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Perceived gender discrimination at work and subsequent long-term sickness absence among Finnish employed women

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Abstract

Background Discrimination has many kinds of consequences for employees and their well-being. This is an important aspect when considering certain issues, such as the need to prolong working careers. The objective of this study is to investigate the association of perceived gender discrimination at work with subsequent long-term sickness absence among Finnish employed women.

Methods We used a representative sample of Finnish employed women (n=8,000) merged with register-based follow-up data. We examined the relationships of control variables with gender discrimination using cross tabulation, and the relationships of the controls with subsequent sickness absences were examined using analyses of variance. The effects of gender discrimination on long-term sickness absence were analysed using a negative binomial model.

Results Perceived gender discrimination increased long-term sickness absence among employed women after controlling for age discrimination, various background, work and health-related factors. Employed women reporting perceived gender discrimination had a 1.4-times higher IRR of long-term sickness absence than those not reporting perceived gender discrimination. The association was strongest among upper-level employed women (IRR 2.2) in the adjusted model.

Conclusions Our findings suggest that gender discrimination at work is a risk factor for long sickness absence among women. Therefore, it is essential to increase awareness and prevention of discrimination to reduce negative gender-based treatment at work.

Key words: discrimination at work, gender, sickness absence

Introduction

A working life free of discrimination is a civil right of employees. However, this right is often not upheld. Even though there has been considerable effort to reduce gender discrimination in Finland through many national programmes and legislation, the prevalence of perceived discrimination at work has declined only slightly, from 5% in 1997 to 4% in 2013[1]. Discrimination has many kinds of consequences for employees and their well-being. This is an important aspect when considering certain issues, such as the need to prolong working careers. Various adverse working conditions, such as the incidence of gender discrimination, may create disincentives for employees' working careers.

In this article, we assess whether there is an association between gender discrimination at work and entering long spells of sickness absence. Gender discrimination is defined as unfair treatment caused by prejudices related to gender. In practice, gender discrimination can manifest, for example, in recruitment, remuneration, access to training, and transition to retirement.

Previous research has indicated that discrimination at work has negative effects on health[2-5] and discrimination is associated with negative changes in physical and mental health[2, 5-8]. Some studies have shown an association with specific symptoms—like the association between racial and gender discrimination and lower kidney function[9].

The study by Slany et al. [10] is among the few studies to report an association between perceived discrimination at work and subsequent sickness absences (>6 days a year) pertaining to both men and women. A study by Viitasalo and Nätti [3] addressed the association between age-discrimination and long-term sickness absence (>10 days) among women. To our knowledge, there are no studies specifying the association between perceived gender discrimination and sickness absences. The aim of this article is to examine how perceived gender discrimination in the workplace is related to the number of sick leave days in the subsequent 3-year period.

Methods

Sample and participants

The data consist of the Finnish Quality of Working Life Surveys (FQWLS) from the years 1997, 2003, 2008 and 2013, which are representative samples of the working-age population. The data collection was conducted by Statistics Finland. For each survey, some 3,000–4,500 employees were interviewed face-to-face using a standard questionnaire covering all sectors and occupations. The samples are based on respondents in the Monthly Labour Force Survey aged 15–64 years old with a normal weekly working time of at least 10 hours. The response rate was 79% in 1997, 78% in 2003, 68% in 2008 and 69% in 2013. According to Statistics Finland, non-response does not seriously undermine the representativeness of the FQWLS data[11]. The questionnaires comprise a comprehensive measurement of working conditions, including questions about gender discrimination[1]. The present study was restricted to 18- to 58-year-old employed women. Because men only marginally reported gender discrimination, only women were chosen for the analysis. The pooled data includes 8,000 employees.

Register-based follow-up data

The Quality of Work Life Surveys are cross-sectional. To study long-term outcomes in relation to gender discrimination, follow-up data were required. Therefore, the FQWLS data was merged with register-based data. The combination of the survey and register-based data was maintained, approved and performed by Statistics Finland. The survey and the combined working data did not include any identification data. The linkage of the data was made by Statistics Finland by using personal identification number. Accordingly, the ethical standards of Statistics Finland were followed when conducting the study.

Long-term sickness absence

Long-term sickness absence information was drawn from the register data. The Finnish Social Insurance Institution (KELA) keeps records on sickness allowances paid for medically certified sickness absences of more than 10 days for the entire population. Sickness allowance is payable for a maximum of 300 working days, after which one can apply for a disability pension. In recent years, the most common causes for sickness allowance have been musculoskeletal diseases, mental and behavioural disorders, and external causes (e.g. fractures). Maternity leave and absence from work to care for a sick child are not included in the

sickness absence information. Long-term sickness absence in the year before each survey (1996, 2002, 2007 or 2012) was treated as the baseline absenteeism, and the accumulated number of days on long-term sick leave during the subsequent three years (1998–2000, 2004–2006 and 2009–2011) was used as an outcome measure.

Perceived gender discrimination

In the FQWLS, the employees were asked if they had observed gender discrimination against women in their workplaces (yes, no). Respondents answering in the affirmative were then asked whether they had experienced gender discrimination themselves (yes, no). In our analysis, this latter question is used as the indicator of perceived gender discrimination.

Controls

Other relevant information—like the major background, work and health-related factors that are generally known to be associated with sickness absence – was controlled for in the analyses and drawn from the survey.

Previous studies have shown that persons with higher education are associated with a lower incidence of sick leave than those in lower education groups.[12] In addition, being unmarried is a predictor of sickness absence.[13] In our study, the four background factors were age (20–34, 35–49, 50–60 years old), marital status (living with a partner, 1=yes, 0=no), dependent children (1=yes, 0=no) and socio-economic group (manual workers, lower-level employees, upper-level employees).

Various work-related factors—like the physical and mental demands of work[14], unsociable working hours[15] and employment sector[1, 16]—are indicated to predict sickness absences. In this study, work-related factors consist of the physical and mental demands of work, socio-economic group and working time arrangements. These factors were examined based on the job demand-control model[17], which suggests that high demands, especially in combination with low control, might be a health risk. Physical and mental demands were measured by asking how demanding the participants regarded their current tasks physically/mentally using a four-point scale ranging from very undemanding (1) to very demanding (4). Participants were classified into two groups to indicate low (very or quite undemanding) and high (very or

rather demanding) levels of physical and/or mental demands at work. Employees were asked to assess their working time arrangements with the following options: regular day work (between 6 am and 6 pm), regular evening work, regular night work, two-shift work without night work, two-shift work with night work, three-shift work or other types of working hours. For the analysis, participants were classified into two groups: day work and non-day work. Furthermore, sickness absences are more prevalent among manual workers in our sample as overall in Finland[1], and therefore socio-economic group was included as a control variable. Health-related factors have been previously reported to predict sickness absences, such as previous sick leave days [18, 19] and long-standing illness; thus, we added them as controls. In our design, health-related factors included days of sickness absence in 1996, 2002, 2007 or 2012 (the year before the survey). In addition, long-standing illness was measured by asking participants whether they suffered from any permanent injury or medically diagnosed chronic illness, such as a cardiovascular, pulmonary, or muscular-skeletal disease, a disease of the digestive system, or some other long-term illness (no, yes).

Statistical analysis

The relationships of the control variables with gender discrimination were examined by ~~using~~ cross tabulation. The relationships of the control variables and gender discrimination with subsequent sickness absences were examined by analyses of variance. The effect of perceived gender discrimination on long-term sickness absence was analysed using a negative binomial (NB) model. The days of long-term sickness absence were clearly over-dispersed, i.e. the variance was higher than the mean and there was an excess of zeroes, and therefore a simple Poisson model was unsuitable for the analysis[20]. In the case of days of sickness absence, the NB model was also more appropriate than the Poisson because the events of interest are not independent[21]. The results are represented as incidence rate ratios (IRR) and their 95% confidence intervals (95% CI). We adjusted all analyses for background factors (age, marital status, dependent children, socio-economic group), work-related factors (working time arrangements, physical and mental demands), and health-related factors (long-standing illness, earlier sickness absence). The survey year was also added to the model.

We run a stepwise analysis to adjust for work-related, employee's socio-demographic and health factors separately:

- Model 1 adjusting for baseline
- Model 2 adding work-related factors, age and year
- Model 3 adding employee's socio-demographics and health

Work-related factors include socio-economic position, physical and mental demands, non-day work hours, as well as survey year to control for potential effects of macro-economic cycles. We also include employee's perception on age discrimination, to take into account the possibility for multiple discrimination. Closely related to age discrimination, we control for age at this step. At the last step, we adjust for socio-demographic and health factors.

Results

Table 1 shows the descriptive information of the study participants. We chose only women for the analysis, because men only marginally reported gender discrimination. 72% of participants were married or cohabiting, 43% had dependent children, 19% were manual workers, 56% lower-level employees and 25% upper-level, 33% had a non-day working time arrangement, 34% had high physical demands and 53% high mental demands at work, and almost a third (32%) had a long-standing illness. The mean age of the participants was 41 years, and on average participants had approximately 3 days of medically certified long-term sickness absence (i.e. 3 days plus 10 days before becoming registered) in the previous year. Four per cent of the sample reported gender, as well as age discrimination.

Table 2 shows the relationships between the control variables, gender discrimination and subsequent long-term sickness absence. First, all background, work and health characteristics except marital status and survey year were associated with the accumulated days of sickness absence. Sickness absence was more common among older employees, employees without dependent children, manual workers, employees with non-day working time arrangements, employees with high physical and high mental demands at work, employees with a previous sickness absence and employees with a long-standing illness. In addition, sickness absence was more common among employees perceiving gender discrimination, although the association was not statistically significant (*Sig.*=0.153). Second, age, socio-economic group, and physical and mental demands at work were significantly associated with gender discrimination (*Sig.*≤0.05). Conversely, marital status, having dependent children, working time arrangement, long-standing illness and survey year were not

associated with gender discrimination. Gender discrimination was more commonly reported by middle-aged participants, upper-level employees and employees with low physical and high mental demands at work. Table 3 shows the unadjusted and adjusted coefficients of gender discrimination from the negative binomial models predicting days of long-term sickness absence. In the unadjusted model, gender discrimination was not statistically significantly related to sickness absence, whereas after adjusting for background, work and health-related factors the association was found. In the adjusted model, employees reporting perceived gender discrimination had a 1.4-times higher IRR of long-term sickness absence than those not reporting perceived gender discrimination.

We find that after adding the work-related factors at step 2, an association between gender discrimination and sickness absences emerges. We suppose there are some confounding (mediating) effects (either physical, mental and/or social demands at one's work) that mediate the relation between perceived discrimination and long sickness absences.

We continued the analysis by contrasting between socio-economic groups and found a strong link between perceived gender discrimination and long sickness absences among upper-level employed women (Table 3). In the adjusted models, the IRR stays strong (2.07–2.21), i.e. work and health factors do not affect it. The estimated mean of the sickness absence days was 20 among those upper-level employees who reported gender discrimination, as opposed to 10 if there was no gender discrimination.

Among manual workers and lower-level employees, there was no statistically significant connection (results not presented). Yet among female manual workers, the IRR was high (2,00 in model 1, $p=0,090$) as well as the estimated mean of sickness absence days (43 among those who reported gender discrimination, vs. 22 among those who did not reported gender discrimination). As opposed to upper-level employees, the IRR weakens after adjusting for work and health factors (1,34 in model 3, $p=0,469$). Hence, especially health factors mediate (weaken) the potential link between gender discrimination and sickness absences among manual worker women. Overall, there is a comparably low amount of respondents ($n=49$) who reported gender discrimination in the group of manual workers.-As for lower-level employees, our findings are neutral.

Discussion

The aim of this article was to examine the association between perceived gender discrimination and subsequent sickness absences in the 3-year follow-up period. The results of this study apply only to women. This study suggests that perceived gender discrimination targeted to women is associated with long-term sickness absences in the follow-up period after controlling for various demographic, work and health-related factors. We found a strong link between perceived gender discrimination and long sickness absences among upper-level employed women.

Our findings support previous studies showing that experienced discrimination has significant negative health consequences.[7, 10, 12, 22, 23] Our focus was on work-related gender discrimination targeted to women. Viitasalo and Nätti [3] found that perceived age discrimination associated with long-term sickness absence when controlling for background, work, and health-related factors. They found that age discrimination at work was a significant risk factor for sickness absence. As expected, gender discrimination has a similar influence as age discrimination. Our study indicates that perceived gender discrimination at work is also a risk factor for subsequent sickness absences. It is possible that gender and age discrimination may affect one another as a form of multiple discrimination.

Based on this research, the upper-level female employees seem to experience gender discrimination more than women in other socio-economic groups. A lot of the variation of perceived gender discrimination by, e.g., physical and mental demands at work can be explained by this fact.

Our results are in line with earlier cross-sectional studies, which have reported the association between perceived discrimination and self-reported sickness absence[10, 24-26]. Our contribution is to show the long-term connection by using population-representative survey and register data. The results are also in line with previous research that has indicated an association between perceived gender discrimination and health outcomes[2]. To our knowledge there are no previous studies on gender discrimination and health outcomes between socioeconomic groups. Further research is needed to explain our finding on the strong link between gender discrimination and health outcomes among upper-level employed women.

Sickness absence may also be followed by weakened organizational justice as a consequence of (gender) discrimination at work[21, 27-29]. Further research into the mechanisms and processes between gender discrimination and sickness absence is needed, as is raising awareness of the importance of organizational justice without discrimination.

Limitations and strengths

The research setting we used contained some challenges that require new approaches and further research.

The first limitation is related to the study design and exposure data on gender discrimination. Perceived gender discrimination was asked about in the working conditions surveys (1997, 2003, 2008, and 2013), but it was not asked about during the follow-up. We do not know neither the history of the respondents' previous gender discrimination experiences nor whether their experiences of discrimination continued during the follow-up. This explains why we do not have information about the total (accumulated) exposure to gender discrimination.

Second, perceived gender discrimination is a sensitive issue for the respondents and therefore it may be challenging to report. Discrimination can also be interpreted differently, and experiences are very subjective. Statistics Finland as the survey collector only uses interviewers who are educated professionals used to handling emotionally demanding situations during interviews.

Although our study has limitations, it has several strengths too. First, we used a representative sample of Finnish employees (from 1997, 2003, 2008, and 2013) to increase the external validity of the study. Second, we combined register-based follow-up data set with the survey data. Third, we could control for previous sickness absences (1996, 2002, 2007, and 2012). Finally, we used comprehensive questionnaire controls for most of the important background-related and work-related confounders. To our knowledge, this is the first study linking perceived gender discrimination and subsequent sickness absence with follow-up data.

There are no special ethical issues in this study. The permission to use the data was authorized by Statistics Finland after ethical review. Statistics Finland linked the survey answers with the register-based follow-up

measures. After linking the data, all the employees' personal identification codes were encrypted.

Conclusions

The present study indicates that perceived gender discrimination is associated with longer sickness absences.

The link was found strong especially among upper-level employed women. Thus, perceived gender discrimination may bring extra breaks in working careers and thus make careers shorter than usual. In some cases, long periods of sick leave might be the first step towards an early exit at the end of the working career[30]. It is essential to increase awareness of this phenomenon to reduce negative gender-based treatment at work. The aim should be a non-discriminatory workplace for every employee, regardless of gender. There is a need for additional research on the other potential factors and mechanisms behind the association between gender discrimination and long-term sickness absences. It is also important to study the interpretations of discrimination to determine whether there are differences between respondents.

Discrimination has negative consequences for well-being at work but also to productivity. Therefore, research on the experiences and consequences of discrimination at the individual level is needed to understand the seriousness of the phenomenon and its impacts on working-aged populations and their careers. Diminishing and preventing discrimination at work require both political debate and supportive actions. Attitudes can be influenced by campaigns both at workplace and society levels. Raising the awareness of the legal remedies and the authority to contact also play a key role.

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Conflicts of interest

None declared.

Key points

- Previous studies indicate that discrimination in general associates with negative changes in health outcomes.
- There are no previous studies on the association between perceived gender discrimination at work and subsequent long-term sickness absences.
- Perceived gender discrimination at work was associated with subsequent long-term (10+ days) sickness absences during a three-year follow-up period and the link was strong among upper-level employed women.
- Our findings suggest that gender discrimination is a significant risk factor for sickness absence among women.

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Table 1. Descriptive statistics of the sample participants (N=8,000).

Variable	Mean (SD) or Percentage
Age, years, mean (SD)	41.1 (10.7)
Married or cohabiting, %	72
Dependent children, %	43
Socio-economic group: - manual worker, %	19
- lower-level employee	56
- upper-level employee	25
Working time arrangement (non-day), %	33
Physical demands at work high, %	34
Mental demands at work high, %	53
Long-standing illness, %	32
Days of long-term sickness absence in previous year, mean (SD)	3.3 (15.5)
Perceived gender discrimination, %	4
Perceived age discrimination, %	4

Table 2. Relations of background variables with gender discrimination and sickness absence.

	N	%	Gender discrimination			Days of long-term sickness absence		
			No	Yes	Difference χ^2 -test (Sig.)	Mean	SD	Difference F-test (Sig.)
Gender discrimination								0,153
No	7,661	96				15,1	44,5	
Yes	339	4				18,6	49,5	
Age					0,004			0,000
18–29	1,437	18	96%	4%		7,7	26,9	
30–44	3,072	38	95%	5%		12,6	39,2	
45–58	3,491	44	97%	3%		20,5	53,6	
Married or cohabiting					0,947			0,180
No	2,207	28	96%	4%		16,3	48,4	
Yes	5,793	72	96%	4%		14,8	43,2	
Dependent children					0,210			0,009
No	4,559	57	96%	4%		16,3	47,1	
Yes	3,441	43	95%	5%		13,7	41,3	
Socio-economic group								0,000
Manual workers	1,507	19	97%	3%	0,000	22,4	54,8	
Lower-level employees	4,498	56	96%	4%		14,9	43,4	
Upper-level employees	1,995	25	94%	6%		10,5	37,7	
Working time arrangement					0,071			0,001
Day work	5,349	67	96%	5%		14,1	43,6	
Non-day work	2,651	33	96%	4%		17,5	46,7	
Physical demands at work					0,000			0,000
Low	5,266	66	95%	5%		11,9	39,2	
High	2,734	34	97%	3%		21,6	53,2	
Mental demands at work					0,000			0,000
Low	3,734	47	97%	3%		13,3	41,3	
High	4,266	53	95%	5%		16,9	47,4	
Long-standing illness					0,347			0,000
No	5,473	68	96%	4%		10,2	33,5	
Yes	2,527	32	96%	5%		26,1	60,9	
Long-term sickness absence in previous year					0,301			0,000
No	7,012	88	96%	4%		12,3	39,0	
Yes	988	12	95%	5%		36,2	69,8	
Survey year					0,269			0,448
1997	1,531	19	95%	5%		13,6	40,9	
2003	2,049	26	96%	4%		15,8	44,8	
2008	2,175	27	96%	4%		15,6	45,2	
2013	2,245	28	96%	4%		15,4	46,5	

Table 3. The IRRs of gender discrimination from the negative binomial model predicting accumulated days of long-term sickness absence during the subsequent three years (IRR= incidence rate ratios, 95% CI=95% confidence interval).

		N	IRR	95% CI	Wald test Chi-Sq (df) Sig.
Unadjusted effects model 1	Gender discrimination				
	No	7,668			
	Yes	339	1,235	0,897–1,701	1,68 (1) 0,195
Upper-level employees	No	1,868			
	Yes	128	2,051	1,187–3,544	6,619 (1) 0,010
Adjusted effects model 2	Gender discrimination				
	No	7,664			
	Yes	339	1,456	1,057–2,005	5,286 (1) 0,021
Upper-level employees	No	1,868			
	Yes	128	2,072	1,187–3,616	6,573 (1) 0,010
Adjusted effects model 3	Gender discrimination				
	No	7,661			
	Yes	339	1,431	1,039–1,972	4,80 (1) 0,028
Upper-level employees	No	1,867			
	Yes	128	2,212	1,274–3,841	7,945 (1) 0,005

Adjusted model 2 controlling for work-related factors (socio-economic group, working time arrangement, physical and mental demands of work, perceived age discrimination), age and survey year

Adjusted model 3 adding controls for socio-demographics (marital status, dependent children) and health (long-standing illness, baseline long-term sickness absence).