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Return to work after sickness absence: a register-based comparison of two indigenous population groups

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ABSTRACT

Objectives: The objective of the article was to analyse how Finnish and Swedish speakers in Finland differ in health and labour market outcomes after sickness absence. Apart from many similarities, these two population groups differ in life expectancy and union stability and are supposed to be culturally distinct. Our analyses, therefore, help to shed light on the interrelation between culture and health.

Study design: We monitored health and labour market-related status 3 years after the first sickness absence.

Methods: The register-based longitudinal data covered the years 1988–2010. Multinomial logistic regressions were used to quantify the odds of being unemployed, retired due to disability, otherwise outside the labour force or dead, as compared with being employed. The analyses were controlled for age, educational level, region of residence, population density, birth region, family status, job industry, income, homeownership, time period and time on sick leave.

Results: Unemployment after sickness absence was notably more common for Finnish speakers than for Swedish speakers. In the fully adjusted models, the odds ratios were 1.48 (95% confidence interval [CI] 1.23–1.67) in men and 1.29 (95% CI 1.07–1.48) in women. Disability pension, being outside the labour force and having died were also more frequent outcomes for Finnish speakers than for Swedish speakers, although most of this variation could be attributed to socio-economic and demographic characteristics.

Conclusions: The article illustrates that register-based analyses can be effective tools for assessing and identifying persons with latent problems that impede their functioning in the labour market. These findings also suggest that culturally related factors presumably play an important role in this concern.

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Introduction

In the Nordic context, public sector incentives to help people return to work (RTW) after sickness absence are high. In Finland, approximately 8% of working-aged persons received sickness allowance in 2016, and the associated costs were 774 million euros. The most common diagnostic causes of long-term sickness absence in recent years in Finland have been musculoskeletal diseases, mental disorders and injuries.[1] The first two are also the main causes of disability pension.[2]

Successful RTW varies by a multitude of factors such as persons' age, sex, education and socio-economic status and labour market activity, the severeness of the injury or illness, adequate RTW coordination and multidisciplinary interventions.[3] In general, individuals on sick leave with mental health reasons have a higher risk of not returning to work, although RTW expectations seem to abolish this excess risk.[4]

We take a novel approach to the issue of successful RTW by comparing two groups that are supposedly culturally distinct, Finnish speakers and Swedish speakers, in Finland. In the country's population register, people can be uniquely identified according to ethnolinguistic affiliation, which enables separation of Finnish speakers and Swedish speakers. Finnish speakers constitute approximately 90% of the country's population, and Swedish speakers constitute about 5.5%. Both groups are native and have an equal position with respect to legislation, the same access to the social and healthcare system, similar educational institutions and roughly equal socio-economic position. They offer an interesting setting for comparisons because apart from the many similarities, they differ in two central aspects that are, at least partly, related to culturally related practices.[5,6]

First, they differ in life expectancy. At working ages, the standardised death risk of Swedish speakers is only about 0.65 times that of Finnish speakers.[7] The difference is particularly marked for causes of death that associate with behaviours and lifestyles, such as alcohol consumption, suicide and other external causes. Second, the two groups differ in union stability. The divorce rate of Finnish speakers, as well as their risk of separation from cohabiting unions, is close to twice that of Swedish speakers.[8,9] Because the difference in divorce risk persists over very long marital durations also, it has been claimed to be dependent on culturally related practices.[10] Cultures often merge and change, but human diversity assures that different lifestyles and beliefs will persist.[11] Although culture does not equate solely with ethnic identity or ethnolinguistic affiliation, we argue that Finnish speakers and Swedish speakers in Finland, in a rough sense, represent two culturally distinct groups. A comparison of them with regard to successful RTW may, therefore, shed light on the relation between culture and health.

Previous research has revealed that Finnish-speaking men are 30% more likely to receive sickness allowance than Swedish-speaking men, whereas the difference in women is about 15%.[12] Our aim was to examine whether these two population groups differ with respect to successful RTW and health-related outcomes also after all-cause sickness absence, which is an issue that has not been investigated before. This study is needed as it may help to gain new insights into the development of the social security system and targeted health promotion to more effectively address health and labour market inequalities.

Methods

Data

The data used, with permission number TK-53-768-12, were obtained from Statistics Finland. They consist of a random sample of 5% of all Finnish speakers and a similarly constructed 20% random sample of Swedish speakers, observed throughout the period 1988–2010. The analysis concerned persons aged 20–56 years because sickness absence is very rare before 20 years and disability pension begins to dominate at older age.[12]

Study design

All study individuals were first-time sickness allowance recipients. In Finland, the maximum period on sickness allowance is approximately 1 year. However, time on the sickness allowance can be divided across 3 consecutive calendar years. For this reason and because individuals may have several transitions after sickness absence, we observed the situation 3 years after the first sickness absence. This approach consequently ensured that we captured the end state of the sickness absence process.

The analyses were geographically restricted to the southern and western coastal part of Finland because it has both Swedish-speaking and Finnish-speaking settlements and few Swedish speakers in Finland live outside this area. The population in this area is generally healthier than that living elsewhere in the country.[12] In total, there were 24,107 study individuals; of whom, 15,053 were Finnish speakers and 9054 were Swedish speakers.

Outcome and explanatory variables

The outcome variables measured whether a person was employed, unemployed, disability pensioner, otherwise outside the labour force or deceased 3 years after the first sickness absence. This status was determined by the situation at the end of the calendar year, based on information about the main economic activity, disability pension receipt and records from the death registry.

The explanatory variables included age, educational level, region of residence, population density, region of birth, family status, job industry, income quintile, homeownership, time period and the approximated time on sick leave during the first and subsequent calendar years with sickness allowance. Except for the time on sick leave, the explanatory variables were measured 1 year before the first sickness absence.

The data do not allow for the separation of different sickness absence spells. However, because the total amount of sickness allowance received in each calendar year and the taxable income in each calendar year are known for every individual, we could approximate the total time on sickness

absence. This approach was facilitated by the fact that the sickness allowance in Finland has a nearly constant ratio to income. The reimbursement rate is about 70% of the previously taxed income. Our measure for time on sickness absence was, therefore, also a fairly good proxy for the severity of the illness. Length of sickness absence is known to be a better indicator of future reduced workability than spell frequency,[13] and most individuals are expected to have only one medically certified sickness absence spell per calendar year.[14] Length of sickness absence has also been found to relate positively to the reimbursement rate.[15]

Table 1 gives variable distributions by sex and population group. Finnish speakers and Swedish speakers differ on region of residence, population density, region of birth and job industry. This variation is largely explained by the fact that persons in the latter group have lived in the study area for many generations, whereas a considerable part of those in the former group has moved into the area from other parts of Finland.[16] In terms of socio-economic and demographic characteristics, the two groups are similar, which is consistent with previous research and the situation in the general population.[17,18]

Statistical analyses

Because the outcome variable had several categories and adjustments were needed for effects of the explanatory variables, multinomial logistic regression models were used for estimation. The contribution of the socio-economic and demographic variables was examined in a sequential manner, meaning that the explanatory variables were added stepwise to the regressions. The analyses were performed separately for men and women because the patterns of sickness absence differ by sex.[19] Combined effects of the population groups and the explanatory variables were also assessed to evaluate if the population group differentials differed across specific socio-economic and demographic attributes. All regression results are presented as odds ratios (ORs), with 95% confidence intervals (CIs), between Finnish speakers and Swedish speakers. In all regressions, the reference category of the outcome variable is being employed 3 years after sickness absence. The analyses were weighted to account for the different sampling proportions of Finnish speakers and Swedish speakers.

Results

Swedish speakers, both men and women, were more often employed after sickness absence than Finnish speakers, whereas Finnish speakers were more likely to be unemployed or on disability pension than Swedish speakers (Table 2). For men, there were population-group differences also in the proportion of persons outside the labour force for any other reason than disability pension, and in the proportion having died, whereas in women there were no such differentials.

According to the unadjusted regression results (Table 3, first row), Finnish-speaking men had twice the risk of being unemployed compared with Swedish-speaking men (OR 2.00, 95% CI 1.77–2.25). The ratio was lower when having controlled for all explanatory variables, but still as high as 1.48 (95% CI

Table 1 – Variable distributions (%) by language and sex.

Variables	Men		Women	
	Finnish	Swedish	Finnish	Swedish
Age (years)				
20–24	8.2	8.9	6.4	5.9
25–29	12.9	11.3	11.8	9.3
30–34	12.2	10.0	13.0	11.5
35–39	12.8	11.3	14.3	14.2
40–44	15.2	14.3	14.5	16.2
45–49	16.1	17.1	16.8	16.5
50–54	15.9	18.9	16.5	18.5
55–56	6.6	8.2	6.7	8.0
Education				
Basic	37.6	39.7	34.0	32.9
Secondary	47.0	42.4	41.5	41.2
Tertiary	15.4	17.9	24.4	25.9
Region of residence				
Helsinki area[a]	51.9	17.0	54.1	20.3
Rest of Uusimaa	27.7	27.6	25.2	26.9
Turku region	12.8	15.4	13.3	17.0
Pohjanmaa	7.7	39.9	7.4	35.8
Population density				
Rural	6.4	40.0	6.4	35.1
Semi-urban	19.3	27.9	18.7	27.9
Urban	74.3	32.2	74.9	37.0
Region of birth				
Southern Finland	53.6	57.7	47.4	60.1
Western Finland	22.1	41.2	23.8	38.6
Eastern Finland	16.7	0.9	19.1	1.1
Northern Finland	7.6	0.2	9.6	0.3
Family situation				
With partner	55.8	61.9	60.5	70.8
Single	26.5	17.2	32.4	20.5
Other	17.7	20.9	7.0	8.7
Job industry				
Primary industries	1.5	15.2	1.5	9.5
Manufacturing and construction	32.9	27.1	11.6	9.1
Trade, hotel and restaurants	11.6	11.6	18.8	13.8
Transport and communication	10.5	11.8	5.7	6.2
Financial and business services	9.2	5.9	11.8	7.5
Public and other services	8.4	7.8	26.7	30.5
Unemployed	14.9	10.0	10.8	9.8
Outside labour force	11.0	10.5	13.0	13.6
Income quintile				
1st	18.6	17.7	17.6	19.7
2nd	14.1	14.2	20.5	23.4
3rd	12.6	16.3	23.5	23.6
4th	21.3	20.4	21.8	19.2
5th	33.5	31.4	16.6	14.1
Home				
Rented or other	45.4	25.4	44.1	28.5
Home owner	54.6	74.6	55.9	71.5
Time period				
1988–1992	19.0	16.9	18.4	18.8
1993–1995	22.1	22.2	21.2	22.5
1996–2001	24.9	28.7	25.9	25.6
2002–2005	15.0	14.7	15.6	15.1
2006–2008	11.5	10.3	11.2	10.3
2009–2010	7.5	7.2	7.7	7.6
Sickness absence				
<2 months	66.7	71.4	71.2	72.7

(continued on next page)

Table 1 – (*continued*)

Variables	Men		Women	
	Finnish	Swedish	Finnish	Swedish
2–6 months	19.0	16.6	18.0	16.9
>6 months	14.3	12.0	10.8	10.4
Number of individuals	7370	4490	7683	4564

[a] Helsinki area: Helsinki, Espoo, Vantaa and Kauniainen.

1.23–1.67). Gaining employment after sickness absence appeared troublesome for Finnish-speaking men. Their risk of being outside the labour force was nearly 1.5 times higher than that for Swedish-speaking men (OR 1.41, 95% CI 1.25–1.60). Disability pension and death were also notably more common events for Finnish-speaking men. An inclusion of region of residence and job industry somewhat evened the differences between the population groups.

The results for women mimicked those for men, although the population group differentials were less emphasised. The greatest difference between the population groups in women was observed in the odds of unemployment (OR 1.48, 95% CI 1.30–1.68). When all explanatory variables were added, the odds ratio was reduced to 1.29 (95% CI 1.07–1.48). The odds of disability pension were also higher for Finnish-speaking women than for Swedish-speaking women (OR 1.22, 95% CI 1.07–1.38), although the difference was statistically not significant once age, education, region of residence and population density had been controlled for. In contrast to men, there was no difference between Finnish-speaking women and Swedish-speaking women with regard to being outside the labour force and death.

Table 2 – Outcome variable distributions by language and sex.

Outcome	Men				Women			
	Finnish		Swedish		Finnish		Swedish	
	n	%	n	%	n	%	n	%
Employed	4434	60.2	3198	71.2	4870	63.4	3105	68.0
Unemployed	1215	16.5	439	9.8	906	11.8	394	8.6
Disability pension	880	11.9	450	10.0	801	10.4	421	9.2
Outside labour force (other reason)	618	8.4	302	6.7	990	12.9	576	12.6
Deceased	223	3.0	101	2.2	116	1.5	68	1.5

Table 3 – Odds ratios of unemployment, disability pension, other reason for being outside the labour force and mortality between Finnish speakers and Swedish speakers, based on multinomial logistic regression models.

Sex	Unemployed	Disability pension	Other reason for outside labour force	Deceased
Men				
No controls	**2.00** (1.77–2.25)	**1.41** (1.25–1.60)	**1.46** (1.27–1.69)	**1.58** (1.25–2.00)
+ age	**2.00** (1.78–2.26)	**1.58** (1.40–1.80)	**1.50** (1.30–1.74)	**1.70** (1.34–2.17)
+ education	**2.03** (1.81–2.29)	**1.61** (1.42–1.83)	**1.51** (1.30–1.75)	**1.73** (1.36–2.21)
+ region of residence	**1.79** (1.50–1.95)	**1.51** (1.27–1.68)	**1.24** (1.04–1.44)	**1.44** (1.03–1.75)
+ population density	**1.73** (1.39–1.83)	**1.34** (1.12–1.51)	1.16 (0.93–1.31)	1.31 (0.90–1.57)
+ region of birth	**1.66** (1.34–1.78)	**1.24** (1.03–1.42)	1.11 (0.88–1.26)	1.21 (0.83–1.49)
+ family status	**1.62** (1.30–1.74)	**1.22** (1.02–1.41)	1.09 (0.86–1.24)	1.18 (0.81–1.46)
+ job industry	**1.43** (1.19–1.61)	1.13 (0.97–1.34)	1.03 (0.85–1.22)	1.06 (0.76–1.39)
+ income	**1.47** (1.21–1.64)	1.15 (0.98–1.35)	1.04 (0.85–1.23)	1.08 (0.77–1.40)
+ home owner	**1.45** (1.21–1.63)	1.15 (0.98–1.35)	1.03 (0.85–1.22)	1.07 (0.77–1.39)
+ time period	**1.47** (1.23–1.67)	1.12 (0.97–1.34)	1.03 (0.85–1.22)	1.04 (0.76–1.37)
+ length of sickness absence	**1.48** (1.23–1.67)	**1.19** (1.01–1.47)	1.05 (0.85–1.24)	1.04 (0.75–1.37)
Women				
No controls	**1.48** (1.30–1.68)	**1.22** (1.07–1.38)	1.11 (0.99–1.24)	1.10 (0.82–1.49)
+ age	**1.49** (1.31–1.69)	**1.32** (1.15–1.49)	1.04 (0.92–1.16)	1.19 (0.87–1.61)
+ education	**1.48** (1.30–1.68)	**1.32** (1.15–1.49)	1.03 (0.92–1.16)	1.19 (0.87–1.60)
+ region of residence	**1.62** (1.37–1.82)	**1.27** (1.07–1.42)	1.03 (0.90–1.16)	1.03 (0.72–1.41)
+ population density	**1.47** (1.23–1.64)	1.19 (0.99–1.33)	1.03 (0.88–1.14)	1.07 (0.71–1.44)
+ region of birth	**1.37** (1.12–1.53)	1.16 (0.96–1.32)	1.02 (0.85–1.12)	0.95 (0.63–1.35)
+ family status	**1.35** (1.11–1.52)	1.13 (0.95–1.31)	1.02 (0.85–1.12)	0.93 (0.61–1.31)
+ job industry	**1.26** (1.04–1.43)	1.09 (0.92–1.27)	1.01 (0.84–1.12)	0.92 (0.61–1.32)
+ income	**1.25** (1.03–1.42)	1.09 (0.92–1.27)	1.00 (0.83–1.11)	0.93 (0.61–1.32)
+ home owner	**1.24** (1.03–1.42)	1.09 (0.92–1.27)	1.00 (0.83–1.11)	0.93 (0.61–1.32)
+ time period	**1.28** (1.06–1.47)	1.09 (0.93–1.28)	1.01 (0.85–1.13)	0.94 (0.62–1.35)
+ length of sickness absence	**1.29** (1.07–1.48)	1.13 (0.95–1.37)	1.03 (0.86–1.15)	0.96 (0.64–1.38)

The reference category for the outcome variable is employed. Odds ratios in bold are statistically significant at the 5% level (95% confidence intervals in parentheses).

To inspect the robustness and validity of our approach, we expanded and restricted the data (all results are not shown, but available on request). Estimates remained largely the same when we removed the geographic restriction to the southern and western coastal areas and performed analyses on the whole country. The findings were also robust when the variables for region of residence and population density were substituted with a variable representing smaller geographical areas, based on each individual's subregion of residence. We also ran the regressions only for persons who were employed 1 year before sickness absence. The results were similar, although for men, the population group difference in the odds of being unemployed was slightly smaller, and when all explanatory variables were included, no difference in the odds of disability pension was observed. For women, no difference in unemployment was observed in the fully adjusted model.

Because the region of residence and job industry evened the population group difference in outcomes after sickness absence, additional robustness checks were performed to examine how they interacted with the population group variable. Joint effects, together with the main effects of the other variables, were therefore estimated. Length of sickness absence was also examined on this account as it is known to play an important role in RTW.[20] Finnish-speaking men were found to have higher odds for unemployment than Swedish-speaking men in all study regions, whereas in women, the population group difference was statistically not significant in the Helsinki area and rest of Uusimaa (Table 4). For the other outcomes, no clear and significant pattern was found. With regard to job industry, we observed differences predominantly for unemployment in the categories manufacturing, trade, public services and if having been unemployed or outside the labour force before sickness absence (Table 5). For men, there was also a population group difference for being outside the labour force, if previously employed in the primary industries or if having been unemployed before sickness absence. For women, population group differentials by job industry were more modest and primarily linked to having been outside the labour force before sickness absence. Length of sickness absence displayed significant associations for unemployment only (Table 6). There was a marked population group difference in unemployment for men if sickness absence had been at most 6 months and for women if it had been 2–6 months. Thus, the population groups appeared to be more equal in terms of long-term (over 6 months) sickness spells.

Discussion

In line with previous research, we have seen that sickness absence is not only reflective of health but also strongly related to individual labour market problems. The specific contribution of this article nevertheless lies in the notion that cultural systems of values are strongly associated with health behaviours and health outcomes.[11] The need to understand the relation between culture and health, especially the cultural factors that affect health-improving behaviours, is therefore crucial. We have, therefore, studied two equal and native population groups, which can be considered culturally distinct, and compared them with regard to RTW and health-related outcomes after sickness absence. The Finnish setting we have used is informative in an international perspective also because when studying the culture–health nexus, it is important to know what any outcomes would be without discrimination, negative attitudes, unsuccessful integration, and large social and economic inequalities. In many circumstances, this is not possible because differences in cultural practices coincide with economic, political, legal or ethical inequalities across population subgroups. The case of Swedish speakers and Finnish speakers in Finland does not suffer from these impediments.

We have found that, particularly not only for Finnish-speaking men but also for Finnish-speaking women, there was an elevated risk of becoming unemployed after sickness absence compared with their Swedish-speaking counterparts. Disability pension receipt after sickness absence is also notably more common among Finnish speakers. For men, in particular, Finnish speakers tend to move outside the labour force and die more frequently after having been on sick leave.

Part of the explanation to the substantial difference in unemployment incidence may be more favourable labour market position of Swedish speakers in general, which persists even

Table 4 – Odds ratios of unemployment, disability pension, other reason for being outside the labour force and mortality between Finnish speakers and Swedish speakers within each region, based on multinomial logistic regression with joint effects between population group and region of residence.

Region	Unemployed	Disability pension	Other reason for outside labour force	Deceased
Men				
Helsinki area	**1.30** (1.01–1.68)	1.11 (0.82–1.57)	1.08 (0.82–1.49)	0.85 (0.56–1.38)
Rest of Uusimaa	**1.45** (1.12–1.84)	1.28 (0.94–1.73)	1.30 (0.92–1.75)	0.94 (0.58–1.54)
Turku region	**1.48** (1.03–2.12)	1.09 (0.77–1.80)	**0.68** (0.42–0.96)	1.20 (0.58–2.42)
Pohjanmaa	**1.74** (1.22–2.38)	1.22 (0.86–1.94)	1.00 (0.60–1.45)	1.42 (0.72–2.85)
Women				
Helsinki area	1.08 (0.82–1.43)	1.10 (0.83–1.51)	0.93 (0.74–1.19)	1.02 (0.60–1.96)
Rest of Uusimaa	1.15 (0.86–1.47)	0.94 (0.72–1.33)	1.00 (0.77–1.25)	0.78 (0.41–1.59)
Turku region	**1.82** (1.23–2.64)	1.45 (0.95–2.22)	1.00 (0.70–1.34)	0.46 (0.18–1.16)
Pohjanmaa	**1.43** (1.03–1.98)	1.26 (0.82–1.84)	1.20 (0.82–1.60)	1.68 (0.64–3.50)

The reference category for the outcome variable is employed. Odds ratios in bold are statistically significant at the five percent level (95% confidence intervals in parentheses). Each row refers to a comparison of Finnish speakers with Swedish speakers within that specific region, adjusting for the effects of all other explanatory variables.

Table 5 – Odds ratios of unemployment, disability pension, other reason for being outside the labour force and mortality between Finnish speakers and Swedish speakers within each job industry, based on multinomial logistic regression with joint effects between population group and job industry.

Job industry	Unemployed	Disability pension	Other reason for outside labour force	Deceased
Men				
Primary industries	1.00 (0.31–2.86)	1.58 (0.60–4.53)	**4.15** (1.06–15.80)	0.58 (0.07–4.64)
Manufacturing and construction	**1.65** (1.24–2.05)	1.19 (0.89–1.67)	1.09 (0.75–1.53)	1.42 (0.78–2.34)
Trade, hotel and restaurants	**1.60** (1.04–2.25)	1.14 (0.70–1.89)	1.09 (0.66–1.77)	0.82 (0.34–1.87)
Transport and communication	0.97 (0.60–1.45)	1.07 (0.71–1.77)	0.98 (0.53–1.81)	0.76 (0.34–1.57)
Finance and business services	1.27 (0.75–2.07)	1.03 (0.61–1.90)	1.46 (0.74–2.83)	1.00 (0.36–2.63)
Public and other services	**2.02** (1.01–3.81)	1.57 (0.96–2.69)	0.81 (0.45–1.52)	0.89 (0.44–1.71)
Unemployed	**1.53** (1.08–1.99)	1.20 (0.81–1.83)	**1.68** (1.10–2.51)	1.76 (0.90–3.17)
Outside labour force	**1.53** (1.04–2.12)	1.20 (0.77–2.00)	0.73 (0.53–0.98)	0.60 (0.29–1.27)
Women				
Primary industries	1.05 (0.39–2.62)	1.35 (0.43–4.03)	2.29 (0.99–4.73)	2.47 (0.37–12.17)
Manufacturing and construction	1.22 (0.80–1.78)	1.15 (0.73–1.88)	0.80 (0.51–1.20)	0.62 (0.19–1.78)
Trade, hotel and restaurants	1.14 (0.78–1.55)	1.06 (0.68–1.69)	0.93 (0.66–1.25)	0.72 (0.33–1.52)
Transport and communication	1.07 (0.57–1.94)	**2.47** (1.20–5.10)	1.42 (0.71–2.69)	0.82 (0.25–2.91)
Finance and business services	1.48 (0.90–2.38)	0.79 (0.50–1.30)	1.19 (0.73–1.89)	1.22 (0.44–3.56)
Public and other services	1.38 (0.94–1.89)	0.97 (0.73–1.30)	0.81 (0.61–1.04)	0.62 (0.36–1.12)
Unemployed	1.21 (0.87–1.61)	1.38 (0.88–2.18)	1.48 (0.99–2.06)	1.66 (0.55–4.86)
Outside labour force	**1.90** (1.29–2.66)	1.34 (0.88–2.03)	1.06 (0.80–1.32)	**3.78** (1.03–13.09)

The reference category for the outcome variable is employed. Odds ratios in bold are statistically significant at the five percent level (95% confidence intervals in parentheses). Each row refers to a comparison of Finnish speakers with Swedish speakers within that specific job industry, adjusting for the effects of all other explanatory variables.

when age, education and the municipality of residence are accounted for.[21,22] To some extent, Swedish speakers work in other industries compared with Finnish speakers,[23] but the industrial distribution can explain their lower unemployment rate only to a limited extent.[22] The message from our study is similar. We noticed that the job industry accounted for some of the population group differences, and it was particularly marked within certain industries for men.

Swedish speakers have previously been found to have significantly lower unemployment rates than Finnish speakers in Finnish-dominated areas also.[22] Thus, the population group difference in unemployment propensity persists even after accounting for population group concentration. Here, we observed that the region of residence accounted for some of the differences in outcomes, especially in unemployment after sickness absence. One possible explanation may be language proficiency. Although no official data exist, it is fairly obvious that more Swedish speakers can speak both languages fluently than Finnish speakers.[24] This is supposed to favour their job search and strengthen the relative position in the labour market. Furthermore, if Swedish speakers form a majority in certain local areas, the language proficiency requirements are most likely to be higher in those areas and the relative labour market position of Finnish speakers to be consequently weaker. We found some support for this argument because in areas where Swedish can be considered particularly important, the population group differential in unemployment after sickness absence was the highest.

The observed differentials may potentially reflect variation in lifestyles and social behaviours also. The elevated mortality risk of Finnish-speaking men is particularly marked in working ages,[7,17,18,25] and for both sexes, this variation is most pronounced for alcohol-related and external causes.[7,25] Swedish speakers have lower disability retirement rates than Finnish speakers, and likewise, with mortality, the differences are greater in men than in women.[17] It may also be

Table 6 – Odds ratios of unemployment, disability pension, other reason for being outside the labour force and mortality between Finnish speakers and Swedish speakers within each category of length of sickness absence, based on multinomial logistic regression with joint effects between population group and length of sickness absence.

Length of sickness absence	Unemployed	Disability pension	Other reason for outside labour force	Deceased
Men				
<2 months	**1.42** (1.15–1.63)	1.22 (0.92–1.68)	1.00 (0.80–1.21)	1.14 (0.80–1.57)
2.0–6.0 months	**1.83** (1.30–2.44)	1.25 (0.96–1.71)	1.36 (0.92–1.96)	0.73 (0.39–1.32)
>6 months	1.34 (0.84–2.05)	1.12 (0.83–1.57)	0.87 (0.51–1.40)	0.95 (0.44–1.98)
Women				
<2 months	1.20 (0.98–1.40)	1.01 (0.79–1.32)	0.98 (0.81–1.11)	0.96 (0.61–1.44)
2.0–6.0 months	**1.93** (1.32–2.69)	1.25 (0.94–1.68)	1.12 (0.79–1.46)	1.10 (0.46–2.53)
>6 months	1.23 (0.74–1.93)	1.32 (0.95–1.86)	1.50 (0.91–2.35)	0.88 (0.35–2.18)

The reference category for the outcome variable is employed. Odds ratios in bold are statistically significant at the five percent level (95% confidence intervals in parentheses). Each row refers to a comparison of Finnish speakers with Swedish speakers within that specific category of length of sickness absence, adjusting for the effects of all other explanatory variables.

that Swedish speakers possess more social capital in terms of social networks and trust towards other community members and that behavioural differences of this kind positively affect health.[26] Social support, work motivation and a positive attitude towards work are known to promote RTW after sickness absence,[27] but there has been no research about whether Finnish speakers and Swedish speakers differ in this respect.

Studies on mortality and sickness absence have suggested that the difference between Finnish and Swedish speakers cannot be found in the most socially successful group, that is, employed persons with a family.[12,18] Here, we found some support for this claim because among people who were employed before sickness absence, the population group differences in unemployment and disability retirement were lower. One explanation might be that Finnish speakers and Swedish speakers in this category are more equal with regard to health literacy, health behaviours and social networks that support employment.[25,28]

Strengths and limitations of the study

A strength of our analyses was the use of register-based data, meaning that information on sickness absence was based on a medically certified condition. Unfortunately, we lacked information about the specific cause, although we know that the main causes of sickness absence in Finland are mental disorders and musculoskeletal diseases. Periods of sickness absence shorter than 10 working days were also omitted from the study simply because the sickness allowance is received after a waiting period of 10 working days. This limitation nevertheless has the advantage that minor health problems, such as common colds, were not recorded.

Another caveat to our findings is the inability to identify people with ethnolinguistically mixed background. Multigenerational population register data are needed to study these issues. There is some previous evidence to suggest that, in terms of all-cause mortality in working-aged men, persons with a mixed background may be positioned in between persons with endogamous Finnish and endogamous Swedish background.[7] The present article hints towards a similar conclusion for unemployment as the language group difference in unemployment after sickness absence was lower in regions where intermarriage is more common (the Helsinki area and rest of Uusimaa).

It has previously been found that RTW increased when employers were obliged to give notice of prolonged sickness absence to the occupational health services.[29] Similarly, the introduction of part-time sick leave enhanced RTW.[30] Partial sickness absence was introduced in Finland in 2007, but our data cannot differentiate between partial and full sickness absence periods. However, our results for 1988–2006 do not differ markedly from those for 2007–2010.

In Finland, people typically receive disability pension after being on sick leave for 1 year. Research has shown that, if the application for disability pension is rejected, it is common to live on different benefits and that 70% of all rejected claimants receive some unemployment benefits.[31] Such behaviours may affect inference drawn from our data, particularly because Finnish speakers have a higher disability retirement rate than Swedish speakers.[15,17]

Conclusions

This article has illustrated that register-based analyses can be informative tools for assessing and identifying persons with latent problems that impede their functioning in the labour market. We have also shown that culturally related factors may play an important role in this concern. The reintegration barrier of Finnish speakers seems notably higher than that of Swedish speakers as the former appears to encounter greater difficulties in gaining employment after sickness absence. In general, outcomes that reflect poor health and less advantageous labour market positions after sickness absence are more visible for Finnish speakers than for Swedish speakers and the difference is particularly marked in men.

Our results are relevant for policymakers as working-age disability benefits are one of the greatest challenges in forming effective social and labour market policies. An especially vulnerable group in the labour market studied here appears to be Finnish-speaking men with a history of both sickness and unemployment. Their needs for health care and rehabilitation are likely unmet as the workability assessments are closely connected to the access to employer-organised healthcare services. Future studies may, therefore, tentatively examine if policy changes, the employers' obligation to give notice of prolonged sickness absence and the introduction of part-time sick leave will narrow the differences in RTW across subgroups of the population.

In correspondence with previous research,[31] our results raise questions and concerns about sickness absence policies, particularly about the practical processes involved. In Finland, long sickness absence periods require several health inspections, but in practice, they only work adequately for persons with access to healthcare services organised by the employer.[2] The interrelation of unemployment and sickness absence demands carefully designed social security systems that support social cohesion, evade marginalisation and avoid having people living on unintended benefits.

Author statements

Data availability

The data used in this study are available from Statistics Finland, but restrictions apply to their availability because they were used under licence (permission number: TK-53-768-12). They are consequently not publicly accessible, but available from Statistics Finland on request, subject to service fees.

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Ethical approval

Not required because the research involved anonymised records and data sets.

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Competing interests

None declared.

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