Influencing factors on the work ability of employees in the public sector

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Aim

evaluation of the influence of occupational factors on the work ability of employees working in the public sector in Flanders
Methods

- cross-sectional questionnaire study
- study population
  - public sector
    - administrative workers, library workers, professional fire fighters, teachers, technical personnel, cleaning personnel, social service, child care, cleaning at home, nursing personnel, nursing at home, kitchen personnel and harbour personnel
  - 1238 subjects (81.0% response rate)
Outcome variable

- “Work Ability Index” questionnaire
- short version
- WAI score: 7-49
- poor work ability: WAI <37
Psychosocial factors

- Copenhagen Psychosocial Questionnaire (COPSOQ)
- exposure to psychosocial work factors
- theory based, no single model
- COPSOQ II + ‘degrees of freedom’
- 23 dimensions
- scores 0-100 (0-10 in regression analysis)
- psychosocial “job profile”
COPSOQ dimensions

- quantitative demands
- work pace
- cognitive demands
- emotional demands
- demands for hiding emotions
- role conflicts
- job insecurity

- degrees of freedom
- role clarity
- predictability
- meaning of work
- variation of work
- possibilities for development
- influence at work

- quality of leadership
- social support from supervisor
- social support from colleagues
- social community at work
- commitment to the workplace

- horizontal trust
- rewards
- vertical trust
- justice and respect
Other variables

- other occupational factors
  - physical workload (4 item scale; 0-10)
  - full/part time work
  - shift work

- personal factors
  - age
  - gender
  - need for recovery
Need for recovery


Ursin & Eriksen. Psychoneuroendocrinology 2004; 29:567-592
Need for recovery

- “The Need for Recovery Scale” questionnaire
- 11 dichotomous (Y/N) items
- scale 0 – 100
- high need for recovery: > 54
Statistics

- stepwise forward conditional multivariate logistic regression analysis

- OR (95% CI) for the presence of a poor work ability (WAI<37)
Population characteristics

- 68.0 % women (n=842)
- mean age (yrs): 42.5 (SD 10.4)
- age range (yrs): 19 – 65
- < 45 yrs: 50.7 % (n=628)
- ≥ 45 yrs: 49.3 % (n=610)
Work ability

● total population
  ● mean WAI: 41.6 (SD 4.7)
  ● 12.1 % poor WA (n=150)

● <45 yr:
  ● mean WAI: 42.2 (SD 4.3)
  ● 9.9 % poor WA (n=62)

● ≥45 yr:
  ● mean WAI: 41.0 (SD 5.0) \( p<0.000 \)
  ● 14.4 % poor WA (n=88) \( p=0.014 \)
Mean WAI by age

Mean WAI score (7-49)

\[ p < 0.000 \]
Profiles for younger and older workers
Physical workload

- total population
  - mean: 3.71 (SD 2.47)

- <45 yr:
  - mean: 3.59 (SD 2.43)

- ≥45 yr:
  - mean: 3.84 (SD 2.51) \(N.S.\)
Full/part time work
Shift work

- total population
  - 53.4 % full time work (n=652)
  - 28.5 % shift work (n=348)

- <45 yr:
  - 57.0 % full time work (n=355)
  - 29.7 % shift work (n=183)

- ≥45 yr:
  - 49.7 % full time work (n=297) \( p=0.010 \)
  - 27.4 % shift work (n=165) N.S.
Need for recovery

● **total population**
  ● mean NFR: 29.9 (SD 28.5)
  ● 25.8 % high NFR (n=317)

● **<45 yr:**
  ● mean NFR: 29.8 (SD 27.8)
  ● 25.3 % high NFR (n=158)

● **≥45 yr:**
  ● mean NFR: 29.9 (SD 29.3) *N.S.*
  ● 26.3 % high NFR (n=159) *N.S.*
Multivariate logistic regression analysis
OR (95% CI) for the presence of a poor WAI
(n=1161)

<table>
<thead>
<tr>
<th>Factor</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>emotional demands</td>
<td>1.26</td>
<td>(1.15-1.39)</td>
</tr>
<tr>
<td>meaning of work</td>
<td>0.88</td>
<td>(0.78-0.99)</td>
</tr>
<tr>
<td>commitment to the workplace</td>
<td>0.88</td>
<td>(0.77-1.00)</td>
</tr>
<tr>
<td>quality of leadership</td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>job insecurity</td>
<td>1.08</td>
<td>(1.00-1.15)</td>
</tr>
<tr>
<td>physical workload</td>
<td>1.14</td>
<td>(1.06-1.24)</td>
</tr>
<tr>
<td>shift work (yes vs. no)</td>
<td>0.60</td>
<td>(0.38-0.96)</td>
</tr>
<tr>
<td>age</td>
<td>1.03</td>
<td>(1.01-1.05)</td>
</tr>
<tr>
<td>high need for recovery</td>
<td>3.54</td>
<td>(2.36-5.29)</td>
</tr>
</tbody>
</table>
### WA Score (7-49)

<table>
<thead>
<tr>
<th>Position</th>
<th>WA Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zorgkundigen</td>
<td>39,1</td>
</tr>
<tr>
<td>Verpleegkundigen</td>
<td>36,8</td>
</tr>
<tr>
<td>Stafmedewerkers</td>
<td>43,0</td>
</tr>
<tr>
<td>Paramedisch personeel</td>
<td>40,8</td>
</tr>
<tr>
<td>Onderhoudspersoneel</td>
<td>38,0</td>
</tr>
<tr>
<td>Keukenpersoneel</td>
<td>40,5</td>
</tr>
<tr>
<td>Hoofdverpleegkundigen</td>
<td>35,6</td>
</tr>
<tr>
<td>Administratief personeel</td>
<td>42,0</td>
</tr>
</tbody>
</table>

### Average Recovery Needs

<table>
<thead>
<tr>
<th>Position</th>
<th>Average Recovery Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zorgkundigen</td>
<td>45,9</td>
</tr>
<tr>
<td>Verpleegkundigen</td>
<td>61,4</td>
</tr>
<tr>
<td>Stafmedewerkers</td>
<td>27,3</td>
</tr>
<tr>
<td>Paramedisch personeel</td>
<td>16,5</td>
</tr>
<tr>
<td>Onderhoudspersoneel</td>
<td>45,5</td>
</tr>
<tr>
<td>Keukenpersoneel</td>
<td>31,6</td>
</tr>
<tr>
<td>Hoofdverpleegkundigen</td>
<td>52,7</td>
</tr>
<tr>
<td>Administratief personeel</td>
<td>22,1</td>
</tr>
</tbody>
</table>
Multivariate logistic regression analyses for the presence of a poor WAI (OR 95% CI)

<table>
<thead>
<tr>
<th>Factor</th>
<th>&lt; 45 yrs.</th>
<th>≥ 45 yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=596)</td>
<td>(n=565)</td>
<td></td>
</tr>
<tr>
<td>high NFR</td>
<td>6.32 (3.36-11.88)</td>
<td>2.88 (1.72-4.81)</td>
</tr>
<tr>
<td>emotional demands</td>
<td>1.29 (1.14-1.46)</td>
<td></td>
</tr>
<tr>
<td>meaning of work</td>
<td>0.80 (0.69-0.92)</td>
<td></td>
</tr>
<tr>
<td>leadership quality</td>
<td>0.82 (0.74-0.92)</td>
<td></td>
</tr>
<tr>
<td>role conflicts</td>
<td>1.23 (1.06-1.43)</td>
<td></td>
</tr>
<tr>
<td>social community</td>
<td>0.74 (0.64-0.87)</td>
<td></td>
</tr>
<tr>
<td>physical workload</td>
<td>1.21 (1.09-1.36)</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

- need for recovery most important predictor for a poor WAI

- different influencing factors in younger and older workers with similar occupational exposures