Self Rated Health and Working Conditions of Small-Scale Enterprisers in Sweden

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Abstract: This study was an investigation of prevalence and associations between self-rated health and working conditions for small-scale enterprisers in a county in Sweden. A postal questionnaire was answered by 340 male and 153 female small-scale enterprisers in different sectors, with a response rate of 66%. For comparative purposes, data from a population study of 1,699 employees in private companies was included in the analyses. Differences were tested by Chi²-test and associations were presented as odds ratios (OR) with a 95% confidence interval (95% CI). The frequency of health problems in male enterprisers was higher than in employees in the private sector, while the frequency of health problems in female enterprisers was equal to that of the control employees. The main findings highlighted that male enterprisers reported higher rate of health problems and female enterprisers equal rate compared with employees in the private sector. Enterprisers stated musculoskeletal pain (women 59%, men 56%) and mental health problems (women 47%, men 45%) as the most frequent health problems. Poor job satisfaction, reported by 17% of the females and 20% of the male enterprisers, revealed an OR of 10.42 (95% CI 5.78–18.77) for poor general health. For the enterprisers, the most frequent complaints, musculoskeletal pain and mental health problems, were associated with poor job satisfaction and poor physical work environment. An association between poor general health and working as an enterpriser remained after adjusting for working conditions, sex and age.

Key words: Small-scale enterpriser, Self-rated health, Working conditions, Small-scale enterprises, SSE, Occupational health

Introduction

More than 98% of all private companies in Sweden are small-scale enterprises (<50 employees), managed by around 400,000 small-scale enterprisers. Most small-scale enterprisers in Sweden are men (70%), but this varies between trades. The number of small-scale enterprises (SSE) has increased since the middle of 1990. Both the European Community and the Swedish Government intend to promote the enterprising spirit, especially for small- and medium sized enterprises^{1, 2}. The Ensuring sustainable good health of the small-scale enterprisers is important for successful management and development of enterprises.

Research on small-scale enterprises mainly focuses on how to develop the enterprise³. The knowledge about

health problems and workload among small scale enterprisers in Sweden is limited. Two European surveys in 15 countries concluded that small-scale enterprisers with 1–9 employees report more fatigue and stress but a higher degree of job satisfaction than full-time employees^{4, 5}. The samples of small scale enterprises were small and more extended data at the national level is needed.

Independence, self determination and interesting tasks are important factors to start up an enterprise. The work of small-scale enterprisers is also characterised by long working hours and extended demands, independent of trade³. A recent review⁶ highlights the relationship between long working hours and the risks that stem from longer exposure to work hazards and less time for recovery from work. Other studies point out the importance of individual work time control and flexibility for avoiding the negative health effects of long working hours^{7, 8}.

The aim of this study was to investigate the prevalence

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of, and the association between, self-rated health problems and working conditions for small-scale enterprisers in a Swedish county. Data from employees in privately owned enterprises in the same county were included for comparison.

Materials and Methods

Materials and study design

The sample of small-scale enterprisers with 0 to 49 employees located in the middle region of Sweden was collected from the customer register of an insurance company. Every 10th small-scale enterpriser of the following trades was selected from the register: agriculture, manufacturing, building industry, retail, hotel and restaurant, transport, financial, education, health- and medical service and other service activities. There was a limit of 100 persons from each trade. Enterprisers with no activity and companies owned by societies were excluded, resulting in 788 active small-scale enterprisers.

From December 2001 to January 2002, postal questionnaires were sent to 788 small-scale enterprisers. If necessary, the questionnaire was followed by two reminders. The response rate was 66% ($n=523$). Of the respondents, 27 were excluded because of age: they were 65 yr or older, the stated age of retirement in Sweden. Accordingly, the group consisted of 496 small-scale enterprisers of whom 69% ($n=340$) were men and 31% ($n=153$) were women.

In 2000, a population survey "Life & Health" was undertaken by postal questionnaire in the same area of Sweden⁹. The sample was collected from Statistics Sweden's population register and stratified by gender, age and municipal districts. The questionnaire was followed by three reminders and the response rate was 70% ($n=9,183$). Of the respondents, 1,062 men and 637 women were employed in private companies and used as a reference group.

The questionnaire

Self-rated health

Self-rated general health was evaluated by one question, "In general, how would you describe your health? As very good /good/ neither good nor poor/ poor/ very poor?". The response alternatives "neither good nor poor/poor/very poor health" were classified as "poor general health". Self-rated health is frequently used in epidemiological studies and a number of studies have demonstrated that it is a good predictor of future illnesses^{10, 11}. A common way is to use a single non-comparative question as in Swedish Statistics Surveys of Living Conditions¹² and in the population study Life & Health⁹. A study of Lundberg and Manderbacka¹³ stated both the

validity and reliability of the question.

Three questions concerned musculoskeletal pain in shoulders, neck, back, hips, hands, arms and legs in the previous three months. The answers "Several times/Almost all the time" in one or more locations were classified as musculoskeletal pain. In addition, five questions considered psychosomatic and mental health problems, pain in the stomach, anxiety and nervousness, fatigue, insomnia and depressed state during the previous three months. The answers "Several times/Almost all the time" for at least one question were termed "Mental health problems". The questions were formulated and categorised in the same way as in repeated population surveys of health problems in Sweden⁹.

Working conditions

The items consisted of questions, statements and indices used in previous occupational and population studies⁹. Job satisfaction was measured by one question, "In general, how do you like your work situation? As very good/good/neither good nor bad/bad/very bad?". The response alternatives "neither good nor bad/bad/very bad" were termed "poor job satisfaction". Influence over work pace, and influence over how and when to perform the work tasks were measured by three statements with four response alternatives "corresponds very well (1 point) / corresponds fairly well (2 points) / corresponds not particularly well (3 points) / corresponds not at all (4 point)". A sum of 10–12 points was termed "low influence over work". "Monotonous work" was defined as monotonous and repetitive computer work and/or manufacturing work at least two days a week.

Physical work environment was estimated by two questions about exposure to noise, chemicals, solvents, steam and gas, and one question about lifts of 25 kg or more every day. A working week of more than 40 h a wk was considered as a large number of working hours.

The questions about working conditions are frequently used in occupational and populations surveys. Statistics Sweden performs The Work Environment Survey¹⁴ every other year and several county councils use the Life & Health⁹ questionnaire in their surveys. Data from the surveys is clearly valid for describing changes in the working conditions and differences between occupational groups.

Statistical methods

Statistical calculations were performed by Statistical Package for the Social Sciences (SPSS) version 13.0. Differences in the frequency of health problems and adverse working conditions between small-scale enterprisers and employees in private companies were tested for females and males separately by χ^2 -test. The associ-

ation between working conditions and health problems was analysed by multiple logistic regression and presented as odds ratios (OR) with 95% confidence intervals (95% CI). Due to internal missing in the specific items in the questionnaire, the number of respondents varied in the analyses. Only adjusted OR values were presented in the Results section, but the tables also include crude OR.

Ethics

The studies were approved by The Regional Ethical Committee in Uppsala, Sweden.

Results

A majority of the small-scale enterprisers were 45 yr or older, which was a higher proportion than in employees in the private companies (Table 1).

Long working hours were more common among enterprisers than among employees. Of the enterprisers, 67% of the women and 82% of the men reported more than 40 h of work every week.

Musculoskeletal pain was the most frequent health problem, followed by mental health problems and poor general health. The male enterprisers reported a higher prevalence of musculoskeletal pain, mental health problems and poor general health than the male employees in private companies did. No differences were observed in the prevalences of musculoskeletal pain, mental health problems and poor general health between female enterprisers and employees.

A poor physical working environment and heavy lifting were more frequent among male enterprisers than male employees in private companies. Female enterprisers stated a lower prevalence of monotonous work than

female employees did. Job satisfaction and influence over the work i.e. influence over work pace, and over how and when to perform the work tasks, did not differ between enterprisers and employees in private companies.

Within the study group of small-scale enterprisers, the multiple logistic regression revealed an association between poor general health and poor job satisfaction, poor influence over work, and poor physical working environment. Poor job satisfaction had an adjusted OR of 10.42 (95% CI 5.78–18.77) for poor general health. Long working hours had a decreased OR of 0.53 (95% CI 0.29–0.99) for poor general health (Table 2).

Musculoskeletal pain was associated with monotonous work, poor job satisfaction, poor physical working environment and heavy lifting. Monotonous work had an adjusted OR of 2.21 (95% CI 1.22–3.99) and poor job satisfaction had an adjusted OR of 2.10 (95% CI 1.20–3.69) for musculoskeletal pain (Table 3).

Mental health problems were associated with poor job satisfaction, poor influence over work, long working hours and poor physical working environment. Poor job satisfaction had an adjusted OR of 7.20 (3.83–13.54) and poor influence over work had an OR of 2.89 (1.11–7.54) for mental health problems (Table 4).

The association between enterprising and poor general health was examined by performing an additional multiple logistic regression including both the small-scale enterprisers and the employees in the private companies. The association was controlled for working conditions, sex and age. Working as a small-scale enterpriser gave an increased OR of 1.56 (1.17–2.08) for poor general health (Table 5).

Table 1. General health and working conditions for female and male small-scale enterprisers and employees in private companies

	Female			Male		
	Small-scale enterprisers n=153	Employees in private companies n=637	<i>p</i> -value χ^2	Small-scale enterprisers n=340	Employees in private companies n=1,062	<i>p</i> -value χ^2
Poor general health	23%	22%	0.73	32%	20%	<0.01
Musculoskeletal pain	59%	56%	0.56	56%	39%	<0.01
Mental health problems	47%	51%	0.40	45%	33%	<0.01
Poor physical working environment (noise, chemical hazards)	33%	29%	0.39	54%	45%	0.01
Heavy lifting	19%	22%	0.42	58%	41%	<0.01
Monotonous work	17%	26%	0.02	17%	16%	0.79
Poor influence over work	6%	13%	0.18	7%	8%	0.73
Poor job satisfaction	17%	20%	0.39	21%	19%	0.37
Work hours >40 h/wk	67%	31%	<0.01	82%	50%	<0.01
Age $\geq$ 45 yr	57%	37%	<0.01	68%	43%	<0.01

The differences were tested by χ^2 test, and *p*-values are included.

Table 2. Odds ratios (OR) and 95% confidence interval (CI) for poor general health within the study group of small-scale enterprisers

	Exposed n	Exposed cases n	Unadjusted OR (CI 95%)	Adjusted OR (CI 95%)
Poor physical work environment (noise, chemical hazards)	218	80	1.95 (1.30–2.92)	1.79 (1.02–3.17)
Heavy lifting	225	70	1.19 (0.81–1.76)	0.71 (0.39–1.32)
Monotonous work	82	36	2.25 (1.38–3.67)	1.71 (0.91–3.23)
Poor influence over work	31	18	3.64 (1.73–7.65)	3.50 (1.36–9.04)
Poor job satisfaction	99	70	10.58 (6.41–17.48)	10.42 (5.78–18.77)
Working hours >40 h/wk	355	98	0.76 (0.48–1.22)	0.53 (0.29–0.99)

The multiple logistic regression analysis (n=398) comprised six different variables concerning work conditions and the OR were adjusted for sex and age.

Table 3. Odds ratios (OR) and 95% confidence interval (CI) for musculoskeletal pain within the study group of small-scale enterprisers

	Exposed n	Exposed cases n	Unadjusted OR (CI 95%)	Adjusted OR (CI 95%)
Poor physical working environment (noise, chemical hazards)	219	142	1.95 (1.34–2.84)	1.84 (1.15–2.93)
Heavy lifting	226	143	1.60 (1.11–2.30)	1.67 (1.02–2.73)
Monotonous work	82	60	2.37 (1.40–4.01)	2.21 (1.22–3.99)
Poor influence over work	31	21	1.58 (0.73–3.43)	1.14 (0.47–2.76)
Poor job satisfaction	99	74	2.69 (1.64–4.41)	2.10 (1.20–3.69)
Working hours >40 h/wk	356	202	1.12 (0.73–1.74)	0.94 (0.56–1.59)

The multiple logistic regression analysis (n=397) comprised six different variables concerning work conditions and the OR were adjusted for sex and age.

Table 4. Odds ratios (OR) and 95% confidence interval (CI) for mental health problems within the study group of small-scale enterprisers

	Exposed n	Exposed cases n	Unadjusted OR (CI 95%)	Adjusted OR (CI 95%)
Poor physical work environment (noise, chemical hazards)	219	114	1.66 (1.15–2.40)	1.79 (1.10–2.91)
Heavy lifting	226	106	1.06 (0.74–1.71)	0.63 (0.37–1.06)
Monotonous work	82	45	1.55 (0.96–2.50)	1.00 (0.55–1.79)
Poor influence over work	31	22	2.88 (1.30–6.40)	2.89 (1.11–7.54)
Poor job satisfaction	99	80	7.28 (4.24–12.50)	7.20 (3.83–13.54)
Working hours >40 h/wk	356	170	1.52 (0.97–2.39)	1.83 (1.04–3.20)

The multiple logistic regression analysis (n=397) comprised six different variables concerning working conditions and the OR were adjusted for sex and age.

Table 5. Odds ratios (OR) and 95% confidence interval (CI) for poor general health for small-scale enterprisers and employees in private companies

	Exposed n	Exposed cases n	Unadjusted OR (CI 95%)	Adjusted OR (CI 95%)
Poor physical work environment (noise, chemical hazards)	869	219	1.37 (1.11–1.69)	1.52 (1.17–1.98)
Heavy lifting	789	226	1.67 (1.34–2.05)	1.03 (0.79–1.36)
Monotonous work	398	127	1.81 (1.42–2.30)	1.64 (1.25–2.17)
Poor influence over work	185	61	1.75 (1.27–2.43)	1.27 (0.87–1.84)
Poor job satisfaction	423	198	4.34 (3.46–5.46)	4.19 (3.24–5.40)
Working hours >40 h/wk	1,071	230	0.87 (0.71–1.07)	0.85 (0.66–1.08)
Small Enterprisers	496	143	1.54 (1.23–1.94)	1.56 (1.17–2.08)

The multiple logistic regression analysis (n=1,900) comprised six different variables concerning working conditions, one variable of being a small-scale enterpriser or employee in the private sector. The OR were adjusted for sex and age.

Discussion

The main finding of this study was that male enterprisers reported a higher rate of poor general health, poor physical working environment and heavy lifting than men employed in the reference group. The reporting rates of musculoskeletal pain and mental health problems were equally high for male enterprisers, female enterprisers, and female employees. In contrast, female enterprisers and female employees reported poor physical work environment and heavy lifting at a lower rate than male enterprisers and male employees did. The female enterprisers reported monotonous work at a lower rate than female employees did.

Musculoskeletal pain and mental health problems were the most frequent self-reported health problems in all four groups.

Poor job satisfaction was stated equally by enterprisers and employees. Among the working conditions poor job satisfaction was the strongest related factor for the outcomes poor general health, musculoskeletal pain and mental health problems. Previous investigations into which kind of employment relates to self reported health and working conditions indicated that small employers are more likely to report job satisfaction than full time employees^{4, 5}). Job satisfaction can be related to how enjoyable and meaningful the work is¹⁵). Being successful in managing the small-scale enterprise can lead to job satisfaction for the employer. A recently published meta-analysis highlighted the growing evidence of relationships between job satisfaction and mental and physical health¹⁶). To manage an enterprise includes many tasks, both directly in production and in setting up the administrative machinery. If the employer is dissatisfied with the role of managing the enterprise then finding alternative employment can be more difficult.

Few enterprisers reported poor influence over work but those who did frequently suffered from poor health, in accordance with other studies^{17, 18}). One reason for being self-employed is independence and therefore poor influence over working conditions can be very frustrating.

Generally, women report musculoskeletal disorders, especially neck- and shoulder complaints, more often than men do¹⁹). In this study, the reporting rates of musculoskeletal pain and mental health problems were equally high for male enterprisers, female enterprisers, and female employees. Monotonous work, poor physical work environment and heavy lifting were associated with musculoskeletal pain. Both physical and psychosocial exposure can cause musculoskeletal complaints and pain. Poor work satisfaction, repetitive and static work tasks, and heavy lifting are additional, important factors^{19–21}).

Both male and female small-scale enterprisers often

worked long hours. Poor general health was not associated with long weekly working hours but mental health problems were. Longitudinal studies show that long working hours cause insufficient sleep, less time to recover from work and less time to participate in recreational activities, as well as longer exposure to hazards in the working environment^{4, 5}). Musculoskeletal disorders and psycho-vegetative complaints are both related to extended working hours²²). There is also a relationship between long working hours and brain- and heart diseases^{7, 23}). However, high flexibility and the individual's ability to steer working hours appear to be important factors that affect health and well being in a positive way^{7, 8}).

This is a cross-sectional study and no causal relationship can be truly identified. Some small-scale enterprisers may have been unemployed earlier and therefore been constrained to work as self-employed, which is an adverse health selection into self-employment.

However, the small-scale enterprises in this investigation were drawn from the customer register of an insurance company. Small-scale enterprisers that have taken out insurance can be both healthier and have a more stable economy than uninsured employers. The employees in private companies were collected from a population survey in the same area, but occupation and trades were not known. Privately-employed people from the reference group came from all company sizes and the health as well as working conditions may have differed between smaller and larger enterprises.

The most frequent complaints for the enterprisers include musculoskeletal pain and mental health problems. In this study these complaints were associated with poor job satisfaction and poor physical working environment. An association between poor general health and being an enterpriser remained after adjusting for working conditions, sex and age. It is important to create opportunities and facilitate a good working environment with job satisfaction for the small-scale enterpriser, especially, as small-scale enterprisers are expected to develop their enterprises and provide work for many people.

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