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Annex to Report:  
Work-related musculoskeletal disorders –  
Facts and figures

National Report: Finland

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## Summary

Surveys and occupational disease statistics give somewhat different pictures of the occurrence of musculoskeletal disorders. The differences boil down to evidence about work-relatedness of a particular disorder. In Finland, musculoskeletal disorders compensated as occupational diseases are primarily disorders of upper limbs caused by repetitive work, e.g., tenosynovitis, peritendinitis, epicondylitis. These are reported particularly often from food industry, agriculture, and construction work.

The Finnish surveys have not consistently asked about work-relatedness of musculoskeletal (or other) symptoms. Therefore, the relationships found in survey data are at best inferential. According to a series of surveys, about two-thirds of Finns aged 25-64 have reported at least one musculoskeletal problem during the previous month. In this short series (1997-2003), no clear overall trend has emerged. Women have, however, reported higher prevalence than men, and prevalence of musculoskeletal symptoms seems to increase with age.

With regard to economic activity, Finnish surveys and occupational disease statistics agree that agriculture is a risk sector for musculoskeletal disorders. Manufacturing does not appear to be particularly risky, but food industry is likely to be lost in this combined category. On the other hand, hotel and restaurant branch emerges as a risky activity in the survey data.

With regard to occupation, agricultural and elementary occupations stand out as those exposed to higher risks. The latter include cleaning, packaging and warehousing occupations, and some health care occupations. It is apparent that these workers typically experience musculoskeletal disorders that are not registered as occupational diseases (e.g., back, neck, and shoulder problems).

Evidence on exposure to physical loading of work shows that it has not changed drastically from the late 1990s to 2003. As in previous surveys, about a quarter of respondents found their work to be physically somewhat or very heavy in 2003. There was a clear increase in perceived physical workload in manufacturing. In line with previous surveys, also men in transport or construction work and women in agricultural, commercial or health care and social work regarded theirs as physically heavy. Building on this, most of the chronic diseases diagnosed by a physician are MSDs (52%) and one third of employees had musculoskeletal symptoms that were considered to be clearly work-related. Of the musculoskeletal symptoms, low-back pain was reported most often by agricultural and construction workers, whereas neck-shoulders symptoms were more evenly distributed among the different occupational groups.

Information from the Fourth European Survey on Working Conditions (ESWC) reveals that almost half (42.5%) of all Finnish surveyed workers feel that their health is affected by work in 2005. More than a quarter complain of backache while almost one third report suffering from muscular pains. MSDs appear to increase with age among Finnish workers, the highest prevalence being reported by those in the 40-54 age group.

By gender, and similarly to national data, the ESWC also reveals a higher prevalence of MSDs among Finnish women than among their male counterparts. By sector, the highest prevalence is found in construction, electricity, gas and water supply, hotels and restaurants and agriculture. It is worth stressing the high share of muscular pain reported by workers in financial intermediation (44.4%). As it was the case with age and gender, there is a higher prevalence of muscular pain than backache across all activity sectors.

The occupations with highest prevalence of MSDs are service workers and shop and market sales workers, craft and related trades workers, plant and machine operators and assemblers and legislators, senior officials and managers. Finally, the self-employed report a higher share of MSDs than employees in Finland.

## Source description

### Statistical sources

Title	Work and health survey (Työ ja terveysterveys -haastattelututkimus)
Acronym	FIOH
Institution	Finnish Institute of Occupational Health
Country	Finland
Periodicity	Every 3 years; 1997-2003
Type	Computer-assisted telephone interview
URL	<a href="http://www.ttl.fi/internet/english">http://www.ttl.fi/internet/english</a>
Demographic group	Finnish-speaking residents aged 25-64
Objectives	Describe working conditions, health status, and occupational health care of Finland's workforce. Analyse the influence of working conditions in health.
Description	A simple random sample of approx. 5000 respondents drawn from population register. Total number of interviews has been 3000-3500, and 2000-2500 respondents have been working at the time of the interview.
Content	Background, chemical hazards, physical hazards, ergonomic hazards, injuries, psycho-social hazards, work organisation, occupational health care, life style, health status, work ability.
Question	Q. Now I will ask you about the occurrence of certain symptoms during the last month. DURING THE LAST MONTH, have you had long-lasting or repeated: SHOULDER AND NECK PAIN, ACHING SHOULDERS OR ARMS, ACHING WRISTS OR FINGERS, LOWER BACK PAIN, PAIN IN HIPS OR LEGS (each asked separately)?.

Title	Occupational Diseases in Finland
Acronym	FROD
Institution	Finnish Institution of Occupational Health
Country	Finland
Periodicity	1993, 1996, 1999, 2002
Type	Statistical report
URL	<a href="http://www.ttl.fi/Internet/English/Information/Electronic+publications/">http://www.ttl.fi/Internet/English/Information/Electronic+publications/</a>
Demographic group	All insured workers
Objectives	This publication presents a statistical summary of occupational diseases in Finland. The first part of the publication is a review, which aims to give an overall picture of the incidence of occupational diseases and of the main trends in recent years. The second part consists of statistical tables, which in greater detail describe the occurrence of occupational diseases in Finland.

Title	Occupational Diseases in Finland
Description	<p>The statistics are based on the Register of Occupational Diseases, established in 1964, and maintained by the Finnish Institute of Occupational Health (FIOH). The Register's status as a research register was consolidated in the Finnish legislation in 1993. The unit of observation in the register is a filed claim of an occupational disease. Appendix 1 describes the Register of Occupational Diseases in more detail, and appendices 2-4 include the definition of an occupational disease in the Finnish legislation. Unlike in the national insurance statistics, the cases are recorded according to the year of reporting and not according to the insurance technical date of occurrence, which may differ several years in the case of diseases with a long latency time. In addition to cases diagnosed in wage-earners, the statistics also cover farmers, who are recorded in separate statistics in the insurance system.</p>
Content	<p><b>I Review of occupational diseases in 2002</b></p> <p>1 Occupational diseases 6</p> <p>2 Hearing loss 12</p> <p>3 Repetitive strain injuries 14</p> <p>4 Allergic respiratory diseases 16</p> <p>5 Skin diseases 19</p> <p>6 Asbestos-induced diseases 22</p> <p>7 Cancers 24</p> <p>8 Occupational diseases in 2002 by EU classification 25</p> <p>9 Summary 26</p> <p><b>II Tables on occupational diseases in 2002</b></p> <p>1 Diseases by age and gender 28</p> <p>2 Diagnoses by gender 29</p> <p>3 Causes by gender 31</p> <p>4 Diseases by industry 34</p> <p>5 Diseases by occupation 37</p> <p>6 Allergic respiratory diseases: cause and diagnosis 41</p> <p>7 Skin diseases: cause and diagnosis 42</p> <p>8 Diseases by EU classification and gender 45</p> <p><b>III Appendices</b></p> <p>1 The Register of Occupational Diseases 50</p> <p>2 Act on Occupational Diseases (1343/88) 52</p> <p>3 Ordinance on Occupational Diseases (1347/88) 54</p> <p>4 Statute on Certain Injuries Compensable as Occupational Accidents (852/48) 60</p>

<b>Title</b>	<b>European Survey on Working Conditions</b>
Acronym	ESWC
Institution	European Foundation for the Improvement of Working and Living Conditions (Dublin)
Country	EU
Periodicity	Every 5 years: 1990-1995-2000-2005
Type	Employee Survey
URL	<a href="http://www.eurofound.eu.int/working/surveys/index.htm">http://www.eurofound.eu.int/working/surveys/index.htm</a>
Demographic group	Employees, self-employed without personnel and self-employed with less than 10 employees.
Objectives	Monitoring of trends in working conditions for employees and the self-employed throughout the European Union.  This Survey provides an opportunity to monitor working conditions in the EU and to analyze specific themes in depth, such as: sector differences, working conditions and gender, age, or employment contracts, work organization, working hours, etc.
Description	Face-to face interviews in all EU countries, with approx. 1,000 people in each country are selected (random walk), structured questionnaire.
Content	This survey describes a broad range of questions in the field of working conditions.
Question	Q.33. Does your work affect your health, or not? (yes, no); Q.33a. How does it affect your health?; Q33a_d Backache (mentioned, not mentioned); Q33a_g Muscular pains -in shoulders, neck and/or upper/lower limbs (mentioned, not mentioned).

### **Analytical sources**

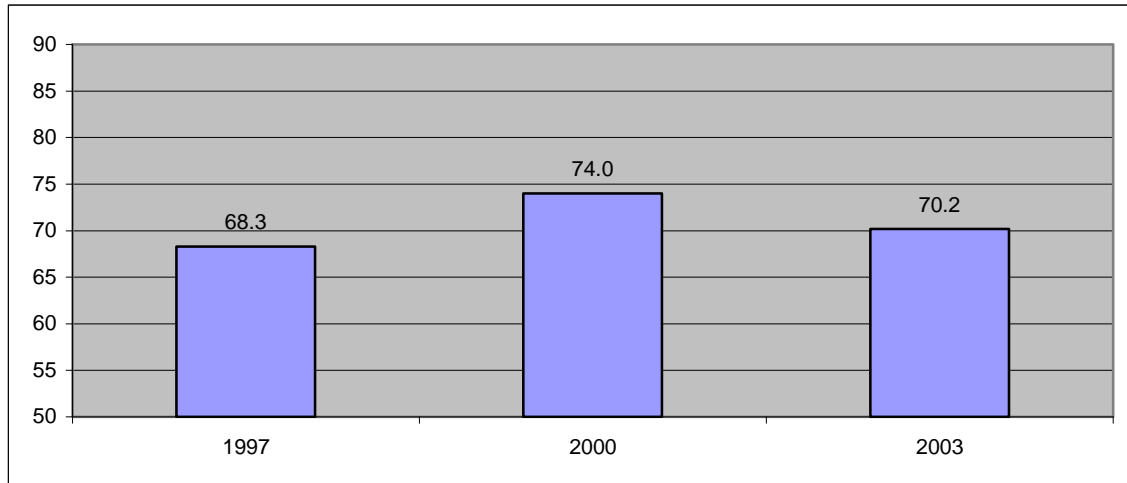
<b>Title</b>	<b>Work and health in Finland 2003 (Työ ja terveys Suomessa 2003)</b>
Editor	Finnish Institute of Occupational Health
Country	Finland
Time	2004
URL	<a href="http://www.ttl.fi/Internet/Suomi/Aihesivut/Tyoterveyshuolto/Tiedonlahteet/Kirjallisuus/tyo+ja+terveys.htm">http://www.ttl.fi/Internet/Suomi/Aihesivut/Tyoterveyshuolto/Tiedonlahteet/Kirjallisuus/tyo+ja+terveys.htm</a> (Section 'Yhteenveto' includes a summary in English.)
Description	A broad overview of working conditions and their development at the beginning of the 21st century. The book is written by various experts of the Finnish Institution of Occupational Health. Previous books have been published in 1997 and 2000. Information for the book has been gathered from various sources. In addition to statistical and register data, interview data and expert assessments have been used.
TOC	Contents

<b>Title</b>	<b>Work and health in Finland 2003 (Työ ja terveys Suomessa 2003)</b>
	1 Work and workers; 2 Work environment; 3 Work organizations; 4 Work and health; 5 The situation in some branches; 6 Occupational health services, labour safety and maintenance of work ability; Summary.

## 1. General prevalence

According to the Work and Health Survey, roughly 70% of respondents have experienced musculoskeletal symptoms during the previous month. In 2000, this proportion was somewhat higher than in 1997 or 2003.

**Figure 1: Prevalence of musculoskeletal symptoms by year, 1997, 2000, 2003**

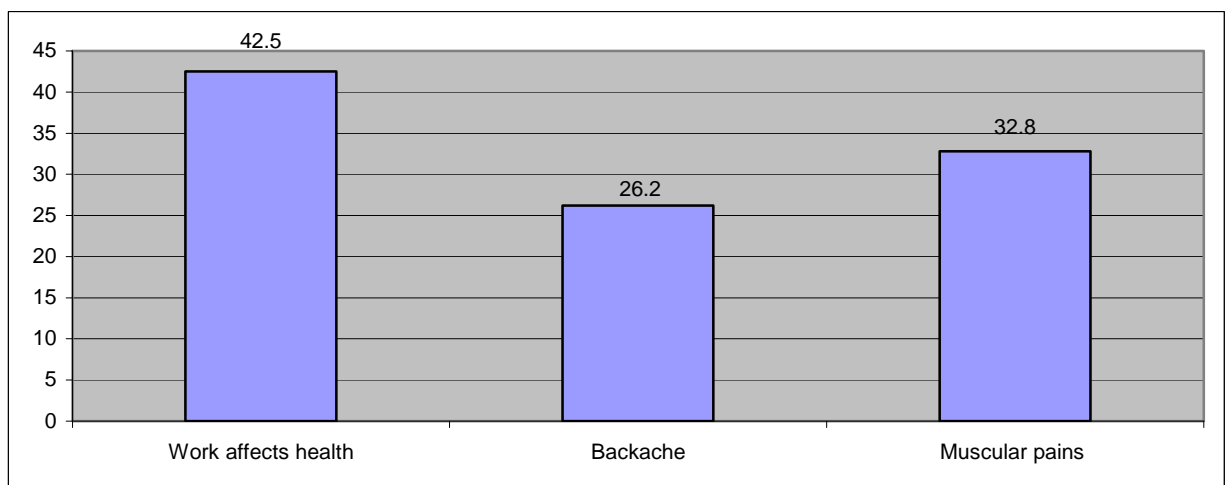


Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled

Data from the Fourth European Survey on Working Conditions (ESWC) show that almost half (42.5%) of all Finnish surveyed workers feel that their health is affected by work in 2005. Among them, more than a quarter (26.2%) complains of backache while almost one third (32.8%) reports suffering from muscular pains.

**Figure 2: Percentage share of workers reporting health problems in Finland: work affects health, backache and muscular pains, 2005**

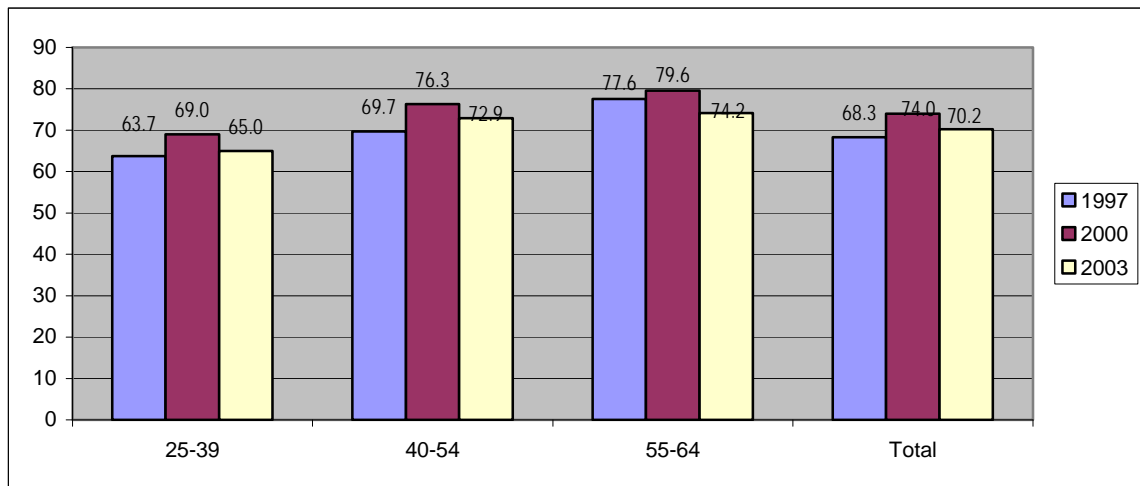


European Survey on Working Conditions, 2005.

## 2. By age

In all surveys, musculoskeletal symptoms appear to increase with age. As it was the case for the general prevalence, all age groups report a higher proportion of symptoms in 2000. In any case, it is worth stressing that the prevalence of MSDs is higher than 63% across all age groups and years.

**Figure 3: Prevalence of musculoskeletal symptoms by age and year (in %), 1997, 2000, 2003**

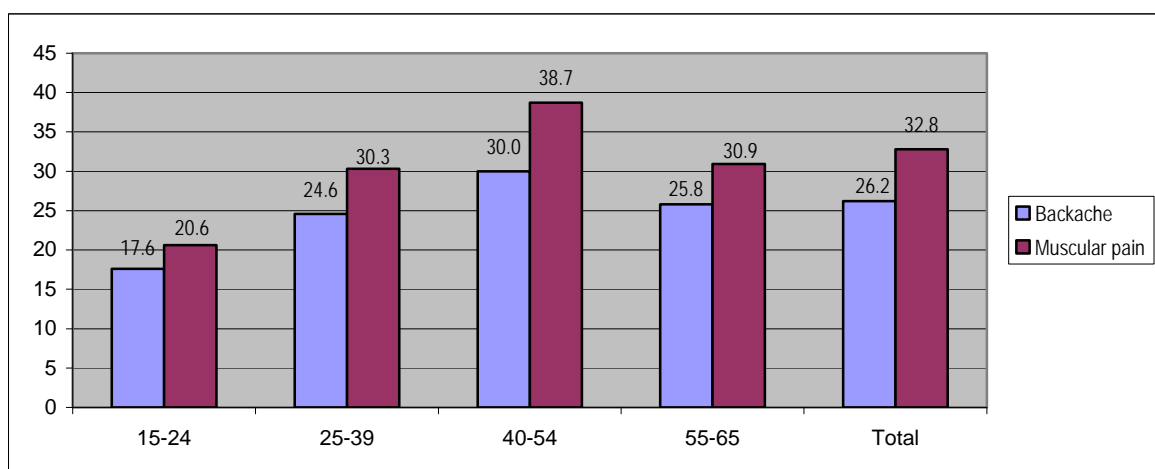


Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

The ESWC also reveals an increasing share of MSDs with age among Finnish workers, the highest prevalence being reported by those in the 40-54 age group. Across all age groups muscular pain is found to be more prevalent than backache.

**Figure 4: Percentage share of workers reporting backache and muscular pain in Finland, by age, 2005**

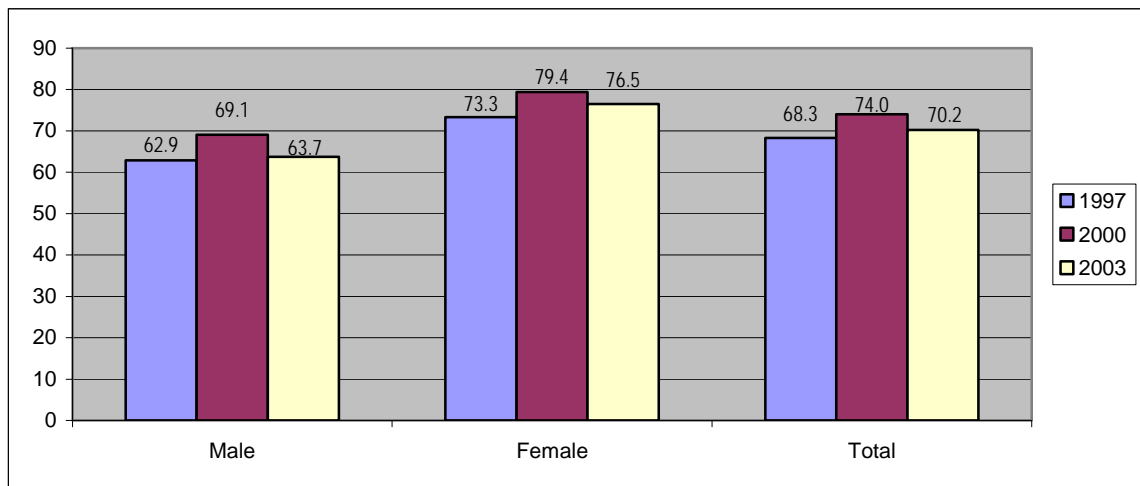


European Survey on Working Conditions, 2005.

### 3. By gender

In all surveys, women have reported symptoms more often than men, and the difference among genders has been, approximately, of 10 percentage points. For both genders, the highest proportion was observed in 2000.

**Figure 5: Prevalence of musculoskeletal symptoms by gender and year (in %), 1997, 2000, 2003**

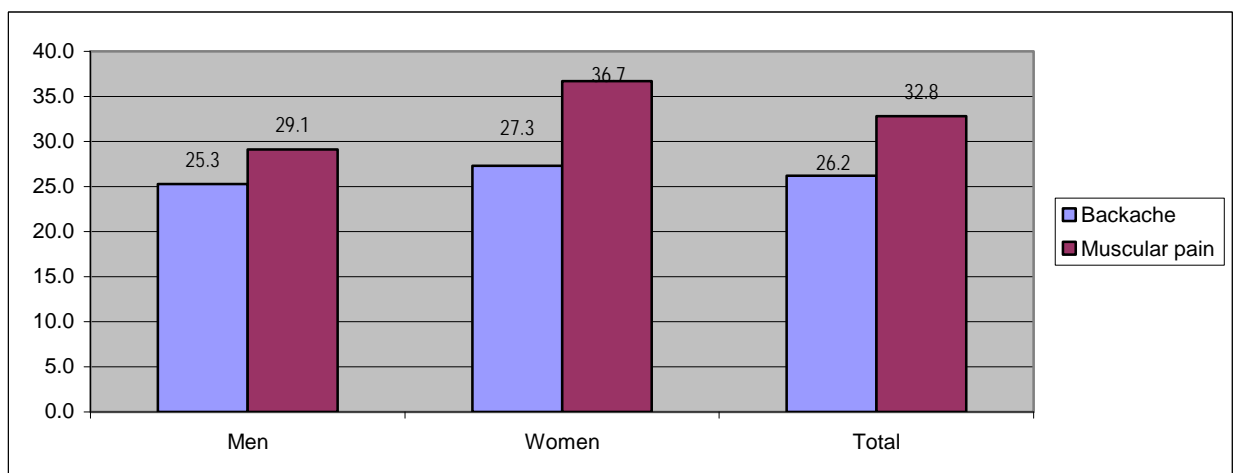


Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

Similarly to national data, the ESWC also reveals a higher prevalence of MSDs among Finnish women than among their male counterparts. As shown in the graph below, 27.3% of women complain of backache as opposed to 25.3% among men, while more than one third of Finnish women report suffering from muscular pain (29.1% among men).

**Figure 6: Percentage share of workers reporting backache and muscular pain in Finland, by gender, 2005**



European Survey on Working Conditions, 2005.

## 4. By sector

### Sector groups (sections in NACE Rev 1.1) used in tables and figures:

- A: Agriculture, hunting, forestry;
- B: Fishing;
- C: Mining;
- D: Manufacturing;
- E: Electricity, gas and water;
- F: Construction;
- G: Whole sale and retail, repairs;
- H: Hotels and restaurants;
- I: Transport and communication;
- J: Financial intermediation;
- K: Real estate, business activity;
- L: Public administration and defense;
- M: Education;
- N: Health and social work;
- O: Other community, social and personal service activities;
- P: Activities of households;
- Q: Extra-territorial organizations and bodies.

Musculoskeletal symptoms are most frequent in hotels and restaurants sector as well as in agriculture.

Over-time increases can be seen in several services sectors, such as hotels and restaurants (H), financial intermediation (J) and education and health (M-N). On the other hand, symptoms appear to have decreased in transport and communication sector (I).

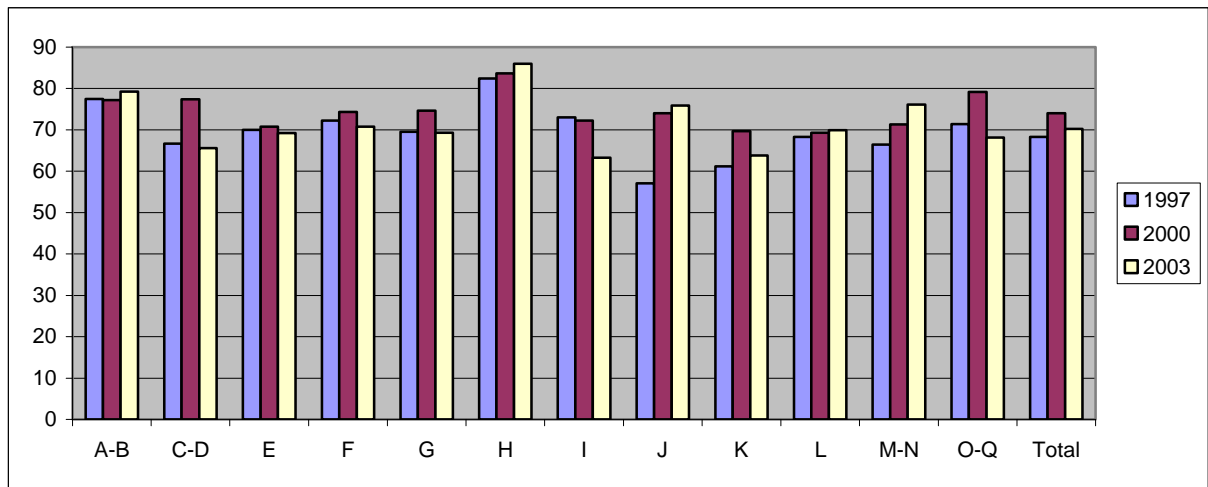
**Table 1: Prevalence of musculoskeletal symptoms by economic activity (NACE) and year**

	1997	2000	2003
<b>A-B</b>	77.5	77.2	79.3
<b>C-D</b>	66.7	77.4	65.6
<b>E</b>	70.0	70.8	69.2
<b>F</b>	72.2	74.3	70.8
<b>G</b>	69.5	74.6	69.3
<b>H</b>	82.4	83.7	86.0
<b>I</b>	73.0	72.2	63.3
<b>J</b>	57.1	74.0	75.9
<b>K</b>	61.2	69.7	63.8
<b>L</b>	68.3	69.3	69.9
<b>M-N</b>	66.4	71.3	76.1
<b>O-Q</b>	71.4	79.2	68.1
<b>Total</b>	68.3	74.0	70.2

Source: Work and Health Survey

Note: Persons under 25 or over 64 years of age were not sampled.

**Figure 7: Prevalence of musculoskeletal symptoms by economic activity (NACE) and year (in %), 1997, 2000, 2003**

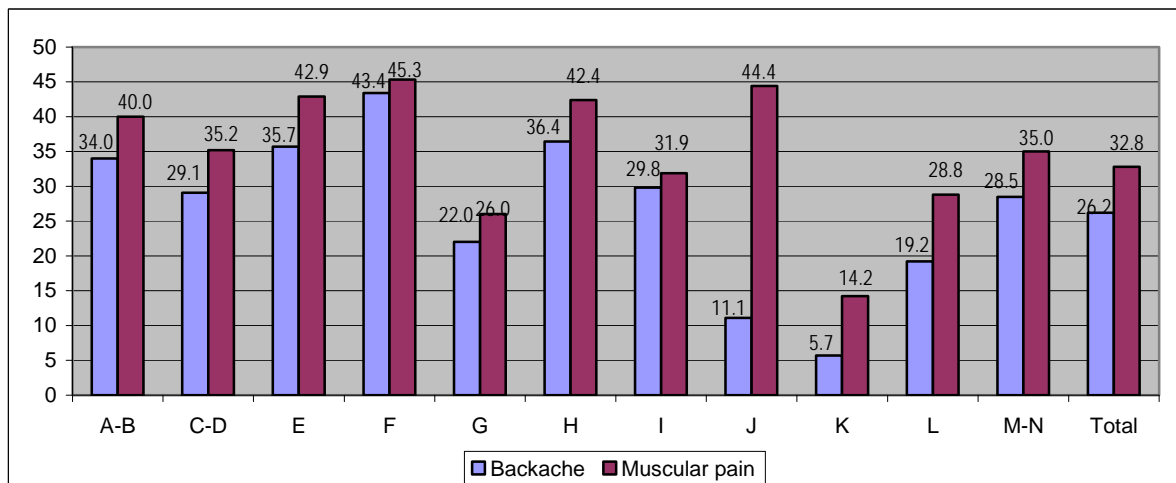


Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

Data from the ESWC show that the highest prevalence of MSDs in Finland was found in construction (F), electricity, gas and water supply (E), hotels and restaurants (H) and agriculture (A-B). It is worth stressing the high share of muscular pain reported by workers in financial intermediation (J): 44.4%. As it was the case with age and gender, there is a higher prevalence of muscular pain than backache across all activity sectors.

**Figure 8: Percentage share of workers reporting backache and muscular pain in Finland, by sector, 2005**



European Survey on Working Conditions, 2005.

## 5. By occupation

### ISCO Groups of occupation used in tables and figures:

- ISCO 1: Legislators, senior officials and managers;
- ISCO 2: Professionals;
- ISCO 3: Technicians and associate professionals;
- ISCO 4: Clerks;
- ISCO 5: Service workers and shop and market sales workers;
- ISCO 6: Skilled agricultural and fishery workers;
- ISCO 7: Craft and related trades workers;
- ISCO 8: Plant and machine operators and assemblers;
- ISCO 9: Elementary occupations;
- ISCO 10: Armed forces.

Musculoskeletal symptoms are most frequent in elementary and agricultural occupations.

The only group showing consistent increases over the six-year period includes service workers and shop and market sales workers. Skilled agricultural and fishery workers have also witnessed an increase in the prevalence of MSDs during the same period, while most other groups reported the highest proportion of musculoskeletal symptoms in 2000.

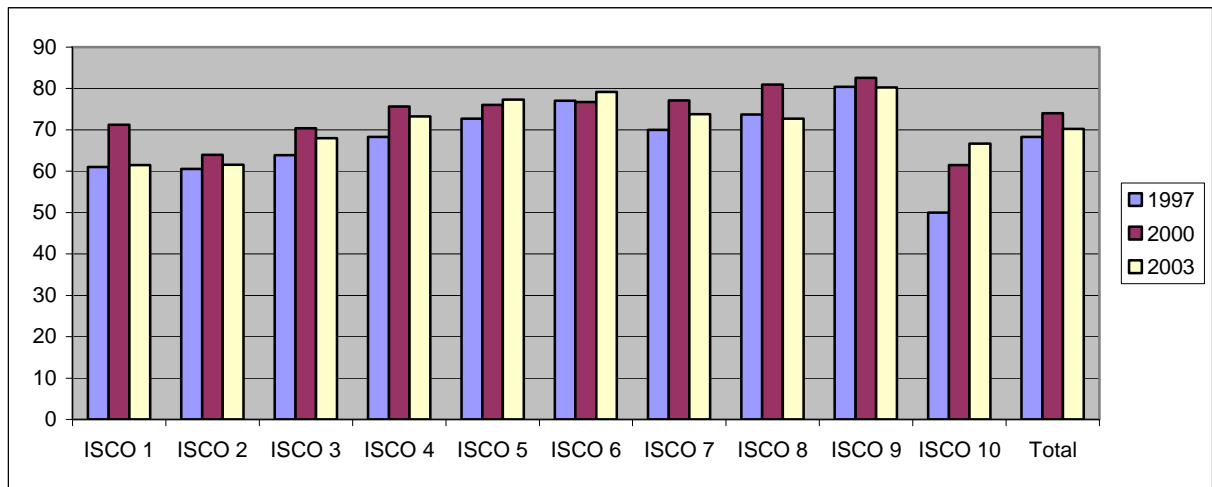
**Table 2: Prevalence of musculoskeletal symptoms by occupation (ISCO) and year**

	1997	2000	2003
<b>ISCO 1</b>	61.0	71.2	61.5
<b>ISCO 2</b>	60.6	64.0	61.6
<b>ISCO 3</b>	63.9	70.4	68.0
<b>ISCO 4</b>	68.3	75.6	73.2
<b>ISCO 5</b>	72.7	76.0	77.3
<b>ISCO 6</b>	77.0	76.7	79.2
<b>ISCO 7</b>	70.0	77.1	73.8
<b>ISCO 8</b>	73.7	81.0	72.7
<b>ISCO 9</b>	80.4	82.6	80.3
<b>ISCO 10</b>	50.0	61.5	66.7
<b>Total</b>	68.3	74.0	70.2

Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

**Figure 9: Prevalence of musculoskeletal symptoms by occupation (ISCO) and year (in %), 1997, 2000, 2003**

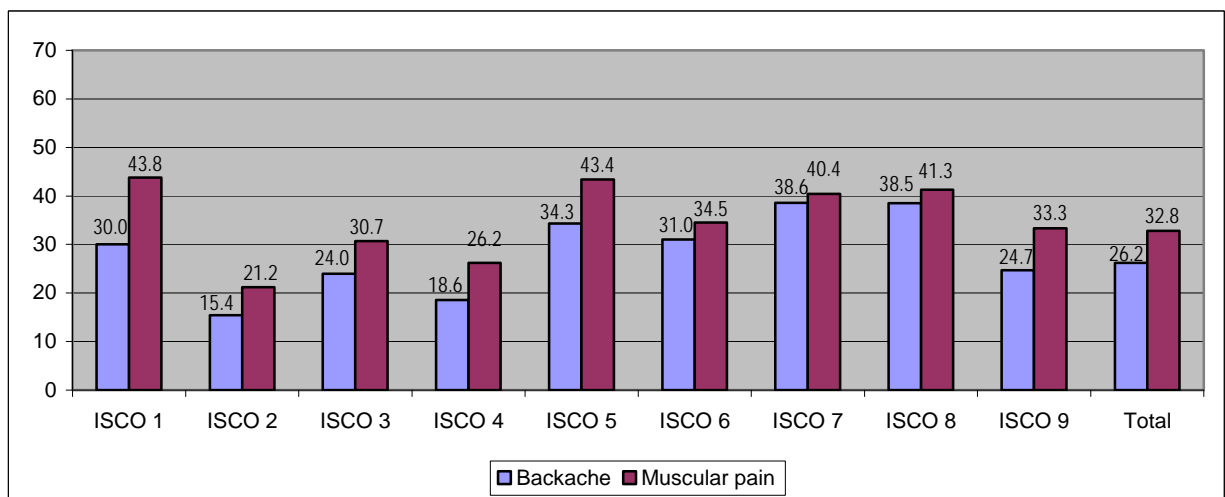


Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

According to the ESWC the occupations with highest prevalence of MSDs are service workers and shop and market sales workers, craft and related trades workers, plant and machine operators and assemblers and legislators, senior officials and managers. Again, the prevalence of muscular pain is higher than that of backache in all occupations.

**Figure 10: Percentage share of workers reporting backache and muscular pain in Finland, by occupation, 2005**

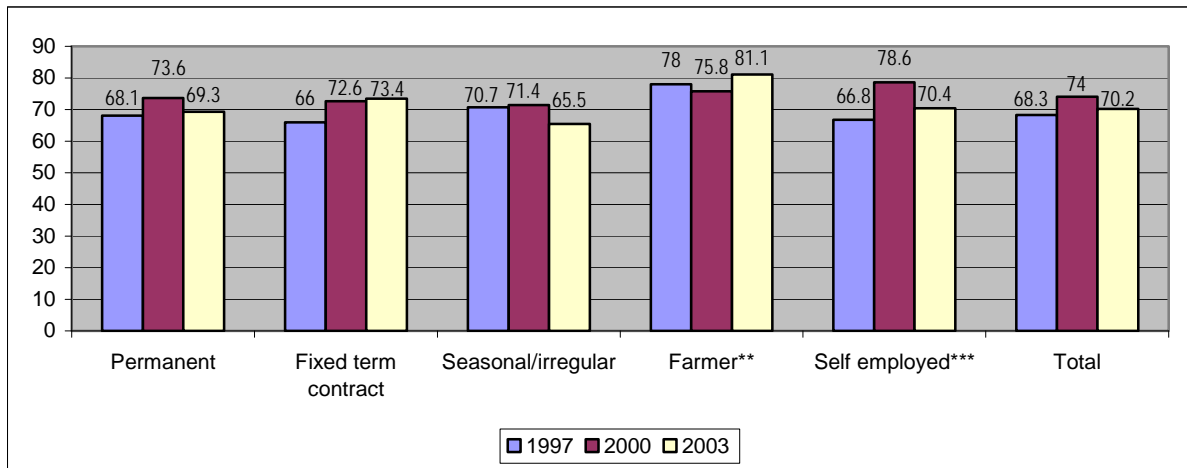


European Survey on Working Conditions, 2005.

## 6. By employment status

Farmers have generally reported the highest rates of musculoskeletal symptoms. The largest change over the six-year period (over 7% points) has been observed among those with fixed term contracts. These contracts have been more common among women, young workers and those in the public sector (public administration, education and health), such as nurses.

**Figure 11: Prevalence of musculoskeletal symptoms by employment status and year (in %), 1997, 2000, 2003**



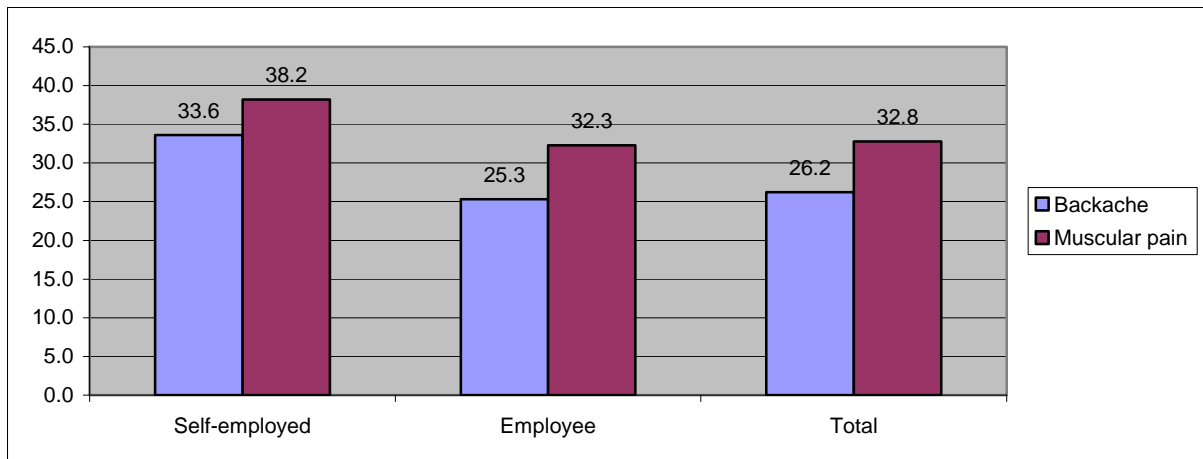
\*\* Farmers are defined by their pension and insurance scheme. They are either self-employed (owner/operator) or family workers. Hired farm workers are included in the other categories.  
 \*\*\* Includes self-employed persons other than farmers (above).

Source: Work and health survey.

Note: Persons under 25 or over 64 years of age were not sampled.

As far as the ESWC is concerned, the self-employed report a higher share of MSDs than employees in Finland. In this sense, 33.6% of self-employed suffer from backache, as opposed to 25.3% among employees, while the prevalence of muscular pain among the self-employed is 38.2% vs. 32.3% among employees.

**Figure 12: Percentage share of workers reporting backache and muscular pain in Finland, by employment status, 2005**



European Survey on Working Conditions, 2005.