



Associations Between Being ‘Locked-In’ and Health – An Epidemiological Study¹

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ABSTRACT

Objective. The aim of this study was to investigate associations between an individual's level of perceived control over labor market position (locked-in and not locked-in) and self-rated health and psychological well-being.

Methods. A representative sample ($n = 11,675$) of the working population in southern Sweden responded to a questionnaire.

Results. Sixty-seven percent of the respondents worked in their preferred workplace and occupation. Nineteen percent reported being in a nonpreferred workplace and nonpreferred occupation (double locked-in). Twenty-three percent reported suboptimal health compared with 31% among the double locked-in. The risk of suboptimal health was elevated in all locked-in groups also after adjustment for background variables and job strain. In the double locked-in group, the fully adjusted odds ratio for suboptimal health was 1.72 (95% confidence interval 1.49–1.99) and for suboptimal psychological well-being 2.17 (95% confidence interval 1.84–2.56). Odds ratio for the other locked-in groups was lower but still statistically significant.

Conclusions. Being at a nonpreferred work-place or occupation was associated with impaired health.

KEYWORDS

control-over / exit / GHQ-12 / labor market / locked-in / logistic regression / self-rated health / work environment

Introduction

There is evidence that lack of control and uncertainty increase stress reactions (Ganster & Rosen 2013; Peters et al. 2017) and risks for illness (Nixon et al. 2011). Opportunity to change workplace or change occupation represents aspects of workers autonomy

¹ You can find this text and its DOI at <https://tidsskrift.dk/njwls/index>.



or control in working life. The 'job demand-control' model was developed more than 35 years ago for assessing psychosocial influence at the workplace level and the model has provided an effective operationalization of control at that level (Karasek 1979; Karasek & Theorell 1990). In summary, there is solid evidence that worker control of workplace aspects, such as time pressure, work pace, and working methods, reduce stress and protect health. Recent meta-analyses have shown associations between workplace control and depression (Theorell et al. 2015) and burnout (Aronsson et al. 2017). In this study, we have applied a control perspective to an individual's control over his or her labor market position. High correspondence between actual and preferred position indicates a high level of control. Several processes related to the labor market influence the worker's opportunities – representing increase or decrease of control – for positioning himself or herself according to own preferences. Examples of such constantly ongoing processes influencing opportunities for control are stratification into core and peripheral workers, threats of unemployment, change in employment levels, new organizational paradigms, and organizational downsizing as a tool for restructuring the workplace (Ferrie et al. 2008; Vahtera & Virtanen 2013; Vulkan et al. 2015).

Low control or loss of control and uncertainties associated with the labor market imply that a 'control over one's position on the labor market' perspective could contribute with additional knowledge for understanding working life related stress and health (Aronsson 1989; Fenwick & Tausig 1994; Ganster 1989). An individual with opportunities for a self-initiated exit from the current workplace or from the current occupation possesses a tool to reach correspondence between actual and preferred position, which reduces uncertainty. Limited opportunities for exit or for moving into a preferred position may be labeled 'locked-in'. A study from the late 90s showed that among workers with permanent employment, approximately 25% reported that they were in a non-preferred occupation (Aronsson & Göransson 1999). A later study of a representative general population sample showed that 36% of permanent employees reported they were in a nonpreferred occupation and/or had a nonpreferred workplace (Aronsson et al. 2000). Twenty percent reported that they were in a double locked-in position (nonpreferred occupation and nonpreferred workplace). Being locked-in was strongly related to socioeconomic position. Among academics, 10% considered themselves to be double locked-in compared with 25% of members in blue-collar unions in the Swedish Trade Union Confederation. Those who were in locked-in positions reported limited opportunities for development and support from their superior. Furthermore, locked-in workers reported more health problems than other employees (Aronsson et al. 2000).

In another Swedish study, the percentage of double locked-in was much higher, which probably reflected a high degree of self-selection, as the participants were visiting a coworker center in order to receive career advice (Muhonen 2010). The high proportion of locked-in in such a group with insecure labor market position is an indication of the validity of the used locked-in items.

In the recent decades, there has been a growing number of studies on determinants and consequences of being locked-in and also a differentiation and development of the concept. One critique of the early studies was that the locked-in concept only captured preferences for the current workplace without including perceptions of chances for job

transfer or real position changes (Furåker et al. 2014). A recent prospective Swedish study (Stengård et al. 2016) found that a transfer toward a perceived nonlocked-in position was accompanied by significant improvements in well-being, and opposite changes were associated with impairments in well-being. Another recent large longitudinal study investigated the varying impact of being in a nondesired occupation on mental health regarding age, that is, applied a life-course perspective (Canivet et al. 2018). The researchers found that the effect differed markedly across the age groups, for example, exposure had a differential meaning, depending on an individual's stage in their job career. Nondesired occupations seemed to have comparatively weaker negative effects on mental health among the young than in other age groups. In another recent Swedish study, Stengård et al. (2018) found that higher levels of job control and learning opportunities were associated with lower risk of being locked in, while higher quantitative job demands were associated with higher risk. Differences in quantitative job demands, number of job changes, and educational achievements explained individual variations over time.

Some studies have also related locked-in positions to risk of sick-leave. A cross-sectional study by the Swedish Social Insurance Agency showed that the combination of high Effort-Reward Imbalance (ERI) and being locked-in in an occupation and/or place of work were associated with long-term sick leave (Fahlen et al. 2009). ERI was a potential mediator of the association between being locked in and sick leave. Finally, in a Swedish prospective cohort study of long-term sick listed, change of occupation was associated with reduced risk of sick leave (Bryngelsson et al. 2012).

The purpose of the current study was to investigate whether there are associations between individuals' level of control over his or her labor market position and self-rated general and psychological well-being. A discrepancy between preferred and actual job or between preferred and actual occupation is seen as a proxy indicator for limited control over one's position on the labor market. In order to explore if an individual's 'control over labor market position' contributes with unique variance in addition to 'control within workplace', we have adjusted for two important health-related workplace aspects: job strain (simultaneous high demands and low control) and social support.

Method and Material

The utilized sample was derived from a general population-based survey. It seemed appropriate for the purpose of being able to generalize the findings to the general working population, which also opens the opportunity to estimate the possible contribution of the exposures to the full burden of poor mental health in the adult working population. Data were derived from the Scania Public Health Survey in 2004 made in the county of Scania in southern Sweden (population 1.2 million). A postal questionnaire was sent to a random sample of 47,000 individuals in the population between 18 and 80 years of age. The total response rate was 59%. For more details see (Rosvall et al. 2004). For the current study, we selected the 11,675 working individuals with a permanent employment contract during the last 12 months who were between 20 and 64 years of age. The survey was conducted by the unit of Social Medicine, University Hospital Skåne

in Malmö. The Research Ethics Committee of Lund University approved this survey (Dnr 387/2004).

Work-related variables

The variable ‘locked-in’ is based on two questions (yes/no): These questions have been used in several studies with somewhat minor differences in formulations (Aronsson et al. 2000).

- Your current company/workplace, is it the workplace you would like to work in the future?
- Is your current occupation the occupation you would like to have in the future?

The workers were classified into four positions. The first one included those who wanted to work at the same workplace in the future and also were in their preferred occupation – not-locked-in. The second group was working in an occupation they did not desire to have in the future but at a workplace they were satisfied with – occupationally locked-in. The third group was working in their preferred occupation but not at a workplace they wanted to continue working at – workplace locked-in. Finally, if the individuals were neither satisfied with their workplace nor with their occupation, they were considered to be double locked-in.

The demand, control, and job social support consisted of items from the Job Content Questionnaire (Karasek et al. 1998). The job strain index was created by a combination of items on psychological demands and decision latitude. The psychological demand index consisted of five items. The decision latitude index consisted of six items on skill discretion and three items on decision authority. The Psychological Demand and Decision Latitude indices were then dichotomized and combined to the job strain variable, that is, job strain was defined as the combination of high demands and low decision latitude, which also was dichotomized (yes vs. no). The dimension of social support at the work-place is divided into two dimensions, coworker support and support from superior in the original JCQ-instrument, while that was not the case in the Swedish version of the support scale (Ahlberg-Hultén et al. 1995), and in this paper, we have chosen the latter strategy. The index was then dichotomized at the lower tertile (low vs. high).

Health variables

Self-rated health (SRH) was based on one well-validated question on ‘How do you perceive your general health?’ with five response alternatives (Kawada 2003): When dichotomized ‘very good’ and ‘good’ were regarded as (1) ‘good self-rated health’, versus ‘neither good, nor poor’, ‘fairly poor’, and ‘very poor’, which were regarded as (2) ‘suboptimal self-rated health’.

Psychological well-being (PW) was based on the well-validated General Health Questionnaire (GHQ12) (Goldberg et al. 1997). GHQ12 includes 12 items that are

designed to identify breaks in normal functioning – ‘inability to carry out one’s normal “healthy” functions and the appearance of new phenomena of a distressing nature’, which were measured on a four-level Likert-type scale, dichotomized between level two and three for each of the 12 items. A cut-off point of three or more complaints was regarded as a proxy for suboptimal PW based on earlier research and recommendations and was also used in the current study (Goldberg et al. 1997, 1998).

Covariates

To avoid overestimation of the relationships between locked-in on the one side and health and well-being on the other, it is important to use well-known social determinants of health and well-being into account (Davey Smith et al. 1998; Marmot 2005). For this reason, we controlled for sex, age, region of birth, and social class (socioeconomic status, SES). Age, sex, and region of birth were all based on register information as well as self-reported information, regarding region of birth, self-reported information was used since it was considered more valid. Country of birth was coded into Western Region (Sweden or other Western European countries) versus Non-Western Region (Eastern Europe or Non-European countries; 13 persons from USA and Australia were included here). SES was classified into five strata based on occupation. The participants answered standard questions about their work title and work tasks, and a validated algorithm was used to classify each individual by means of SEI (Socioeconomic Index) categories, used by Statistics Sweden. SEI is based on the SES-classification scheme (Erikson & Goldthorpe 1992), which is used in many European national public statistic systems. As mentioned, we also adjusted for job strain and social support.

Statistical analysis

Estimation of prevalence of dependent variables (SRH and PW) for the four types of working situation was done separately using STATA version 11.2 for Windows (College Station, TX, USA). Pearson’s Chi-square test was used for testing of the level of significance of differences. Unconditional logistic regression was used to calculate the odds ratios (ORs) and the 95% confidence interval (95% CI) in five models with stepwise introduction. All significant variables were included in further models. The fit of the models was judged by the Hosmer-Lemeshow (2000) goodness-of-fit test. The models were considered acceptable at $P < 0.05$ and all models met this criterion. The missing values varied because they corresponded to the sum of any missing value for all the variables in a particular model. Since the models consisted of different variables, this value varied.

Results

In total, 11,675 individuals were included in the sample of the present study. Mean age was 45 years and the largest age group was those who were 31–50 years (49%),



followed by the group consisting of individuals 51–64 years (37%) and those who were 18–30 years (13%) (Table 1). Women made up the majority (54%). Fifty percent were employed in the private sector and 26% by municipalities. The remaining respondents were employed by the central government (11%), by the county council (10%), or by any other kind of organization (4%).

As can be seen, 67% were at their preferred workplace and had a preferred occupation (Table 1). Nine percent reported to be at a preferred workplace but in a nonpreferred occupation. Five percent perceived their workplace to be the preferred one but not their occupation. The proportion of subjects who perceived that they were both at a nonpreferred workplace and in a nonpreferred occupation was 18.5%. There was no significant difference related to gender in the distribution of the locked-in variable.

Table 2 presents prevalence of SRH and the distribution of the dichotomized GHQ 12-measure (PW). According to our definition, in total, 23% reported suboptimal SRH, with the highest proportion among those who were double locked-in (31%), compared with 21% among the not locked-in group, 25% among occupational locked-in, and 23% among workplace locked-in individuals.

Table 1 Distribution of labor market position by age, gender, and socioeconomic status (%)
n = 11,675

Covariate	Labour market position (100%)					P
	N (%)	Not locked-in	Occupationally locked-in	Workplace locked-in	Double locked-in	
Total	11,245 (100)	67.4	4.9	9.1	18.5	
Age groups						<0.0001
18–30	1,450 (12.9)	39.8	6.8	15.0	38.4	
31–50	4,252 (37.8)	59.8	6.6	11.4	22.2	
51–64	5,543 (49.3)	80.5	3.1	5.9	10.5	
Gender						0.134
Women	6,102 (54.3)	67.0	4.6	9.3	19.1	
Men	5,143 (45.7)	68.0	5.3	9.0	17.7	
Socioeconomic status						
High nonmanual worker	2,109 (18.1)	72.2	3.8	13.6	10.4	<0.0001
Middle-manual worker	3,196 (27.4)	71.5	4.3	10.8	13.4	
Low nonmanual worker	1,626 (13.9)	69.3	5.7	7.0	18.0	
High manual	2,117 (18.1)	66.4	4.3	8.7	20.5	
Low manual	2,627 (22.5)	58.0	6.6	5.2	30.2	
Low social support (yes)	2,298 (25.5)	49.8	5.6	14.2	30.4	<0.0001
Job strain (yes)	2,370 (25.0)	53.0	5.6	11.9	29.5	<0.0001

P values from test of differences with Pearson’s Chi-square.



Table 2 Labor market position and distribution of self-reported health (5-grade scale) and classified into two groups: good (very good, good) and suboptimal (fairly, poor, very poor)

Outcome	Labour market position					P
	Total, n (%)	Not locked-in	Occupationally locked-in	Workplace locked-in	Double locked-in	
Self-rated health (SRH)						<0.0001
Very good	2.638 (24.0)	1908 (25.7)	115 (21.4)	242 (23.8)	373 (18.3)	
Good	5.863 (53.2)	3997 (53.9)	285 (53.2)	545 (53.7)	1036 (50.8)	
Fair	2.158 (19.6)	1325 (17.8)	120 (22.4)	185 (18.2)	528 (25.9)	
Poor	321 (3.0)	175 (2.4)	14 (2.6)	42 (4.1)	90 (4.4)	
Very poor	34 (0.3)	18 (0.2)	2 (0.4)	1 (0.1)	13 (0.6)	
SRH dichotomized						
Good SRH	8824 (77.2)	5.905 (79.5)	400 (74.6)	787 (77.5)	1.409 (69.1)	<0.0001
Suboptimal SRH	2614 (22.8)	1.518 (20.5)	136 (25.4)	228 (22.5)	631 (30.9)	

P values from test of differences with Pearson's Chi-square.

Logistic regression

Logistic regression models with stepwise inclusion of covariates are presented in Tables 3 and 4. The crude ORs for reporting suboptimal SRH were significantly higher for occupational locked-in and double locked-in individuals compared to not locked-in individuals, with ORs of 1.32 and 1.74, respectively. In the age- and sex-adjusted model, the mentioned ORs increased to 1.60 and 2.20, respectively. High age was associated with higher ORs for suboptimal SRH in all the models. Women and people from the non-Western region had higher odds for suboptimal SRH in model 1 and 2, but not when social support and job strain were included (model 3). Not surprisingly, the lower the SES, the higher the odds for suboptimal SRH, but inclusion of SES did not attenuate the excess risk associated with being locked-in. Low social support at work and high job strain (model 3) attenuated the ORs for suboptimal SRH, but it remained statistically significant for all locked-in groups. Additional adjustment for job strain and social support had only a marginal influence on the association between work situation and suboptimal SRH, which remained statistically significant and was almost at the same level as in crude model.

Similar to the pattern for SRH, we observed that the highest ORs for PW (Table 4) were in crude model; 2.70 in the double locked-in group, but they were only marginally lower in the final model (2.17). The ORs for suboptimal PW in occupational locked-in and workplace locked-in groups remained statistically significant in final model; 1.75 and 1.58, respectively. Control for age, sex, and region of origin decreased the ORs for suboptimal PW compared with the reference group. Being a woman and of non-Western

Table 3 The odds ratios (OR) and 95% confidence interval (95% CI) for suboptimal self-rated health in four groups of working situation with stepwise inclusion of covariates age, sex, region of origin, socioeconomic status (SES), low social support at the work, and job strain, n = 10,940–8636.

Variable	Crude	Model 1	Model 2	Model 3
Work position				
Not locked-in	Reference	Reference	Reference	Reference
Occupationally locked-in	1.32 (1.08–1.62)	1.60 (1.30–1.97)	1.53 (1.24–1.89)	1.35 (1.05–1.73)
Workplace locked-in	1.13 (0.96–1.32)	1.38 (1.17–1.62)	1.48 (1.25–1.74)	1.24 (1.03–1.50)
Double locked-in	1.74 (1.56–1.94)	2.20 (1.95–2.47)	2.02 (1.79–2.27)	1.72 (1.49–1.99)
Age				
18–30		Reference	Reference	Reference
31–50		1.22 (1.04–1.43)	1.30 (1.11–1.53)	1.24 (1.03–1.50)
51–64		2.31 (1.98–2.70)	1.46 (2.10–2.88)	1.95 (1.62–2.35)
Sex				
Men		Reference	Reference	Reference
Women		1.16 (1.05–1.27)	1.17 (1.06–1.28)	1.01 (0.91–1.13)
Region of origin				
Western		Reference	Reference	Reference
Non-Western		1.50 (1.23–1.83)	1.41 (1.15–1.72)	1.28 (1.00–1.65)
SES				
High nonmanual work			Reference	Reference
Middle nonmanual			1.33 (1.14–1.55)	1.22 (1.03–1.45)
Low nonmanual			1.70 (1.43–2.02)	1.41 (1.16–1.72)
High manual			2.21 (1.89–2.59)	1.77 (1.47–2.13)
Low manual			2.09 (1.79–2.44)	1.61 (1.34–1.92)
Social support (low)				
				1.56 (1.38–1.76)
Job strain (high)				
				1.65 (1.47–1.86)

Table 4 The odds ratios (OR) and 95% confidence interval (95% CI) for low psychological well-being according to GHQ in four groups of working situation with stepwise inclusion of covariate age, sex, region of origin, socioeconomic status (SES), social support at the work, and job strain, n = 10,940–8636.

Variable	Crude	Model 1	Model 2	Model 3
Work position				
Not locked-in	Reference	Reference	Reference	Reference
Occupationally locked-in	1.80 (1.42–2.29)	1.69 (1.33–2.16)	1.74 (1.37–2.22)	1.75 (1.33–2.31)
Workplace locked-in	2.09 (1.75–2.49)	1.98 (1.66–2.37)	1.93 (1.61–2.31)	1.58 (1.28–1.94)
Double locked-in	2.70 (2.38–3.07)	2.48 (2.17–2.84)	2.64 (2.30–3.02)	2.17 (1.84–2.56)
Age				
18–30		Reference	Reference	Reference
31–50		0.89 (0.75–1.04)	0.86 (0.73–1.01)	0.83 (0.69–1.00)
51–64		0.78 (0.66–0.92)	0.76 (0.64–0.90)	0.64 (0.52–0.78)
Sex				
Men		Reference	Reference	Reference
Women		1.54 (1.37–1.72)	1.53 (1.36–1.71)	1.51 (1.32–1.72)
Region of origin				
Western		Reference	Reference	Reference
Non-Western		1.60 (1.28–2.02)	1.67 (1.33–2.11)	1.55 (1.17–2.05)
SES				
High nonmanual work			Reference	Reference
Middle nonmanual			1.02 (0.87–1.20)	0.99 (0.83–1.19)
Low nonmanual			0.84 (0.69–1.03)	0.73 (0.58–0.91)
High manual			0.77 (0.64–0.93)	0.64 (0.51–0.80)
Low manual			0.73 (0.61–0.88)	0.57 (0.46–0.71)
Social support (low)				
				1.73 (1.50–1.99)
Job strain (high)				
				1.63 (1.41–1.87)



origin was associated with increased ORs in all three models. In contrast to the results for SRH, the oldest age group had the lowest odds for suboptimal PW in all models. Unskilled manual workers also had lower odds for reporting mental complaints compared to white-collar workers (high nonmanual work). Both social support and job strain were associated with increased ORs. In the final model, the differences between all the different locked-in positions and the reference group (not locked-in) remained statistically significant.

Conclusions and discussion

This study represents one attempt to broaden occupational health psychology to include extraorganizational aspects and is in line with the thinking of Siegrist (1996), who introduced the concept of 'status control', which refers to the perception of being in control of one's social standing. It is also in line with the notion of Johnson and Hall (1996), who argue for the need of a conceptual system that places individual-environment interaction in a broader social setting.

The purpose of the study was to investigate whether there are associations between an individuals' level of control over the labor market position and SRH and PW. The study showed that the 'control over labor market position' contributed with unique variance in relation to health, in addition to the variance associated with 'job strain', that is, control within the workplace. Suboptimal SRH and low PW were more common among those who had low control over their working-life position (locked-in), also when taking a range of potential confounders into account. Not surprisingly, the highest ORs were found for the double locked-in group. These results agree with previous studies, but few of those had adjusted for control within the workplace (job strain). Age was associated with a higher risk of suboptimal SRH but lower odds of suboptimal PW. This is in line with earlier research, which shows that although overall health problems increase with age, mental health tends to improve up to well beyond statutory retirement age (Blanchflower & Oswald 2008; Jokela et al. 2010; Jorm 2000). A similar discrepancy was found in relation to SES, where lower status was associated with suboptimal SRH but lower risk of suboptimal PW. The former reflects the well-known social gradient in health, whereas the latter may reflect a tendency among people in lower SES not to express psychological suffering as readily as those with higher status. This complies well with the general finding that low PW is more prevalent in the younger age brackets, compared with the older ones (Östergren et al. 2000). Gender and regional origin were also related to increased ORs for PW and to some extent SRH. It is difficult to find well-founded explanations for those results. Further research is needed.

Methodological issues

In the current study, the definition of a person as 'locked-in' was based on responses to questions concerning preferred occupation or workplace, which are categories introduced by the researchers. Thus, the interpretation cannot be made that all individuals categorized in the study as 'locked-in' perceive themselves as being in the negative position

of being 'locked-in'. One way for further research to deal with this issue could be to compare information on actually perceived feelings of being 'locked-in' to the definitions used in this study. By such studies, it would be possible to discriminate better between those who feel being locked-in and those who do not feel being locked-in despite being in a nonpreferred occupation or at a nonpreferred workplace. Stengård and coworkers (2016) have dealt with this issue when they included perception of employability in the operationalization of 'control over'. Employability increases the individual's control over choosing job assignments fitting their preferences thereby reducing the gap between preferred and actual situation (De Cuyper et al. 2012).

This is a methodological question open for further research, especially concerning health and illness. Another methodological question concerns how illness could increase the risk of being locked-in (Stengård et al. 2017). The road to a 'locked-in position' is likely to involve vicious circles. Reduced work capacity or ill health may not only be the result of being in a locked-in position but can also lower the probability of leaving a locked-in position. It seems probable that people perceiving themselves to be in a nonpreferred occupation are less interested in taking opportunities of learning and skill development than those in their preferred occupation (Aronsson 1999). In turn, this can lead to less support from superiors for further training, etc. A road to being locked-in could also be that an earlier preferred occupation becomes undesirable because of illness, which makes the person unable to cope with the demands in the job and also limits the opportunities to find another job.

From a preventive perspective, it is of great interest to study the relation between factors that restrict an individual's exit from a nonpreferred work situation and the perception of being locked-in. Results from a recent study (Stengård et al. 2018) with cross-lagged SEM analysis showed reciprocal relationships over time; personal helplessness were associated with subsequent perceptions of being locked-in at the workplace and an association, although less substantial, was also found in the reversed direction from locked-in status to helplessness.

Restricted opportunities for exit may influence voice (Hirschman 1970). Voice is a mean for long term adaptation of the work demands to one's personal ability and wishes. Being in a locked-in position may be associated with endurance in a negative sense, possibly related to an accumulated experience of situations over which the person has low control. This may be assumed to have health consequences, both because of higher stress related to lack of active coping (Ursin & Eriksen 2010) and because the individual may stay in unhealthy situations. A Swedish study found a prospective relationship between negative rating of managerial leadership and ischemic heart disease. The association was stronger the longer the person had worked in the same workplace, which may indicate negative endurance (Nyberg et al. 2009). There is a need of further research of the relation between voice and control in different aspects.

Practical implications

There are practical implications for the individual as well as on the societal level. On the individual level, workers in locked-in positions may need help and advice of different kinds and learning opportunities so that they can be able to find their preferred position. Support for transfer may be missions for the local HRM and also for labor market politics.



The 'locked-in' phenomenon is important from a societal perspective. Even a moderately elevated risk associated with a exposure with a high prevalence becomes important in a societal context and therefore also constitute an important public health issue. There are no comparable European studies on control over labor market position, but there are studies on job mobility. In comparisons between European countries, the Swedish workforce seems to be one of the most mobility friendly (European Foundation 2007) and also the most mobile. Data from 2011 to 2014 show that Sweden is at the top in Europe concerning job mobility as well as occupational mobility, while Denmark and Finland are close to the EU average. In Europe (EU27), nearly 3% of employees change their occupation from one year to the next. (Bachmann et al. 2017). That result is somewhat surprising considering the high employment security in Sweden, which in the political debate has been seen as a restriction for a desired labor market mobility.

Strengths and limitations

Strengths of this study are that it utilizes a large randomly drawn sample from the general working population in a well-defined geographical area with a population of 1.2 million. The cross-sectional design is a limitation. For conclusions on causal chains and reciprocity, longitudinal studies will be necessary. Another strength was the opportunity to control for confounding regarding the most relevant psychosocial work environment factors and demographic and socioeconomic factors.

The analyzed data were collected in 2004. The locked-in level can be supposed to vary in relation to market fluctuations in the society, which are associated with an individual's opportunities to get a preferred job or lose the job. In 2004, the labor market situation was relatively stable in Sweden. It was in the 'normal' period between the great recession in the 90s and the financial crisis in 2008. One hypothesis for further studies may be that during periods of high economic activity work-related stress mainly emanate from 'within workplace factors' such as too much work to do, while during periods of economic recession stress mainly emanate from 'low control over labor market positions' and uncertainty related to this situation. It can be assumed that the strength of the associations between the investigated types of control and health is relatively independent of this macro-processes.

No conflict of interest has been declared by the authors

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