Towards a longer worklife
From Work Ability Model and Index to concrete actions
**Background** in Finnish Institute of Occupational Health: 30 years research in Work Ability and Ageing, development of Work Ability Index, Promotion of Work Ability concept, Age & Generation Management, Life course, and Work Ability House-model

**First National Prize for Innovative Practices in Employment and Social Policy, 2008 (SITRA, STM)**

**Topics today:** Work Ability and Ageing, Work Well-being, Age - and Generation Management, Life course

**Projects:**
- Finland: Good work-Longer Worklife in Technology Industry
- Germany: Work Ability, Age & Generation Management Training
- Austria: Fit for the future – programme
- Netherlands: Work Ability Implementation (Blik op Werk)
- Australia: RWAS, ComCare, StGeorge Bank

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Ageing and health
Long term health problem or disability in EU15 by age group and gender

Source: Dupre ja Karjalainen 2003.
Impairment due to diagnosed chronic diseases or injuries at work

No disease | No impairment | Yes, does impair

FIOH 2009
N = 2355
Role of Occupational Health Services

- General awareness about Ageing and Work
- Competence of treatment of diseases
- Competence in Health promotion and Prevention of work disability
- New: Competence about **Adjustments needed at work** due to the changes in health and functional capacities

- Using WAI as validated tool for OHS
- Using WAI as a dialoge instrument for OHS; anamnestic tool to identify the problems and measures
- Using WAI-data as source for company epidemiology
- Follow-up of WAI over time in individual, unit and corporate level
- Evaluation the risks and costs of WAI declining
- Evaluation the cost-benefits of WAI promotion
Functional capacities and age
Basic problem and basic solution: relationship between human resources and work demands

**PROBLEM**

- Energy reserves
- Functional capacity
- Work demands

**SOLUTION**

- Energy reserves
- Functional capacity
- Work demands

Graphs showing the percentage of energy reserves, functional capacity, and work demands over age, years.
Physical demanding work at age of 40 and 60 years

- 40-years old has 20 % higher physical capacity than 60-years old
- 60-years old can do the same work, but his strain is 20 % higher, because of lower capacity
- For equal strain level – the work load of the 60-years old should be decreased by 20 %:
  - 4 days/week instead of 5 days/week
  - 6 hours/day instead of 8 hours/day
- The decrease of physical work load should be compensated by other tasks, where the competence and experience of older worker is good:
  - 1 day per week, or 2 hours per day new tasks, like:
- Training and mentoring, service functions, networking and client-relations, controlling and supervision, selling, controlling etc.
Change in subjective cognitive capacity during a 12-year follow-up by gender (KVTEL, FIOH)
Relation between age, experience, basic cognitive processes and work performance (Salthouse)

Source: Salthouse T.A. Implications of adult age differences in cognition for work performance. Arbete och Hälsa 1997; 29, s. 15-28
- Research with WAI
- Work Ability House - Model
- Promotion of WAI
Work Ability Index
7 Items

• Current work ability compared with the lifetime best
• Work ability in relation to the demands of the job
• Number of current diseases diagnosed by physician
• Estimated workimpairment due to diseases
• Sick leave during the past year (12 months)
• Own prognosis of work ability two years from now
• Mental ressources
### Work Ability Index

Scoring of the Questionnaire (range 7-49 points)

<table>
<thead>
<tr>
<th>Points</th>
<th>Work ability</th>
<th>Objective of measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 - 27</td>
<td>POOR</td>
<td>RESTORE WORK ABILITY</td>
</tr>
<tr>
<td>28 - 36</td>
<td>MODERATE</td>
<td>IMPROVE WORK ABILITY</td>
</tr>
<tr>
<td>37 - 43</td>
<td>GOOD</td>
<td>SUPPORT WORK ABILITY</td>
</tr>
<tr>
<td>44 - 49</td>
<td>EXCELLENT</td>
<td>MAINTAIN WORK ABILITY</td>
</tr>
</tbody>
</table>
Individual differences in work ability

Work ability index

N=729

Age

Excellent
Good
Moderate
Poor
Raija Gould, Juhani Ilmarinen, Jorma Järvisalo, Seppo Koskinen, eds.

Dimensions of Work Ability
Results of the Health 2000 Survey

Helsinki 2008
Werkvermogen en leeftijd in Finland

Healthy worker effect

Uitstekend en goed

Matig

Slecht
Verschillen in ontwikkeling WAI-score naar sector in Nederland
- Blik op Werk, 2011-
Proportion (%) of those with limited work ability and the mean work ability score for those chronically ill and those with no chronic illness, Gould et al. 2008
WAI as predictor of actual exit from job by age among Italian nurses, Cameroni 2006

<table>
<thead>
<tr>
<th>Work Ability</th>
<th>Younger than 45 yrs</th>
<th>Older than 45 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td>Poor</td>
<td>1.38</td>
<td>7.14</td>
</tr>
<tr>
<td>Moderate</td>
<td>0.68</td>
<td>2.02</td>
</tr>
<tr>
<td>Good</td>
<td>0.91</td>
<td>2.25</td>
</tr>
</tbody>
</table>
# Work ability among 30–64-year-olds without and with back or neck disorder (age adjusted)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Mean work ability score</th>
<th>Persons with limited work ability</th>
<th>Prevalence of disease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Proportion (%)</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td><strong>Back disorder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women: Without disease</td>
<td></td>
<td>8.3</td>
<td>16</td>
</tr>
<tr>
<td>With disease</td>
<td></td>
<td>7.8***</td>
<td>26</td>
</tr>
<tr>
<td>Men: Without disease</td>
<td></td>
<td>8.1</td>
<td>17</td>
</tr>
<tr>
<td>With disease</td>
<td></td>
<td>7.5***</td>
<td>26</td>
</tr>
<tr>
<td><strong>Neck disorder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women: Without disease</td>
<td></td>
<td>8.2</td>
<td>17</td>
</tr>
<tr>
<td>With disease</td>
<td></td>
<td>7.8***</td>
<td>27</td>
</tr>
<tr>
<td>Men: Without disease</td>
<td></td>
<td>8.0</td>
<td>18</td>
</tr>
<tr>
<td>With disease</td>
<td></td>
<td>7.2***</td>
<td>33</td>
</tr>
</tbody>
</table>
# Work ability among 30–64-year-olds without and with **mental disorders** (age adjusted)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Mean work ability score</th>
<th>Persons with limited work ability</th>
<th>Prevalence of disease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Proportion (%)</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>8.4</td>
<td>16</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.7***</td>
<td>43</td>
<td>5.7**</td>
</tr>
<tr>
<td>Men:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>8.1</td>
<td>18</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.2***</td>
<td>47</td>
<td>5.9***</td>
</tr>
<tr>
<td>Psychosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>8.2</td>
<td>19</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.5***</td>
<td>62</td>
<td>11.7***</td>
</tr>
<tr>
<td>Men:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>7.9</td>
<td>20</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.8***</td>
<td>74</td>
<td>21.4***</td>
</tr>
</tbody>
</table>
## Work ability among 30–64-year-olds without and with Anxiety (age adjusted)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Mean work ability score</th>
<th>Persons with limited work ability</th>
<th>Prevalence of disease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Proportion (%)</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>8.2</td>
<td>18</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.9***</td>
<td>42</td>
<td>4.4***</td>
</tr>
<tr>
<td>Men:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without disease</td>
<td>8.0</td>
<td>19</td>
<td>1.0</td>
</tr>
<tr>
<td>With disease</td>
<td>6.1***</td>
<td>53</td>
<td>6.9***</td>
</tr>
</tbody>
</table>

**Notes:**
- *** indicates statistical significance.
- The prevalence of disease is given for both women and men combined.
From WAI research to Work Ability- model
Work ability model

Society: culture legislation education policy social and health policy

external operational environment

immediate social environment

family

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AGE POWER
Promotion of Work Ability
Promotion of Work Ability: Targets and Means

- Work Arrangements
- Flexibility
- Leadership
- Support and feedback

Good Work

- Appreciation
- Trust
- Commitment
- Fair treatment

Positive Attitudes

Good Health

- Life styles
- Hobbies
- OHS

On-the-job Training
- LLL
- Learning methods

Good Competence

- On-the-job Training
- LLL
- Learning methods

JIC2012
16.2.2012
28
Influencing work ability

Ability index (WAI)

Ikä

Health promotion
Ergonomics
Management training

Health promotion
No measures

JIC2012
16.2.2012
Role of managers and supervisors: base for Age management

- The management is the most important factor influencing work ability:
  - a good age management improves the work ability, and
  - a poor age management deteriorates the work ability, independent of gender, age and type of job

- A good age manager has:
  - a fair and friendly attitudes towards ageing
  - promote the collaboration between generations
  - finds individual solutions
  - has good communication skills about ageing matters

- Managers and supervisors need also PWA
Good work – longer career

Federation of Finnish Technology Industries
Metalworkers’ Union
Federation of Professional and Managerial Staff YTN
Union of Salaried employees TU
Federation of Special Service and Clerical Employees ERTO
New Work Ability Tool Box

1. Work Ability Index (WAI)
2. Work Well-being Index (WWI) (Personal radar)
3. Work Ability House – Model (Company radar)
   - Priorisation of floors
   - Identification of actions by floor
   - Priorisation of actions
   - Making a conrete plan for each action
## Company radar: Priorisation of floors (example)

<table>
<thead>
<tr>
<th>Floor</th>
<th>A: Importance (1-10)</th>
<th>B: Extension (1-10)</th>
<th>C: Possibility to influence (1-10)</th>
<th>Result AxBxC (1-1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and ability</td>
<td>9</td>
<td>5</td>
<td>6</td>
<td>270</td>
</tr>
<tr>
<td>Competence</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>Values, attitudes and motivation</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>105</td>
</tr>
<tr>
<td>Work, work arrangements, work community and management</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>560</td>
</tr>
<tr>
<td>Family</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>96</td>
</tr>
<tr>
<td>Close community and hobbies</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>80</td>
</tr>
</tbody>
</table>
Company Radar: Priorisation of goals/targets by floor of Work (example)

<table>
<thead>
<tr>
<th>Goal/Target</th>
<th>A: Importance (1-10)</th>
<th>B: Extension (1-10)</th>
<th>C: Possibility to influence (1-10)</th>
<th>Result A x B x C (1-1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management skills</td>
<td>10</td>
<td>7</td>
<td>7</td>
<td>490</td>
</tr>
<tr>
<td>Personal feedback</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>720</td>
</tr>
<tr>
<td>Foremen skills</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>336</td>
</tr>
<tr>
<td>Change Management</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>150</td>
</tr>
<tr>
<td>Age attitudes</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>336</td>
</tr>
<tr>
<td>Work time flexibility</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>360</td>
</tr>
<tr>
<td>Team support</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>294</td>
</tr>
<tr>
<td>Workload</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>216</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>6</td>
<td>10</td>
<td>6</td>
<td>360</td>
</tr>
</tbody>
</table>
## Company Radar: Plan for Personal feedback

<table>
<thead>
<tr>
<th>Goal/Target</th>
<th>Measure</th>
<th>Person Responsible</th>
<th>Time plan</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with feed-back improves</td>
<td>1. Feed-back training for supervisors</td>
<td>NN</td>
<td>9/2011</td>
<td>Personal Radar, Participation in training</td>
</tr>
<tr>
<td></td>
<td>2. Feed-back training for employees</td>
<td>MM</td>
<td>10/2011</td>
<td>Participation in training</td>
</tr>
<tr>
<td></td>
<td>3. Instructions and documents</td>
<td>PP</td>
<td>10/2011</td>
<td>Tested instructions and documents</td>
</tr>
</tbody>
</table>
WAI as a resource for the organisation

Two overarching and strategic benefits.

1. Brand reputation in the employment market (and in the community)
2. Cost benefits of improved productivity
WAI as a resource for the organisation

More discreet benefits include:

- Indicate the status of work ability and need for promotion
- Early indicator of risks of work disability and early exit
- Initiate preventive actions
- Evaluate the effects of actions
- Validated method for Occupational Health Services and for health promotion
- Initiate the discussion about ageing and work
- Improve the awareness of human work ability
- Improve the collaboration between employers and employees due to win-win possibilities
- Can be used as base for cost-benefit analysis
Equal treatment or Individuality?

For the equal treatment, you get all the same qualification task: clime up the tree!