping problems	Low	1		
	Medium	0.43	0.15	1.27
	High	0.64	0.22	1.88
General health	Poor	1		
	Good	1.53	0.57	4.07
General self-efficacy	Low	1		
	Medium	1.37	0.46	4.08
	High	1.71	0.52	5.60
Depression	Low	1		
	Medium	0.78	0.29	2.07
	High	0.73	0.20	2.66
Emotional exhaustion	Low	1		
	Medium	1.14	0.46	2.86
	High	0.74	0.23	2.37
Absences in the preceding year	Less than 3 periods	1		
	3 periods or more	1.48	0.62	3.56
Time in absence in the preceding year	< 1 week	1		
	2-3 weeks	0.54	0.19	1.56
	>3 weeks	1.19	0.45	3.14

Note: Significant odd ratios are bolded

3.2.2 Work-related factors

In the second block model predicting a return to work includes only work-related factors. The results of the analysis make it clear that a high level of job insecurity is a significant predictor for returning to work. As regards to job security people with jobs with low job insecurity (i.e. with a relative job security) were three times more likely than those with high job insecurity to resume working after another six months.

Again, all other work-related factors in this model were no significant predictors for a return to work but tendencies were observed. The odds ratios for return to work are higher within these groups:

- workplaces with more than 50 employees
- jobs where people have medium/high job control
- job characteristics with low emotional and cognitive demands and
- low over-commitment at the job

Table 5: Work-related factors predicting a return to work

	Cox & Snell R^2=0.127 N=223	**Odds ratio**	**95.0% C.I.**	
Sector of employment	Public	1		
	Private	1.14	0.52	2.50
	Non-profit	0.38	0.06	2.20
Size of workplace	<10 employees	1		
	11-50 employees	1.22	0.55	2.72
	>50 employees	1.56	0.74	3.30
Emotional demands	Low	1		
	Medium	0.58	0.26	1.31
	High	0.73	0.28	1.91
Cognitive demands	Low	1		
	Medium	0.77	0.38	1.59
	High	0.80	0.34	1.87
Job control	Low	1		
	Medium	1.34	0.64	2.80
	High	2.04	0.83	5.04
Job satisfaction	Low	1		
	Medium	1.11	0.51	2.42
	High	1.07	0.44	2.60
Job insecurity	Low	1		
	High	**0.34**	0.18	0.64
Over-commitment	Low	1		
	Medium	0.72	0.30	1.71
	High	0.71	0.29	1.71

Note: Significant odd ratios are bolded

3.2.3 Non-work related factors

In the model which focuses the influence of non-work related factors for the return to work we distinguished between three different variables. First of all, if the respondents lives in the household with children (below an age of 18 years) the odds ratios for returning to work are twice higher (OR=1.98) than the reference category “having no children in the household”. The number of adults

in the household is not a significant predictor for the return to work in Austria, although the tendency is clear: compared to single adult households we can expect more returnees in the households with more than one adult. Last but not least, people with a high work-family balance resume work more often.

Table 6: Non-work related factors predicting a return to work

	Cox & Snell R^2=0.059 N=253	**Odds ratio**	**95.0% C.I.**	
Work-family balance	Low	1		
	Medium	1.39	0.65	2.98
	High	**2.45**	1.20	4.98
Number of adults in the household	One	1		
	2 or more	1.65	0.88	3.09
Children in the household	No	1		
	Yes	**1.98**	1.10	3.57

Note: Significant odd ratios are bolded

3.2.4 Contextual factors

How long the job position is kept open for the absentee was the strongest predictor for a return to work within the block of contextual variables as predictors for the return to work. Compared to the group "not keeping open the job position" for absentees, people who only expect that their job position is secure "within 6 months" were more likely to return to work. Within this group (<6 months) the odds ratio for RTW is more than 60 times higher compared to the reference group. Similarly, within the group "job position kept open between 6 and 12 months" people are also more likely to return to work (OR=12.5) than the reference group.

Table 7: Contextual factors predicting return to work

	Cox & Snell R^2=0.285 N=128	**Odds ratio**	**95.0% C.I.**	
Return to work- policy	No	1		
	Yes	0.63	0.21	1.87
Contact with supervisor during absence	No	1		
	Yes	1.09	0.55	2.17
Contact with colleagues during absence	No	1		
	Yes	0.98	0.46	2.08
Contact with return to work case manager	No	1		
	Yes	1.02	0.52	2.01
A person co-ordinating return to work	Yes	1		
	No	1.57	0.73	3.38
	Don't know	0.51	0.19	1.40
Job position kept open	No	1		
	< 6 months	**61.88**	6.65	576.27
	6-12 months	**12.46**	5.56	27.95
	>12 months	1.25	0.42	3.66

Note: Significant odd ratios are bolded

3.2.5 Final model

In the final model predicting the return to work several variables predict the outcome significantly. Firstly, "older" people were more likely not to return to work than younger people and again people with a multiple household income are more likely to return to work than single income households.

Compared with the group of people with no/low depressive feelings, absentees with medium and high levels of depression were more likely to be a non-returnee at time point two. And last but not least, two work-related factors are also meaningful for the individual return to work. People working in companies with more than 50 employees were more likely to return to work than people who were working at smaller businesses. Overall people with high job insecurity were more likely to stay absent than people with low job insecurity. Finally there was also a gender gap observable because the model predicts marginally significantly that females have returned to work twice as often as men did.

Table 8: Final model predicting the return to work

	Cox & Snell R^2=0.234 N=236	**Odds ratio**	**95.0% C.I.**	
Gender	Male	1		
	Female	1.84	0.94	3.60
Age	<=35	1		
	36-45	0.48	0.18	1.33
	46-55	**0.26**	0.09	0.73
	>55	**0.13**	0.04	0.42
Multiple household income	No	1		
	Yes	**2.16**	1.12	4.17
Depression	Low	1		
	Medium	**0.47**	0.22	1.00
	High	**0.35**	0.16	0.79
Size of workplace	<10 employees	1		
	11-50 employees	1.12	0.49	2.53
	>50 employees	**2.40**	1.09	5.26
Job insecurity	Low	1		
	High	**0.21**	0.11	0.41

Note: Significant odd ratios are bolded

To summarize the results, we can conclude that for the following groups a return to work is more likely than a non-return to work.

Table 9: Factors predicting the return to work

Factors	Variables	Return to work
Personal	Gender	Females
	Age	<= 35 years of age
	Personal/household income	High/multiple income
Work-related	Size of workplace	>50 employees
	Job insecurity	Low job insecurity
Non-work	Work-family balance	High work-family balance
	Children in household	Yes, children in household
Contextual	Job position kept open	Yes, < 6 (or <12) months

4 Discussion

4.1 Correlates of main reasons for absence

4.1.1 Mental

There were many factors that were associated with being absent from work due to mental reasons. First of all in the group of people who were absent from work for mental reasons there were significantly more people with depressive feelings, higher emotional exhaustion and higher disengagement and lower self-efficacy.[4]

In the group of people with mental disorders as main reason of absence from work had experienced a lot of changes in their life-style. Hence, this group was more likely to have an increase in household duties, an increase smoking habit and a decrease of contacts with extended family members and personal friends.

Furthermore, the mental group was more likely to have had higher job insecurity than other absence groups. In this group more clerks than in the other groups (physical or co-morbid) could be found.

In terms of services and interventions, people that were absent due to mental reasons were more likely to have contact with Mental Health Professionals (MHPs) but there were no significant differences concerning interventions at workplace level compared with other absence reasons. Another noteworthy and significant result was that people with mental disorders were more likely to have/having had no contact with their company - neither with the manager/supervisor nor with work colleagues.

Additionally, about 60% of all people that were absent from work due to mental reasons did not expect to return to work in future. Half a year after the first study the follow-up study showed that 67% of the mental group was still sick (had not resumed work), 21% had partially and only 13% completely returned to work. Out of all returnees about 20% returned to the same and 80% returned to another kind of job compared to the job before reporting sick.

4.1.2 Co-morbid

People that were absent from work due to co-morbid reasons were more likely older workers (aged from 46 to 55 years), less likely people with higher education (higher professional education) and more likely people with a lower monthly household income (less than 899 EUR).

Their former working conditions and their psychosocial conditions at work were characterised as follows: People that were absent from work due to co-morbid reasons were less likely in jobs with high control. They had more often low co-worker and supervisor support and they more likely had high over-commitment but low job reward. Besides this their job situation was more likely characterised by job insecurity and high emotional demands.

Generally, the health situation of people with co-morbid health problems was bad. About nine of ten persons with co-morbid health problems rated their own health as (very) bad. Moreover, this group can also be characterised with high levels of depressive feelings. Furthermore they were more often emotionally exhausted and also highly disengaged. Co-morbid people were more likely to have low general self-efficacy and a high level of stress. In addition most of the people in this group reported a very low workability (were incapable to work).

Hence, people who were absent due to co-morbid reasons, have also experienced major changes of their life-style. Compared to other reasons for absence, co-morbid people were for instance were more likely to experience a decrease of social or leisure activities, reduced contacts to their extended family and friends as well as a decrease in their involvement in charity or voluntary work and so they were more likely to report a decrease of quality of social relationships in general[5]. Furthermore, people that were absent because of co-morbid reasons reported an increase of their alcohol consumption, an increased smoking habit and were more likely to have severe sleeping problems since the beginning of their absence period.

Similar to the mental group, absentees due to co-morbid reasons also reported more often of contacts with MHPs than with physicians during the absence period. But the group of co-morbids was also more likely to have contact with occupational health physicians (OHPs) than absentees with other medical problems. Concerning interventions at the workplace, people who were absent due to co-morbid reasons were also more likely to have received work arrangements before and after their absence.

Last but not least, their return to work expectations were also not very high as almost 80% of all co-morbid people expressed that they did not expect to resume work again at all. After six months exactly the same amount of people within the co-morbid group was still absent from work and therefore still sick.

[4] Noteworthy is that there were no differences with respect to demographic characteristics in the mental group in the Austrian data.
[5] Note: this absence group was also less likely to have contact with their manager or supervisor during the whole absence period.

4.1.3 Physical

People who were absent from work due to a physical problem (only) were more likely to be men than women and more likely people with a high average household income per month (1 800 EUR or more).

Their health situation was also more frequently (very) bad (76%) than good or splendid (24%) but absentees with only physical problems were more likely persons with a lower or medium level of depressive feelings, lower emotional exhaustion, disengagement and with a lower stress level. Conversely, compared to those with other absence reasons (mental or co-morbid reasons) people with physical problems were more likely to have higher general self-efficacy and were more likely to report optimal work ability.

Concerning major changes in life-style since the beginning of the absence spell, most of the people who were absent because of physical problems, reported no changed life-style since the absence event. Compared to people with mental/co-morbid disorders or problems people with physical absence reasons were less likely to have experienced a decrease of contacts with their extended family or friends. They were less likely to have reported a decrease in the quality of social relationships within the household. In addition this group was less likely characterised by having high sleeping problems.

Concerning work related issues, people that were absent with physical health problems were more likely to have contact with the organisation (manager/supervisor and colleagues) than people with mental or co-morbid absence reasons. There were also significantly more people within the physical group than in other absence groups that reported the existence of a specific person in the organisation who was responsible for the coordination of their work resumption. Besides there were significantly more people with physical health problems who expected to return to work. One third of all people with physical health problems anticipated to return within 6 months and most of them also expected to return to the same job and the same employer. Six months later, there were more people with physical absence reasons that have already returned to work - significantly more people with physical than mental and co-morbid absence reasons. Almost 75% of all returnees who were absent due to physical health problems returned to the same job they had before the absence period.

4.2 Correlates of stress

People who lived in single income households, people who worked in elementary occupations and people who could not imagine making a living without returning to work were more likely to have a high level of stress. Psychosocial work factors within the high stress level group were: high job

demands, low job control, low co-worker and low supervisor support, high over-commitment and low reward received from work. In addition the high stress level group can be characterised by people working in jobs with high insecurity and jobs which had high physical and high emotional demands. Highly stressed people were also more likely to have low job satisfaction.

Since reporting absent from work due to a medical reason, people with a high level of stress were more likely to experience an increase of their alcohol consumption, an increased smoking habit and a decrease in their eating behaviour. Furthermore this group was also more likely to have a decrease of contacts with their extended family and friends and was more likely to reduce their involvement in charity/voluntary work. These highly stressed people have also reported a decrease of the quality of their social relationships at home. Furthermore, people with high levels of stress were also less likely to have contact with their employer during their absence period.

95% of the people of the group with a high stress level had rated their own health as (very) bad and this group was more likely to have high depressive feelings, high emotional exhaustion and disengagement. In addition people with a high stress level were more likely people with low self-efficacy. Moreover the group with a high stress level was more likely to report a low level of exercise after the event which caused the absence. This group was also more likely to have high sleeping problems.

Furthermore, 80% of the group with a high level of stress reported a low workability during their absence period. Hence, most of the people were incapable to work. 70% of people with a high level of stress expected not to be able to return to work at all and 80% of the high stress level group were still absent from work/still sick and ill at the time of the second survey, six months later.

4.3 Factors predicting work resumption

Altogether only 33% (86 persons) had resumed work at the time of the follow-up study six month after the first survey. From those who returned to work again 67% returned to the same job they had before the absence and 33% returned to another type of job.

Concerning demographic characteristics one of the most important factors for work resumption in the Austrian sample was age and secondly household income. People under the age of 35 were more likely to return to work in the follow-up study than absentees above this age group. In addition we can say that a higher age of the absentee resulted in a lower chance to return to work. Moreover the chance to return to work was twice as high for people who lived in a household with multiple incomes than for people who lived in a single income household. The same was true for females because they had a higher chance to return to work than male absentees.

The factor “work” or “work related issues” were also an important background variable for a return or non-return to work. First of all job insecurity should be named. High job insecurity was the most important work related factor for a non-return to work in the follow-up study. The second factor was the size of the workplace which turned out to be very important for this process too. It was more likely to return to work if people worked in a company with more than 50 employees than in smaller companies.

The health situation was of course an essential predictor for a return to work. Despite general health indicators, an important factor was the mental health indicator for depressive feelings. People with high depression scores were less likely to resume work after a long absence history.

5 Recommendations

Based on the results of this study it can be concluded that reporting absent from work due to a medical reason and return to work after a long-term absence can be predicted by various factors. Personal, work and non-work related and contextual factors were important for crossing thresholds, the absence and the resumption threshold as well.

Therefore organizational and psycho-social factors at work play an important role in the question if individuals stay healthy or if they fall ill. The risks for a physical and especially a mental illness are strongly associated with these characteristics.

This is a very crucial aspect in a time were employment stability is not the normality and high unemployment rates are reality. Nowadays, nearly everybody is at risk to lose their job. Against this background, many people go to work even if they are in an ill health situation with the long-term consequence of long periods of sickness absence.

To be absent from work due to severe health problems means rigorous changes in life of the individual because sickness absence is a critical life event with various consequences. Despite one's bad health situation there is a general reduction in life quality accompanied by many deprevations in areas of life. Therefore the future perspective and return to work chances after a long-time sickness biography are often very bad.

This study provides insights in potential problems of individuals with medical absence reasons and return to work opportunities. Based on this we are going to make recommendations that are aiming at the situation before and during a sickness absence period.

Organizational level
▪ Undertaking screenings of individuals concerning health adequacy of work in regular intervals, especially the evaluation of psycho-social risks at work.
▪ Developing health promotion and prevention programs for people who are at higher risk for ill health, especially mental health problems
▪ Providing information, tools and instruments how to detect and avoid work related health risks
▪ Encouraging collaborations between work site representatives and health experts to provide knowledge exchange of health and work related issues
▪ Developing a return to work program for people who return to work after sickness absence and give the responsibility for work resumption to the line management which also includes the contact between management and absent/sick employees

Individual level

- Maintaining a healthy living conditions and life style. Take enough relaxation phases, sleep; socially active relationships to family and friends; healthy work-family-life-balance
- Active participation in organizational health awareness, prevention and health promotion programs and taking the opportunity of periodic health screenings

National level

- Developing initiatives and policies for individuals and organisations to stimulate the awareness about health risks (especially mental health), sickness absence and return to work and providing information how to deal with them
- Assisting organizational representatives in the development and execution of adequate programs at work place level (e.g. stress awareness programs, stress management programs) by health experts
- Reviewing professional roles and legal aspects of the health system
- Encouraging a multi- and trans-disciplinary communication of various health professionals
- Increasing availability and access to rehabilitation services, return to work programs and health interventions

List of tables and figures

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