

Attitudes towards sickness absence in the Nordic countries

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Abstract

Absence due to sickness is in many countries high and rising and a better understanding of causes of sickness absence seems warranted. This study analyses attitudes towards sickness absence utilizing a novel dataset allowing for comparison between the Nordic countries. We find that females are more restrictive than males, and that restrictiveness increases with age and working hours. Further, we document large differences in attitudes towards sickness absence between the Nordic countries.

Key words: Sickness absence, attitudes, Nordic countries

Word count: 8004

Summary

Sickness absence between Nordic countries varies substantially. While Norway and Sweden have high sickness absence compared with other countries in Europe, absence due to sickness in Finland, Iceland and Denmark is relatively low. The large variation in sickness absence is surprising because the health status in the Nordic countries does not vary much. This study analyses attitudes towards sickness absence utilizing a novel dataset allowing for comparison between the Nordic countries. We find that females are more restrictive than males, and that restrictiveness increases with age and working hours. Further, we document large differences in attitudes towards sickness absence between the Nordic countries, but relatively small differences within countries.

Sammendrag

Sykefraværet varierer betydelig mellom land i Norden. Mens Norge og Sverige har relativt høyt sykefravær sammenlignet med andre europeiske land, er sykefraværet i Finland, på Island og i Danmark relativt lavt. Dette er overraskende siden helsetilstanden er relativt lik i de Nordiske landene. I denne analysen studerer vi holdninger til sykefravær i de nordiske landene. Data i undersøkelsen kommer fra en spørreundersøkelse gjennomført av Opinion AS sommeren 2007. Blant de viktigste funnene i studien er at kvinner, eldre, ansatte i privat sektor og arbeidstakere i full stilling har mer restriktive holdninger til fravær sammenlignet med andre. Videre finner vi at det er relativt små variasjoner innenfor det enkelte land i forhold til hvor restriktive holdninger arbeidstakerne har til sykefravær. Mellom de nordiske landene er det imidlertid store variasjoner, og Island og Finland er de to landene som skiller seg ut med de mest restriktive holdningene til sykefravær.

Introduction

Sickness absence between Nordic countries varies substantially. While Norway and Sweden have high sickness absence compared with other countries in Europe, absence due to sickness in Finland, Iceland and Denmark is relatively low. The large variation in sickness absence is surprising because the health status in the Nordic countries does not vary much, and is in no way worse than in other European countries (e.g. Olsen & Dahl, 2007). Therefore, sickness absence is high on the political agenda in the Nordic countries, and several initiatives have been taken to reduce the absence, including reduced benefits, increased employer responsibility and administrative reforms.

Sickness absence can be the result of ill health, but also a result of negative attitudes towards the job (Dwyer & Ganster, 1991; Steers & Rhodes, 1978). However, to our knowledge few or none investigations explicitly examine the attitudes towards sickness absence or how such attitudes vary between individuals, regions and countries. The current paper focuses on analysing how various individual factors like age, sex and education may influence attitudes towards sickness absence, and to what extent such attitudes differ between geographical areas.

We use data from a survey conducted in the Nordic countries. Respondents were asked to answer questions on the subject of attitudes towards sickness absence, for instance, to what degree it was considered acceptable to be away from work due to different causes (having a cold, break up of marriage, lack of sleep, etc.) and also how lengthy sickness absence one can accept for the different causes. We find that females are more restrictive than males, and that restrictiveness increases with age and working hours. Further, we find large differences in attitudes towards sickness absence between the Nordic countries.

Institutional differences between the Nordic countries

Sickness benefit schemes are used to insure individuals against loss of income when ill. When insurance schemes are introduced, problems of moral hazard may arise because of asymmetric information. In particular, when a person does not carry the cost of being absent the economic incentives to work will be weaker. A proper system for insurance against loss of income balances two potentially conflicting considerations, on the one hand to give temporary income compensation, and on the other hand to give incentives to return to work as soon as possible.

Table 1 below shows relatively large differences in the sickness benefit schemes among the Nordic countries. For example, Norway has 100% wage compensation, while Icelandic workers on the other end of the scale only receive 23% compensation.

Table 1: *Some main characteristics of public sickness benefits schemes in the Nordic countries*

	Number of Waiting Days	Replacement rate (% of previous Income)			Maximum duration	Employer's responsibility
		After 1 week	After 1 month	After 6 months		
Sweden	1	80	80	80	Unlimited	2 weeks
Norway	0	100	100	100	1 year	2 weeks
Denmark	0	50	50	50	1 year	2 weeks
Iceland	14	23	23	23	1 year	12 weeks
Finland	0	70	70	70	1 year	9 weeks

Source: Stortingsmelding nr. 9 (2006–2007) «Arbeid, velferd og inkludering».

Further, Norwegian, Finnish and Danish workers are compensated from the first day of absence, while Icelandic workers are compensated only after two weeks (Sweden has one waiting day). Similarly, employers in Denmark, Norway and Sweden have to contribute to the sickness benefit schemes for 2 weeks, while Icelandic employers pay for 12 weeks. The maximum duration of a sickness benefits period is 1 year (52 weeks) for all countries but Sweden.

There are also significant differences in actual absence due to sickness in the Nordic countries (e.g. Norden, 2005, 2007). Iceland, Finland and Denmark have a relatively low level of sickness absence, while Norway and Sweden are best characterised by having a rather high level of sickness absence.

Previous research on sickness absence and attitudes

Sickness absence is likely to be affected by a number of factors, including social factors like social security system, health care and culture, work related factors like work content and work conditions, organisational factors like company size, the existence of health promotion programs and absence policies and individual factors like health status and personality (Alexanderson (1998), Kristensen (1991), Niedhammer et al. (1998) Allebeck & Mastekaasa, 2004 and Savikko et al. (2001)). However, in this section we restrict attention to literature that investigates the link between attitudes and sickness absence.

Sickness absence can be the result of stress or ill health or a result of negative attitudes towards the job originating from, for example, low motivation, low satisfaction or low commitment (Dwyer & Ganster, 1991; Steers & Rhodes, 1978). According to Janssen et al. (2003), short term sickness absence and high absence frequency are probably more related to attitude (Chadwick-Jones et al., 1982; Stansfeld et al., 1999), while long term sickness absence is suggested to be particularly related to ill health or the inability to perform work tasks (Stansfeld et al., 1999; Marmot et al., 1995).

Therefore, long term sickness absence is referred to as primarily involuntary absence, while short term sickness absence can be seen as primarily voluntary absence (Marmot et al., 1995; Geurts et al., 1994).

There are also several studies indicating that workers exploit the sickness absence schemes by being away from work without being sick. In Sweden and Norway, attitudes towards sickness absence have been analysed by looking at accumulation of sickness absence on certain days. Mastekaasa and Olsen (1996) analysed sickness absence on Mondays or Fridays, and also whether there was a higher incidence of 3-days absence due to the possibility to call in sick for 3 days without consulting a doctor. The results showed no effect of Mondays or Fridays – in fact the results were the opposite. They report an increased incidence of sickness absence starting on Wednesdays, i.e. absence that could be combined with a weekend to obtain a longer period out of work. There was also a higher incidence of absence lasting for 3 days, that is, potential 2-days absence seemed to be prolonged. Thoursie (2007) studies sickness absence on the employee's birthday. He finds a statistical significant increase (3.3%) in the sickness absence around birthdays only for men aged 16–35 years. In another study, Thoursie (2004) analyses absence due to sickness in Sweden during big sport events. For men aged 20–44 years the effect of the Olympic Games in Calgary was 3,572 extra sickness absence days, which is an increase in short-term absence of about 7 percent for this group. Women and older men had no significant changes in absence.

Previous research seems to indicate a relationship between attitudes and observed absence. Therefore, more knowledge about attitudes towards sickness absence may be important to obtain a better understanding of the observed variation in sickness absence (between groups of workers and between countries). The current study analyses comparative data on attitudes towards sickness absence in the Nordic countries. To our knowledge, such data has not been collected and analysed previously.

Data and methods

In the study, we use survey data collected by Opinion the summer 2007. A representative sample of 1000 respondents were interviewed in each country (in Finland 1001 were interviewed). The respondents were aged 18–65 years and in paid work. Descriptive statistics and an overview of the explanatory variables used in the analyses are given in table A1 in the appendix.

The respondents were asked 15 questions concerning their attitudes towards sickness absence¹. In the first group of questions (1a to 1i), the respondents were asked to rank (on a scale from 1 to 10 (1 never acceptable and 10 always acceptable) whether it is acceptable to call in sick when one

Question 1a: Has a cold with some fever.

Question 1b: Has hangover after drinking alcohol the previous night.

¹ The survey also contains three questions about attitudes towards long-term absence. Since these question are quite different from the remaining questions, and that it would require a different method of analysis, these questions are not included herein.

Question 1c: Has problems getting to work because of missing supply of child care, school, or public transport.

Question 1d: Has not got enough sleep.

Question 1e: Has difficulties because of break up of marriage.

Question 1f: Has close family members who need one's support and care.

Question 1g: Is dissatisfied with conditions at the work place.

Question 1h: Feels unpleasantness because of stress at work.

Question 1i: Is the object of bullying at the work place.

Table A2 in the appendix reports average scores on question 1a to 1i. As the average score approaches 1, respondents are more likely to accept this as a legitimate cause for sickness absence. Two findings are evident; first, there are large differences between what respondents find as acceptable reasons for sick leave. Least accepted are sickness absence due to alcohol consumption and too little sleep, while absence due to family members in need of care and absence due to break up of marriage are far more accepted. Second, and perhaps more interesting, there are substantial differences between the countries about what the respondents regard as acceptable reasons to call in sick. For example, Norwegian respondents seem to be considerably more restrictive towards sickness absence due to having a cold compared with other respondents, while Danish respondents are far more liberal towards sickness absence due to stress. Notice also that no country stands out as the most liberal or the most restrictive on all questions.

In the second group of questions (questions 2a–2f), the respondents are asked about how long-lasting sickness absence they can accept for different causes (the causes in questions 1d to 1i). Respondents answering «never acceptable» on questions 1d to 1i, are not asked to answer this group of questions. Alternatives are 1–2 days, up to one week, up to 4 weeks, up to 12 weeks and up to 6 months or more. The questions are the following:

Question 2a: If calling in sick because of too little sleep, how long can this in your opinion be accepted?

Question 2b: If calling in sick because of problems concerning break up of marriage, how long can this in your opinion be accepted?

Question 2c: If calling in sick because close family members have problems and need one's support/care, how long can this in your opinion be accepted?

Question 2d: If calling in sick because of dissatisfaction with the conditions on the workplace, and how long can this in your opinion be accepted?

Question 2e: If calling in sick because of unpleasantness because of stress at work, how long can this in your opinion be accepted?

Question 2f: If calling in sick because one is object of bullying at the work place, how long can this in your opinion be accepted?

As evident from Table A2 in the appendix², there are substantial differences concerning what respondents consider as an acceptable duration of a sickness absence. For example, 76.1 % of the respondents accept maximum 1–2 days absence due to lack of sleep, while the corresponding number when the reason for sickness is difficulties during divorce is 24.0 %. Respondents from Iceland and Finland are more restrictive towards the length of the absence period than respondents from Norway. Swedes and Danes are in the middle.

Results

From the descriptive statistics we observed that attitudes towards sickness absence seem to vary considerable between the Nordic countries. In this section, we first analyse whether there are similar differences in attitudes between different groups of employees. Thereafter, controlling for observable characteristics, we present results on how attitudes towards sickness absence vary between countries.

To take account of the ordinal scaling of the dependent variables, we analyse the data using ordered probit models. Because the dependent variables are decreasing in the degree of restrictiveness, negative coefficients mean that this group of respondents on average is more restrictive towards sickness absence, the opposite is the case if the coefficient is positive. In the regression models we correct for the possibility that the respondents' attitudes vary systematically along the observed characteristics, using the variables reported in table A1 as explanatory variables. In addition, we include dummy variables for Sweden, Iceland, Denmark and Finland. Thus, we compare the respondents' attitudes in these countries with attitudes in Norway.

Variations in attitudes between groups of respondents

Gender

As can be seen from Table 2, women seem to be more restrictive than men towards what causes are accepted as reasonable for calling in sick. The exceptions are question 1a (cold with fever); women find this a more acceptable cause for sick leave, and questions 1e (break up of marriage) and 1i (bullying at the workplace) where women's attitudes do not differ significantly from men. These results might be surprising as women are found to have higher sickness absence than men. Based on our data, it is difficult to say anything about the causes of these differences.

Attitudes towards acceptable duration of sickness absence for the various causes reflect no major differences between the sexes, see Table 3. On four of the six questions

² In the data, alternative «1-2 days» is coded as 1, alternative «up to one week» as 2, and so forth. Therefore, the average score will be a number between 1 and 5, where a small number indicates a restrictive attitude towards long-term sickness absence.

women are not different from men, but they are more restrictive concerning absence because of close family members in need of care and less restrictive related to absence because of bullying at the workplace.

Age

There is a clear tendency for younger individuals to be more liberal towards sickness absence than older persons. With the exception of questions 1b (alcohol) and 1d (sleep), the results in Table 2 seem to confirm that restrictiveness towards sickness absence increases with age. However, when looking at the duration of absence, we do not find the same age gradient. With the exception of question 2b (divorce) and, to some extent, question 2e (stress), we find no significant differences between young and old workers.

Table 2: *Estimated effects question 1a–1i, Ordered probit-models, standard deviations in parentheses.*

	Q1a	Q1b	Q1c	Q1d	Q1e	Q1f	Q1g	Q1h	Q1i
Gender effects (reference category: male)									
Female	0.072** (0.036)	-0.301*** (0.049)	-0.129*** (0.037)	-0.176*** (0.042)	-0.002 (0.036)	-0.143*** (0.036)	-0.102*** (0.041)	-0.084** (0.037)	0.042 (0.037)
Age effects (reference category: aged 18–24)									
25–34	0.036 (0.074)	-0.182* (0.097)	-0.129* (0.075)	-0.191** (0.085)	-0.119 (0.074)	-0.097 (0.074)	-0.067 (0.083)	0.012 (0.076)	-0.101 (0.075)
35–44	0.042 (0.072)	-0.265*** (0.095)	-0.285*** (0.073)	-0.166** (0.082)	-0.214*** (0.072)	-0.150** (0.072)	-0.163** (0.080)	-0.109 (0.074)	-0.074 (0.073)
45–54	-0.074 (0.072)	-0.121 (0.094)	-0.318*** (0.073)	-0.092 (0.083)	-0.296*** (0.073)	-0.183*** (0.072)	-0.153* (0.080)	-0.112 (0.074)	-0.166** (0.073)
55–67	-0.168** (0.074)	-0.137 (0.097)	-0.318*** (0.076)	-0.089 (0.085)	-0.504*** (0.075)	-0.253*** (0.074)	-0.210*** (0.083)	-0.187*** (0.076)	-0.382*** (0.076)
Secondary education	0.187*** (0.051)	0.063 (0.071)	-0.019 (0.052)	0.035 (0.059)	0.025 (0.051)	-0.016 (0.050)	-0.060 (0.056)	0.049 (0.052)	-0.066 (0.052)
University 1	0.238*** (0.059)	0.111 (0.082)	-0.020 (0.060)	0.153** (0.067)	0.114** (0.059)	0.007 (0.058)	-0.058 (0.066)	0.002 (0.060)	-0.061 (0.060)
University 2	0.336*** (0.059)	0.177** (0.082)	-0.108* (0.061)	0.142** (0.068)	0.025 (0.059)	-0.160*** (0.059)	-0.215*** (0.067)	-0.075 (0.060)	-0.095 (0.060)
Other	-0.016 (0.088)	0.078 (0.122)	-0.251*** (0.091)	0.015 (0.103)	0.018 (0.089)	0.000 (0.087)	0.046 (0.098)	-0.010 (0.089)	-0.160* (0.091)
Effects of working hours (reference category: 8–15 hours per week)									

	Q1a	Q1b	Q1c	Q1d	Q1e	Q1f	Q1g	Q1h	Q1i
16–23 hours	0.000 (0.128)	-0.226 (0.166)	-0.055 (0.131)	-0.122 (0.143)	-0.054 (0.128)	-0.229 [*] (0.126)	-0.112 (0.136)	-0.077 (0.128)	-0.080 (0.128)
24–31 hours	0.109 (0.115)	-0.209 (0.148)	-0.111 (0.119)	-0.206 (0.130)	-0.045 (0.116)	-0.093 (0.115)	-0.249 ^{**} (0.124)	-0.174 (0.117)	-0.005 (0.116)
32–39 hours	0.056 (0.106)	-0.308 ^{***} (0.134)	-0.126 (0.109)	-0.181 (0.118)	0.023 (0.106)	-0.165 (0.106)	-0.277 ^{***} (0.113)	-0.213 ^{**} (0.107)	-0.064 (0.106)
40–49 hours	-0.065 (0.106)	-0.324 ^{***} (0.134)	0.001 (0.109)	-0.247 ^{**} (0.118)	-0.005 (0.106)	-0.130 (0.105)	-0.336 ^{***} (0.114)	-0.241 ^{***} (0.107)	-0.096 (0.106)
50 hours +	-0.238 ^{**} (0.113)	-0.516 ^{***} (0.146)	-0.049 (0.116)	0.286 ^{**} (0.118)	-0.158 (0.113)	-0.161 (0.112)	-0.420 ^{***} (0.123)	0.415 ^{***} (0.115)	-0.193 [*] (0.114)
Effects of industry (reference category: manufacturing)									
Office	0.068 (0.076)	-0.139 (0.099)	0.117 (0.076)	-0.115 (0.085)	0.085 (0.075)	0.012 (0.074)	-0.213 ^{***} (0.083)	0.070 (0.076)	0.041 (0.076)
Engineering	0.067 (0.089)	0.155 (0.112)	0.144 (0.091)	0.077 (0.099)	0.090 (0.089)	0.091 (0.088)	-0.098 (0.098)	0.177 ^{**} (0.090)	0.108 (0.090)
Health care	0.003 (0.082)	-0.118 (0.109)	-0.017 (0.082)	-0.171 [*] (0.093)	0.079 (0.082)	-0.025 (0.081)	-0.160 [*] (0.090)	0.068 (0.083)	0.052 (0.083)
Education	-0.006 (0.086)	-0.106 (0.115)	0.100 (0.086)	-0.059 (0.098)	0.122 (0.086)	0.134 (0.085)	-0.174 [*] (0.096)	0.070 (0.088)	0.014 (0.088)
Service	-0.090 (0.076)	-0.064 (0.101)	0.123 (0.081)	-0.132 (0.088)	0.105 (0.077)	-0.033 (0.076)	-0.045 (0.084)	0.025 (0.078)	0.089 (0.078)
Media	-0.007 (0.173)	-0.013 (0.223)	0.419 ^{***} (0.171)	0.199 (0.188)	0.471 ^{***} (0.170)	0.387 ^{**} (0.171)	-0.078 (0.190)	0.132 (0.173)	0.230 (0.171)

	Q1a	Q1b	Q1c	Q1d	Q1e	Q1f	Q1g	Q1h	Q1i
Transport	-0.197 [*] (0.109)	-0.127 (0.144)	-0.049 (0.114)	-0.004 (0.124)	0.031 (0.110)	-0.008 (0.108)	-0.158 (0.121)	-0.133 (0.113)	0.056 (0.112)
Construction	-0.102 (0.082)	-0.109 (0.08)	0.156 [*] (0.086)	-0.060 (0.094)	0.092 (0.082)	0.073 (0.081)	0.006 (0.090)	0.011 (0.084)	0.127 (0.083)
Agriculture	0.004 (0.106)	-0.018 (0.141)	0.146 (0.110)	0.090 (0.120)	0.066 (0.107)	0.048 (0.105)	0.206 [*] (0.116)	0.284 ^{***} (0.109)	0.234 ^{**} (0.108)
Other	0.022 (0.078)	-0.045 (0.102)	0.153 ^{**} (0.080)	-0.057 (0.088)	0.067 (0.078)	0.014 (0.077)	-0.078 (0.085)	-0.004 (0.079)	0.104 (0.079)
Effects of firm size (reference category: more than 500 employees)									
1	-0.029 (0.093)	0.215 [*] (0.121)	0.093 (0.095)	0.058 (0.106)	0.008 (0.094)	0.085 (0.092)	0.105 (0.103)	0.089 (0.095)	0.046 (0.094)
2–9	-0.216 ^{**} (0.086)	-0.011 (0.079)	0.029 (0.059)	-0.041 (0.065)	-0.046 (0.058)	-0.019 (0.057)	-0.030 (0.064)	-0.095 [*] (0.058)	-0.053 (0.058)
10–49	-0.069 (0.048)	-0.071 (0.066)	0.022 (0.050)	-0.095 (0.055)	0.028 (0.048)	-0.034 (0.048)	-0.046 (0.054)	-0.049 (0.049)	0.020 (0.049)
50–99	-0.096 [*] (0.058)	0.020 (0.078)	0.043 (0.060)	-0.033 (0.066)	0.013 (0.058)	-0.059 (0.058)	-0.039 (0.065)	-0.083 (0.059)	0.044 (0.059)
100–199	-0.103 (0.065)	-0.023 (0.087)	0.068 (0.066)	-0.075 (0.074)	-0.032 (0.065)	-0.084 (0.064)	-0.022 (0.072)	-0.115 [*] (0.066)	-0.033 (0.066)
200–499	-0.004 (0.065)	0.026 (0.088)	0.066 (0.067)	-0.027 (0.074)	0.064 (0.065)	-0.059 (0.065)	-0.047 (0.073)	0.032 (0.066)	0.024 (0.066)
Effects of sector (reference category: private sector)									
Public	0.063 [*]	0.102 ^{**}	-0.003	0.199 ^{***}	0.068 [*]	0.069 [*]	0.131 ^{***}	0.109 ^{***}	0.069 [*]

	Q1a	Q1b	Q1c	Q1d	Q1e	Q1f	Q1g	Q1h	Q1i
	(0.039)	(0.052)	(0.039)	(0.044)	(0.038)	(0.038)	(0.043)	(0.039)	(0.039)
Self-employed	0.001 (0.080)	-0.025 (0.112)	0.033 (0.082)	-0.032 (0.094)	-0.036 (0.082)	0.042 (0.080)	0.019 (0.091)	-0.042 (0.083)	-0.011 (0.083)
Regional effects (reference category: non-capital area)									
Capital area	0.157*** (0.034)	-0.138*** (0.045)	0.031 (0.035)	0.115*** (0.038)	-0.028 (0.034)	0.024 (0.033)	0.036 (0.038)	0.018 (0.034)	-0.002 (0.034)
Country effects (reference category: Norway)									
Sweden	0.662*** (0.051)	0.029 (0.074)	-0.280*** (0.053)	0.054 (0.057)	-0.155*** (0.051)	-0.250*** (0.051)	-0.381*** (0.055)	-0.035 (0.051)	-0.172*** (0.051)
Island	0.365*** (0.055)	0.085 (0.079)	-0.131** (0.056)	-0.040 (0.063)	-0.019 (0.055)	-0.096* (0.054)	-0.823*** (0.063)	-0.232*** (0.056)	-0.577*** (0.056)
Denmark	0.484*** (0.050)	0.299*** (0.070)	0.180*** (0.051)	-0.068 (0.057)	0.228*** (0.049)	-0.002 (0.049)	-0.231*** (0.053)	0.820*** (0.050)	-0.048 (0.050)
Finland	0.852*** (0.051)	0.485*** (0.068)	-0.005 (0.051)	-0.118** (0.058)	-0.494*** (0.051)	-0.200*** (0.050)	0.453*** (0.055)	-0.547*** (0.052)	-0.613*** (0.051)
Number of observations	4737	4737	4692	4718	4682	4714	4740	4722	4665

***: significant at the 1% level, **: significant at the 5% level, *: significant at the 10% level

- Question 1a: Cold w/fever
- Question 1b: Alcohol consumption
- Question 1c: Lack of childcare
- Question 1d: Too little sleep
- Question 1e: Break-up of marriage
- Question 1f: Care for family members
- Question 1g: Conditions at the workplace
- Question 1g: Stress at the workplace
- Question 1i: Mobbing at the workplace

Table 3: *Estimated effects question 2a–2f, Ordered probit-models, standard deviations in parentheses.*

	Q2a	Q2b	Q2c	Q2d	Q2e	Q2f
Gender effects (reference category: male)						
Female	-0.097 (0.096)	0.053 (0.045)	-0.115*** (0.043)	-0.053 (0.068)	0.099** (0.048)	0.069 (0.046)
Age effects (reference category: aged 18–24)						
25–34	-0.087 (0.194)	-0.161* (0.088)	-0.019 (0.085)	-0.133 (0.139)	-0.042 (0.099)	-0.130 (0.092)
35–44	0.002 (0.188)	-0.172** (0.086)	0.024 (0.082)	0.034 (0.135)	-0.008 (0.096)	0.221** (0.089)
45–54	0.115 (0.186)	-0.228*** (0.086)	-0.007 (0.083)	-0.061 (0.142)	-0.089 (0.097)	0.109 (0.090)
55–67	0.038 (0.192)	-0.392*** (0.091)	-0.136 (0.086)	-0.061 (0.142)	-0.229** (0.101)	-0.067 (0.095)
Effects of education (reference category: primary education)						
Secondary education	-0.064 (0.137)	-0.035 (0.065)	0.006 (0.060)	-0.196** (0.099)	-0.052 (0.070)	-0.053 (0.067)
University 1	-0.154 (0.157)	-0.040 (0.074)	-0.017 (0.069)	-0.291*** (0.114)	-0.016 (0.080)	-0.102 (0.077)
University 2	0.023 (0.156)	-0.120* (0.073)	-0.034 (0.070)	-0.423*** (0.118)	-0.055 (0.081)	-0.096 (0.078)
Other	0.099 (0.247)	-0.032 (0.111)	-0.006 (0.107)	-0.582*** (0.185)	-0.044 (0.115)	-0.076 (0.120)
Effects of working hours (reference category: 8–15 hours per week)						
16–23 hours	-0.297 (0.300)	-0.007 (0.153)	-0.108 (0.145)	-0.035 (0.215)	0.069 (0.165)	0.216 (0.157)
24–31 hours	-0.101 (0.269)	-0.026 (0.139)	-0.116 (0.131)	-0.288 (0.203)	-0.009 (0.152)	0.186 (0.141)
32–39 hours	-0.485** (0.249)	-0.142 (0.126)	-0.262** (0.120)	-0.148 (0.183)	-0.052 (0.140)	0.064 (0.130)
40–49 hours	-0.387 (0.248)	-0.090 (0.126)	-0.241** (0.120)	-0.207 (0.185)	-0.081 (0.141)	0.063 (0.130)
50 hours +	-0.272 (0.270)	-0.161 (0.068)	-0.269** (0.129)	-0.251 (0.206)	-0.163 (0.154)	-0.035 (0.142)
Effects of industry (reference category: manufacturing)						
Office	0.244 (0.228)	0.060 (0.094)	0.177** (0.089)	0.193 (0.143)	0.082 (0.103)	0.035 (0.097)
Engineering	0.134 (0.254)	0.087 (0.109)	0.182* (0.103)	0.153 (0.164)	0.143 (0.119)	0.038 (0.111)
Health care	0.394* (0.270)	0.124 (0.109)	0.204** (0.103)	0.442*** (0.164)	0.119 (0.119)	0.021 (0.111)

	Q2a	Q2b	Q2c	Q2d	Q2e	Q2f
	(0.241)	(0.102)	(0.098)	(0.154)	(0.112)	(0.105)
Education	0.154 (0.251)	0.145 (0.106)	0.201** (0.102)	0.367** (0.163)	0.147 (0.118)	0.086 (0.112)
Service	0.535** (0.226)	0.099 (0.097)	0.123 (0.091)	0.143 (0.143)	0.028 (0.107)	-0.001 (0.099)
Media	0.233 (0.468)	0.299 (0.203)	0.241 (0.197)	0.342 (0.306)	-0.025 (0.218)	0.119 (0.198)
Transport	0.252 (0.316)	0.101 (0.143)	0.177 (0.130)	0.044 (0.217)	0.049 (0.160)	0.238* (0.145)
Construction	0.578*** (0.236)	-0.002 (0.103)	-0.033 (0.098)	0.014 (0.156)	0.048 (0.115)	-0.175* (0.108)
Agriculture	0.685*** (0.279)	0.125 (0.137)	0.017 (0.126)	0.132 (0.201)	0.273* (0.151)	0.037 (0.142)
Other	0.435* (0.229)	0.125 (0.097)	0.248*** (0.093)	0.301** (0.144)	0.170 (0.107)	0.089 (0.100)
Effects of firm size (reference category: more than 500 employees)						
1	-0.034 (0.240)	0.290** (0.119)	0.090 (0.108)	0.223 (0.178)	0.116 (0.129)	-0.164 (0.124)
2–9	-0.039 (0.149)	-0.057 (0.071)	-0.026 (0.067)	-0.082 (0.111)	-0.110 (0.077)	-0.066 (0.073)
10–49	-0.025 (0.126)	-0.013 (0.059)	-0.098* (0.056)	-0.040 (0.091)	-0.070 (0.063)	-0.023 (0.060)
50–99	-0.069 (0.151)	-0.021 (0.071)	-0.056 (0.068)	0.006 (0.107)	-0.131* (0.075)	-0.037 (0.072)
100–199	-0.019 (0.175)	0.095 (0.079)	-0.073 (0.076)	-0.076 (0.123)	-0.032 (0.085)	0.013 (0.082)
200–499	-0.058 (0.175)	-0.012 (0.078)	-0.051 (0.076)	-0.013 (0.121)	-0.017 (0.083)	0.021 (0.082)
Effects of sector (reference category: private sector)						
Public	0.140 (0.101)	0.116*** (0.047)	0.036 (0.045)	0.060 (0.072)	0.103** (0.052)	0.109** (0.049)
Self-employed	0.039 (0.220)	-0.271*** (0.106)	-0.045 (0.094)	-0.397** (0.170)	-0.237** (0.118)	-0.422*** (0.112)
Regional effects (reference category: non-capital area)						
Capital area	-0.071 (0.090)	0.033 (0.041)	-0.033 (0.040)	0.028 (0.065)	0.038 (0.046)	0.019 (0.044)
Country effects (reference category: Norway)						
Sweden	-0.347*** (0.124)	-0.418*** (0.062)	-0.400*** (0.059)	-0.473*** (0.090)	-0.314*** (0.066)	-0.505*** (0.061)

	Q2a	Q2b	Q2c	Q2d	Q2e	Q2f
Island	-0.522*** (0.147)	-0.508*** (0.067)	-0.498*** (0.064)	-0.912*** (0.123)	-0.816*** (0.078)	-0.926*** (0.074)
Denmark	-0.561*** (0.135)	-0.137** (0.058)	-0.458*** (0.056)	-0.472*** (0.085)	-0.610*** (0.060)	-0.382*** (0.059)
Finland	-0.305** (0.127)	-0.804*** (0.063)	-0.818*** (0.059)	-0.745*** (0.091)	-0.444*** (0.071)	-0.836*** (0.064)
Number of observations	1512	3480	3810	1645	2992	3142

***: significant at the 1% level, **: significant at the 5% level, *: significant at the 10% level

- Question 2a: Too little sleep
- Question 2b: Break-up of marriage
- Question 2c: Care for family members
- Question 2d: Conditions at the workplace
- Question 2e: Stress at the workplace
- Question 2f: Mobbing at the workplace

Education

In our analyses we find that the educational level affects attitudes to sickness absence, but that the effects are ambiguous. Respondents with relatively long education find it more acceptable to call in sick if one has a cold with some fever or has been consuming alcohol the previous night (1a and 1b), while the opposite is the case when it comes to lack of childcare (1c), family members who need care (1f) or dissatisfaction with workplace conditions (1g), see Table 2.

Focusing on the length of sickness absence, we only find minor differences in attitudes between the educational groups (Table 3). However, on two questions – sickness absence related to divorce (2b) and sickness absence due to dissatisfaction with conditions at the workplace (2d) – there is a tendency for persons with long education to accept shorter absence spells than persons with less education.

Working hours

There is also a tendency that respondents' restrictiveness towards sickness absence increases with working hours. Although this gradient is far from being linear, the results presented in Table 2 indicate that individuals working 40-49 hours or more than 50 hours per week are more restrictive than individuals working fewer hours per week. Concerning the length of the sickness absence, we find no relationship between working hours and attitudes. Only for one cause (having family members who need care, 2c), individuals working long hours seem to be more restrictive than others.

Occupation, firm size and industrial sector

Respondents in different occupations and in companies of different size do not differ much when it comes to on attitudes towards calling in sick. However, when categorizing respondents by industrial sector: private, public and self employed, we find significant differences. Table 2 shows that respondents employed in the public sector are significantly more liberal than persons employed in private sector and self employed with regards to what they find acceptable as reasons for sickness absence. We observe the same tendency, though less pronounced, in relation to what is considered as an acceptable duration of the sickness absence, see table 3. While public employees have more liberal attitudes towards the length of the sickness absence spells, self employed are more restrictive.

Region

We compare regions within each country with the capital area and find that respondents living in the capital areas are less restrictive on question 1a and 1d (sickness absence due to having a cold and lack of sleep) and more restrictive due to absence caused by alcohol consumption (1b). However, the main impression is that there are small regional differences in attitudes towards sickness absence within the Nordic countries³.

Variation in attitudes towards sickness absence between the Nordic countries

Tables 4 and 5 compare attitudes towards sickness leave in Denmark, Sweden, Iceland and Finland with the attitudes in Norway. We use the results from the regressions reported in tables 2 and 3 to predict the probability that an (average) respondent from Norway answers «never acceptable» or «always acceptable» on question 1a to 1i (Table 4), and «1–2 days», «until one week», «until 4 weeks» on question 2a to 2f (Table 5). For comparison, we then calculate the likelihood that a respondent in the remaining countries (Denmark, Sweden, Iceland and Finland) answers, for example, «never acceptable» on question 1a. A coefficient for Norway of 0.239, as in the first line in Table 4, is therefore the estimated probability for Norwegians to answer «never acceptable», in this case 23.9 %. The value -0.105 is reported for Sweden in the next column. Thus, Swedish respondents have 10.5% lower probability for accepting this as a reasonable cause for absence due to sickness, compared with Norwegian respondents. If the reported coefficient is positive, the probability is higher.

When discussing the results we restrict attention to the proportion of respondents answering «never acceptable» on question 1a–1i, because a high proportion answering «never acceptable» usually is followed by a low proportion answering «always acceptable» and vice versa. This makes the discussion less involved without the cost of losing significant information. For the same reason, we focus on the proportion answering «1–2 days» on question 2a–2f (i.e. the alternative that reflects the most restrictive attitudes).

³ We have also estimated ordered probit models for each country, comparing regions with the capital region. The results (available upon request) show small regional differences in attitudes towards sickness absence.

Table 4 shows that consumption of alcohol (1b) and lack of sleep (1d) are regarded the most unacceptable reasons for sickness absence in Norway. 86 % and 62 % of the respondents answer «never acceptable» to this. One probable explanation is that these factors are looked upon as self-inflicted, and thus less accepted. Attitudes in Norway are similar to attitudes in the other countries, but there is a tendency that Danish and Finnish respondents are more liberal towards absence due to alcohol consumption.

Table 4: *Estimated probabilities and marginal effects for questions 1a-1i, standard deviation in parentheses.*

	Norway		Sweden		Iceland		Denmark		Finland	
	Never acceptable	Always acceptable	Never acceptable	Always acceptable	Never acceptable	Always acceptable	Never acceptable	Always acceptable	Never acceptable	Always acceptable
Q1a: Cold w/fever	0.239 -	0.092 -	-0.105*** (0.007)	0.201*** (0.018)	-0.065*** (0.009)	0.104*** (0.017)	-0.082*** (0.007)	0.141*** (0.016)	-0.127*** (0.006)	0.267*** (0.018)
Q1b: Alcohol consumption	0.860 -	0.006 -	-0.008 (0.019)	0.001 (0.002)	-0.022 (0.021)	0.002 (0.002)	-0.085*** (0.021)	0.009*** (0.003)	-0.141*** (0.022)	0.016*** (0.004)
Q1c: Lack of childcare	0.349 -	0.051 -	0.106*** (0.020)	-0.024*** (0.004)	0.049** (0.022)	-0.012** (0.005)	-0.065*** (0.018)	0.019*** (0.006)	0.002 (0.019)	-0.001 (0.005)
Q1d: Too little sleep	0.621 -	0.014 -	-0.020 (0.022)	0.002 (0.002)	0.015 (0.023)	-0.001 (0.002)	0.025 (0.021)	-0.002 (0.002)	0.043** (0.021)	-0.003** (0.002)
Q1e: Break-up of marriage	0.172 -	0.079 -	0.044*** (0.015)	-0.018*** (0.005)	0.005 (0.015)	-0.002 (0.007)	-0.059*** (0.012)	0.031*** (0.008)	0.152*** (0.017)	-0.049*** (0.004)
Q1f: Care for family members	0.114 -	0.137 -	0.057*** (0.013)	-0.045*** (0.008)	0.021* (0.015)	-0.018* (0.010)	0.000 (0.010)	-0.000 (0.010)	0.045*** (0.012)	0.036*** (0.008)
Q1g: Conditions at the workplace	0.454 -	0.030 -	0.142*** (0.020)	-0.009*** (0.001)	0.285*** (0.019)	-0.016*** (0.001)	0.088*** (0.020)	-0.006*** (0.001)	0.167*** (0.019)	-0.011*** (0.002)
Q1h: Stress at the workplace	0.276 -	0.037 -	0.012 (0.017)	-0.003 (0.004)	0.080*** (0.020)	-0.016*** (0.004)	-0.227*** (0.011)	0.100*** (0.009)	0.196*** (0.020)	-0.033*** (0.003)
Q1i: Mobbing at the workplace	0.158 -	0.192 -	0.054*** (0.017)	-0.033*** (0.010)	0.195*** (0.021)	-0.095*** (0.008)	0.015 (0.016)	-0.010 (0.010)	0.209*** (0.019)	-0.100*** (0.007)

*** : significant at 1 per cent level, ** : significant at 5 per cent level, * : significant at 10 per cent level.

The questions regarding sickness leave due to cold with fever, lack of child care, dissatisfaction with working conditions and stress at the workplace seem to be in an intermediate position. These factors are looked upon as far more legitimate reasons for absence by Norwegian respondents. Notice also, that there are large variations in attitudes between countries. Sickness absence because of having a cold with fever, is never accepted by 24 % of the Norwegian respondents, while Swedish (13% never acceptable) and Finnish (11 % never acceptable) respondents are far more liberal. On the other hand, Swedish and Icelandic respondents are more restrictive than Norwegians concerning sickness absence due to lack of child care. On the same question, Danes are less restrictive than Norwegians, while the Finns are not significantly different from the Norwegian respondents. The results in Table 4 further illustrate that Danish respondents are considerably more liberal than Norwegians on question 1h (stress at the workplace), while Finns and Icelanders are more restrictive. On question 1g (conditions at the workplace), all other respondents are more restrictive compared with the Norwegians.

The three last causes of sickness absence – break-up of marriage, family members in need of care and bullying at the work place (1e, 1f and 1i) – are the most accepted reasons for sick leave. Swedish and Finnish respondents are (considerably) more restrictive compared with Norwegian respondents on all three questions. Danish respondents are less restrictive when it comes to sickness absence due to break-up of marriage, but do not differ from Norwegians on the two other questions. Icelandic respondents are more restrictive to sickness absence due to close family members needing care/support or bullying at work, while they do not differ from Norwegians on 1e (break-up of marriage).

In Table 5, we focus on differences in attitudes towards the length of absence due to sickness. The table reports estimated probabilities for the respondents to answer 1-2 days, up to 1 week, or up to 4 weeks as acceptable duration of sickness absence for different causes. We restrict the attention to the proportion of respondents accepting 1-2 days as the longest acceptable absence. 77.6 per cent of the Norwegian respondents accept 1–2 days absence as a maximum due to lack of sleep. The respondents are far less restrictive to other causes, the proportion of Norwegian respondents accepting a maximum of 1–2 days of absence is less than 20 percent for question 3, 4 and 7, while it is 37.2 and 30.5 for question 5 and 6, respectively.

Table 5: Estimated probabilities and marginal effects for questions 2a-2f, standard deviation in parenthesis.

	Norway			Sweden			Iceland			Denmark			Finland		
	1-2 days	Up to 1 week	Up to 4 weeks	1-2 days	Up to 1 week	Up to 4 weeks	1-2 days	Up to 1 week	Up to 4 weeks	1-2 days	Up to 1 week	Up to 4 weeks	1-2 days	Up to 1 week	Up to 4 weeks
Q2a: Too little sleep	0.776 -	0.150 -	0.048 -	0.064*** (0.020)	-0.043*** (0.014)	-0.014*** (0.005)	0.088*** (0.020)	-0.061*** (0.015)	-0.019*** (0.005)	0.094*** (0.018)	-0.065*** (0.013)	-0.020*** (0.005)	0.057*** (0.021)	-0.038*** (0.015)	-0.012*** (0.005)
Q2b: Break-up of marriage	0.160 -	0.488 -	0.277 -	0.143*** (0.022)	-0.026*** (0.008)	-0.089*** (0.012)	0.176*** (0.025)	-0.038*** (0.010)	-0.106*** (0.013)	0.045*** (0.019)	-0.003 (0.003)	-0.031** (0.013)	0.287*** (0.024)	-0.087*** (0.013)	-0.157*** (0.011)
Q2c: Care for family members	0.188 -	0.399 -	0.265 -	0.151*** (0.023)	-0.035*** (0.008)	-0.073*** (0.010)	0.189*** (0.024)	-0.048*** (0.010)	-0.089*** (0.011)	0.173*** (0.022)	-0.042*** (0.008)	-0.083*** (0.010)	0.311*** (0.022)	-0.098*** (0.011)	-0.139*** (0.009)
Q2d: Conditions at the workplace	0.372 -	0.389 -	0.165 -	0.181*** (0.032)	-0.101*** (0.021)	-0.057*** (0.010)	0.317*** (0.034)	-0.199*** (0.026)	-0.087*** (0.009)	0.181*** (0.031)	-0.100*** (0.020)	-0.058*** (0.010)	0.276*** (0.030)	0.161*** (0.021)	-0.083*** (0.009)
Q2e: Stress at the workplace	0.305 -	0.387 -	0.212 -	0.118*** (0.025)	-0.021*** (0.007)	-0.058*** (0.012)	0.314*** (0.030)	-0.095*** (0.015)	-0.138*** (0.012)	-0.206*** (0.018)	-0.010* (0.006)	0.108*** (0.011)	0.170*** (0.028)	-0.038*** (0.010)	-0.080*** (0.012)
Q2f: Mobbing at the workplace	0.159 -	0.312 -	0.301 -	0.186*** (0.023)	-0.015*** (0.006)	-0.094*** (0.012)	0.350*** (0.028)	-0.074*** (0.013)	-0.164*** (0.012)	0.139*** (0.022)	-0.006 (0.004)	-0.071*** (0.011)	0.313*** (0.024)	-0.052*** (0.010)	-0.151*** (0.011)

***: significant at 1 per cent level, **: significant at 5 per cent level, *: significant at 10 per cent level.

Interestingly, there seem to be a clear tendency that Norwegian respondents are less restrictive than respondents from other Nordic countries on these questions. Respondents from Finland and Iceland are most restrictive, while estimates for Swedish and Danish respondents lie between the Norwegian and Finnish/Icelandic respondents.

Conclusion

The current article show that use of alcohol and lack of sleep are the least acceptable causes for sickness absence, while absence due to break-up of marriage, family members who need care and support, and bullying at the workplace are fare more accepted. The tendency is the same for the length of the absence – respondents accept the shortest absence when lack of sleep is the cause of absence, but accept longer absence due to break-up of marriage, family members in need of care and bullying at the workplace.

We also analyse how attitudes towards sickness absence vary with characteristics of the respondents. We find that females are more restrictive than males, that elderly are more restrictive than their younger colleagues, individuals who work long hours per week are more restrictive than individuals working fewer hours, and that individuals employed in the private sector are more restrictive than those in the public sector. There are clear tendencies that the differences between groups of respondents are largest related to what the respondents think are acceptable causes of sickness absence, while respondents have more equal attitudes toward what is the acceptable length of a sickness spell.

It might also be of some interest to relate these findings to observed sickness absence. A typical result in the literature is that females and elderly have more frequent and longer sickness absence spells than others (SBU, 2003). Because we find that these groups of workers have more restrictive attitudes towards sickness absence, our results indicate that this might be caused by e.g. health factors or factors at the workplace. Another typical finding in the literature is that sickness absence varies substantially between industries (SBU, 2003). Our results do not indicate that this can be explained by differences in norms towards sickness absence.

Further, we find significant variations in attitudes towards absenteeism due to sickness between the Nordic countries, but relatively small differences within countries. Such a finding could indicate that there is a relationship between sickness benefit schemes and attitudes toward sickness absence. To shed some light on this issue, we will try to rank the five countries according to restrictiveness on these two dimensions.

Osterkamp and Röhn (2007) rank countries after the generosity of their sickness benefit scheme, but unfortunately, Iceland is not part of their ranking. Based on the summary of sickness absence schemes in Table 1 of this paper, we find it reasonable to assume that Iceland has the least generous scheme and we get the following ranking:

Iceland (most restrictive), Finland, Denmark, Norway and Sweden (least restrictive).

Based on the results presented in Table 2 and 3, it is difficult to rank countries' attitudes towards sickness absence. We have therefore constructed indices that summarises the information in questions 1a to 1i and 2a to 2f. The indices are quite simple, they are

calculated as the average score of each respondent (rounded to the closest integer) for each group of questions. As above, we estimate ordered probit models, and the results (presented in table A3 in the appendix) for question 1a to 1i lead to the following ranking of countries' restrictiveness:

Finland (most restrictive), Iceland, Sweden, Norway and Denmark (least restrictive).

When ranking the countries according to their restrictiveness related to the length of the sickness absence accepted by the respondents, we get the following:

Iceland (most restrictive), Finland, Sweden, Denmark and Norway (least restrictive).

Even though the ranking resulting from the two indices does not correspond perfectly with Osterkamp and Röhn's ranking of the restrictiveness of the sickness absence schemes in the Nordic countries, it is a clear tendency that the two countries with the most restrictive schemes (Iceland and Finland) also have the most restrictive attitudes towards sickness absence, thus indicating a relationship between sickness benefit schemes and attitudes. However, it is important to notice that these relations not necessarily are causal in the way that attitudes will change if one changes the sickness schemes. To examine this, one needs longitudinal data and other methodological approaches.

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Appendix

Table A1: *Sample characteristics.*

	Norway	Sweden	Denmark	Iceland	Finland
Proportion females	0.55	0.55	0.53	0.55	0.52
Age:					
18–24	0.04	0.04	0.10	0.02	0.09
25–34	0.15	0.18	0.23	0.16	0.22
35–44	0.30	0.29	0.23	0.32	0.28
45–54	0.31	0.26	0.24	0.31	0.25
55–67	0.21	0.24	0.20	0.20	0.16
Education:					
Primary education	0.08	0.09	0.22	0.11	0.13
Secondary education	0.36	0.44	0.39	0.43	0.42
University 1	0.23	0.21	0.18	0.12	0.23
University 2	0.32	0.24	0.15	0.22	0.22
Other education	0.01	0.01	0.06	0.12	0.01
Working hours per week:					
8–15	0.03	0.02	0.03	0.02	0.02
16–23	0.07	0.05	0.03	0.04	0.03
24–31	0.11	0.08	0.05	0.09	0.08
32–39	0.43	0.16	0.11	0.56	0.44
40–49	0.27	0.60	0.46	0.22	0.35
50 +	0.09	0.09	0.32	0.07	0.09
Industry/Occupation:					
Office	0.15	0.17	0.19	0.20	0.10
Engineering	0.07	0.08	0.03	0.06	0.06
Health care	0.16	0.20	0.12	0.12	0.12
Education	0.13	0.09	0.13	0.10	0.08
Service	0.10	0.11	0.12	0.07	0.21
Media	0.01	0.01	0.01	0.01	0.01

Transport	0.02	0.02	0.03	0.02	0.05
Construction	0.06	0.08	0.12	0.08	0.07
Manufacturing	0.05	0.06	0.05	0.05	0.11
Agriculture	0.02	0.01	0.06	0.01	0.06
Other	0.15	0.12	0.09	0.19	0.11
Sector:					
Private	0.48	0.50	0.57	0.55	0.56
Public	0.45	0.44	0.34	0.42	0.39
Self-employed	0.06	0.05	0.08	0.03	0.04
Firm size (number of employees)					
1	0.04	0.03	0.06	0.03	0.07
2-9	0.15	0.11	0.24	0.13	0.18
10-49	0.34	0.25	0.36	0.30	0.40
50-99	0.10	0.11	0.11	0.16	0.12
100-199	0.08	0.09	0.08	0.09	0.09
200-499	0.10	0.08	0.07	0.09	0.07
500 +	0.16	0.29	0.06	0.20	0.09
Region:					
Capital area	0.20	0.40	0.58	0.25	0.39
Number of respondents	1000	1000	1000	1000	1001

Table A2: *Average scores question 1a–1i and question 2a–2f.*

	Norway	Sweden	Iceland	Denmark	Finland	All respondents
Q1a: Cold w/fever	4.44 (2.89)	6.30 (3.12)	5.18 (3.16)	5.79 (3.09)	6.81 (2.75)	5.70 (3.12)
Q1b: Alcohol consumption	1.36 (1.25)	1.40 (1.26)	1.49 (1.56)	1.58 (1.52)	1.83 (1.77)	1.53 (1.49)
Q1c: Lack of childcare	3.73 (2.59)	3.16 (2.61)	3.79 (3.02)	4.14 (2.87)	3.99 (2.77)	3.76 (2.80)
Q1d: Too little sleep	2.11 (1.85)	2.17 (1.85)	2.11 (2.10)	1.99 (1.80)	2.02 (1.88)	2.08 (1.90)
Q1e: Break-up of marriage	4.90 (2.60)	4.53 (2.78)	4.78 (2.98)	5.54 (2.79)	3.74 (2.50)	4.70 (2.80)
Q1f: Care for family members	5.83 (2.54)	5.22 (2.89)	5.74 (2.98)	5.83 (2.90)	5.45 (2.76)	5.61 (2.83)
Q1g: Conditions at the workplace	2.82 (2.20)	2.16 (1.84)	1.80 (1.87)	2.51 (2.29)	2.18 (1.92)	2.29 (2.06)
Q1h: Stress at the workplace	3.83 (2.34)	3.75 (2.48)	3.33 (2.69)	6.02 (2.77)	2.72 (2.25)	3.93 (2.75)
Q1i: Mobbing at the workplace	5.82 (2.95)	5.26 (3.02)	4.13 (3.24)	5.65 (3.16)	4.14 (2.95)	5.00 (3.15)
Q2a: Too little sleep	1.34 (0.76)	1.19 (0.58)	1.13 (0.38)	1.13 (0.50)	1.18 (0.53)	1.20 (0.58)
Q2b: Break-up of marriage	2.30 (0.87)	2.01 (0.83)	1.94 (0.75)	2.20 (0.93)	1.76 (0.76)	2.06 (0.86)
Q2c: Care for family members	2.44 (1.08)	2.06 (1.01)	1.94 (0.94)	2.04 (1.08)	1.70 (0.84)	2.04 (1.02)
Q2d: Conditions at the workplace	1.97 (1.00)	1.62 (0.79)	1.32 (0.59)	1.63 (0.89)	1.43 (0.72)	1.65 (0.87)
Q2e: Stress at the workplace	2.12 (0.98)	1.88 (0.96)	1.49 (0.71)	2.84 (1.29)	1.75 (0.91)	2.10 (1.13)
Q2f: Mobbing at the workplace	2.75 (1.21)	2.19 (1.10)	1.77 (0.93)	2.35 (1.17)	1.91 (1.05)	2.24 (1.16)

Table A3: *Estimated effects index 1 and 2, Ordered probit-models, standard deviations in parentheses.*

	Index 1 (Q1a–Q1i)	Index 2 (Q2a–Q2f)
Gender effects (reference category: male)		
Female	-0.103*** (0.036)	-0.029 (0.068)
Age effects (reference category: aged 18–24)		
25–34	-0.118* (0.074)	-0.140 (0.136)
35–44	-0.202*** (0.071)	-0.134 (0.132)
45–54	-0.276*** (0.072)	-0.277** (0.133)
55–67	-0.393*** (0.074)	-0.341*** (0.137)
Effects of education (reference category: primary education)		
Secondary education	0.008 (0.050)	-0.035 (0.102)
University 1	0.049 (0.058)	-0.128 (0.114)
University 2	-0.041 (0.058)	-0.096 (0.115)
Other	-0.122 (0.086)	-0.292 (0.184)
Effects of working hours (reference category: 8–15 hours per week)		
16–23 hours	-0.137 (0.126)	0.087 (0.239)
24–31 hours	-0.113 (0.114)	0.213 (0.220)
32–39 hours	-0.157 (0.104)	0.030 (0.201)
40–49 hours	-0.198** (0.104)	0.049 (0.201)
50 hours +	-0.349*** (0.111)	0.004 (0.217)
Effects of industry (reference category: manufacturing)		
Office	0.042 (0.073)	0.045 (0.139)
Engineering	0.181 (0.088)	0.090 (0.155)

Health care	0.025 (0.080)	0.151 (0.155)
Education	0.091 (0.085)	0.013 (0.157)
Service	0.042 (0.075)	0.099 (0.145)
Media	0.311* (0.168)	0.277 (0.282)
Transport	-0.074 (0.107)	0.220 (0.205)
Construction	0.091 (0.080)	-0.137 (0.157)
Agriculture	0.202** (0.105)	0.042 (0.206)
Other	0.073 (0.077)	0.204 (0.145)
Effects of firm size (reference category: more than 500 employees)		
1	0.085 (0.091)	0.059 (0.182)
2–9	-0.095* (0.056)	-0.019 (0.108)
10–49	-0.036 (0.047)	-0.079 (0.090)
50–99	-0.038 (0.057)	-0.082 (0.105)
100–199	-0.097 (0.064)	-0.193 (0.123)
200–499	-0.006 (0.064)	-0.183 (0.120)
Effects of sector (reference category: private sector)		
Public	0.124*** (0.038)	0.042 (0.072)
Self-employed	-0.020 (0.079)	-0.392** (0.172)
Regional effects (reference category: non-capital area)		
Capital area	0.066** (0.033)	-0.023 (0.063)
Country effects (reference category: Norway)		
Sweden	-0.087* (0.050)	-0.599*** (0.094)
Island	-0.165***	-1.004***

	(0.054)	(0.108)
Denmark	0.342*** (0.049)	-0.161* (0.094)
Finland	-0.228*** (0.050)	-0.909*** (0.097)
Number of observations	4737	1512

***: significant at the 1% level, **: significant at the 5% level, *: significant at the 10% level

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