Healthy Workplaces Summit 2015
Managing stress and psychosocial risks at work – putting research evidence into practice
Johannes Siegrist
Importance of work for health

Work …

- provides a source of regular income and related opportunities
- provides a source of personal growth and training of capabilities/competencies
- provides social identity, social status and related rewards
- enables access to social networks beyond primary groups
- Impacts on personal health and well being by providing resources and by exposing people to material and psychosocial stressors
Unemployment and under-employment in Europe

Declaration of the Santiago de Compostela Conference, July 18, 2013: „Economy, Stress and Health“

Significant changes in the nature of work and employment

- Increase of service sector, administrative and IT jobs, including human service professions with high psychomental/emotional workload
- Many jobs require high flexibility, mobility, and adaption to new tasks/technologies, products etc.
- Increase of work pressure, due to competitive labor market, shortage of employment and/or downsizing of personnel
- Fragmentation of occupational careers, de-standardized or atypical work, and growing job instability/insecurity
- Segmentation of labor market; social inequalities in quality of work and employment
Increased pressure of rationalisation
(mainly due to wage competition)

Downsizing, Merging, Outsourcing

- Work intensification
- Job insecurity
- Low wage / salary
Increase in work intensity 2004-2010: European Social Survey, 19 EU countries

Source: Gallie D (Ed.) (2013) ESS Topline Results Series 3, European Social Survey
Job insecurity 2004-2010: European Social Survey, 19 EU countries

Figure 4 Job Insecurity among All Employees and Temporary Workers 2004-2010

Source: Gallie D (Ed.) (2013) ESS Topline Results Series 3, European Social Survey

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High work pressure (e.g. overtime work) and job instability (e.g. downsizing) are unhealthy!

Examples of recent evidence from UK and Finland:

Overtime work (>11 hrs/day):
- risk of severe depression: HR 2.4
- risk of incident CHD: HR 1.7

‘Surviving’ severe downsizing:
- risk of all-cause mortality: HR 1.4
- risk of CHD mortality: HR 2.0
Working hours and incident CHD and stroke: Metaanalyses: N=603,838 from 24 cohorts

<table>
<thead>
<tr>
<th></th>
<th>Events (N)</th>
<th>Total (N)</th>
<th>Relative risk (95% CI)</th>
<th>p value</th>
<th>Dose-response p value*</th>
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<tbody>
<tr>
<td><strong>Coronary heart disease</strong></td>
<td></td>
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<tr>
<td>&lt;35 h</td>
<td>478</td>
<td>16022</td>
<td>1.08 (0.92–1.27)</td>
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<td>35–40 h</td>
<td>1393</td>
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<td>1.02 (0.91–1.15)</td>
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<td>49–54 h</td>
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<td>1.07 (0.92–1.24)</td>
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<tr>
<td>≥55 h</td>
<td>347</td>
<td>11363</td>
<td>1.08 (0.94–1.23)</td>
<td>0.2738</td>
<td>0.18</td>
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<td><strong>Stroke</strong></td>
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<tr>
<td>&lt;35 h</td>
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<td>14189</td>
<td>1.20 (0.98–1.46)</td>
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<td>36–40 h</td>
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<td>67102</td>
<td>1.00 (reference)</td>
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<tr>
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<td>18768</td>
<td>1.10 (0.94–1.28)</td>
<td>0.2401</td>
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<tr>
<td>49–54 h</td>
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<td>7206</td>
<td>1.27 (1.03–1.56)</td>
<td>0.0265</td>
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<tr>
<td>≥55 h</td>
<td>132</td>
<td>7170</td>
<td>1.33 (1.11–1.61)</td>
<td>0.0022</td>
<td>&lt;0.0001</td>
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</tbody>
</table>

Source: Kivimaki et al, Lancet 2015, S0140-6736(15)60295-1
Theoretical models of work stress and evidence of adverse health effects
Chronic psychosocial stress at work: Complementary stress-theoretical models

• Demand-control model
  (R. Karasek, 1979; R. Karasek & T. Theorell, 1990)
  ➢ Focus on job task profile: high demand/low control

• Effort-reward imbalance model
  (J. Siegrist, 1996; J. Siegrist et al., 2004)
  ➢ Focus on work contract: high effort/low reward

• Organizational injustice model
  (J. Greenberg et al., 1982; M. Elovainio et al., 2002)
  ➢ Focus on unfair procedures and interactions
Cumulative meta-analysis of cohort studies on relative risks of coronary heart disease due to 'job strain'

<table>
<thead>
<tr>
<th>Study</th>
<th>Relative risk</th>
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<tbody>
<tr>
<td>Reed 1989, men</td>
<td>0.94 (0.65, 1.36)</td>
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<tr>
<td>Johnson 1989, men</td>
<td>1.31 (0.65, 2.64)</td>
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<tr>
<td>Alterman 1994, men</td>
<td>1.35 (0.89, 2.05)</td>
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<tr>
<td>Kivimaki 2002, men &amp; women</td>
<td>1.48 (1.01, 2.17)</td>
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<tr>
<td>Lee 2002, women</td>
<td>1.32 (0.92, 1.89)</td>
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<tr>
<td>Kuper 2003, men &amp; women</td>
<td>1.37 (1.04, 1.80)</td>
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<tr>
<td>Eaker 2004, men</td>
<td>1.36 (1.06, 1.74)</td>
</tr>
<tr>
<td>Eaker 2004, women</td>
<td>1.33 (1.05, 1.68)</td>
</tr>
<tr>
<td>Uchiyama 2005, men</td>
<td>1.34 (1.07, 1.68)</td>
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<tr>
<td>Uchiyama 2005, women</td>
<td>1.37 (1.08, 1.74)</td>
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<tr>
<td>Kornitzer 2006, men</td>
<td>1.39 (1.13, 1.71)</td>
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<tr>
<td>Netterstrom 2006, men</td>
<td>1.42 (1.16, 1.74)</td>
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<tr>
<td>Kuper 2006, women</td>
<td>1.42 (1.18, 1.71)</td>
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<tr>
<td>Tsutsumi 2006, men &amp; women</td>
<td>1.44 (1.20, 1.73)</td>
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<tr>
<td>Andre-Peterson 2007, men</td>
<td>1.43 (1.20, 1.70)</td>
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<tr>
<td>Andre-Peterson 2007, women</td>
<td>1.42 (1.20, 1.68)</td>
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<tr>
<td>Kivimaki 2008, men</td>
<td>1.40 (1.20, 1.63)</td>
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<tr>
<td>Bonde 2009, men &amp; women</td>
<td>1.41 (1.21, 1.64)</td>
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<tr>
<td>Netterstrom 2010, men</td>
<td>1.40 (1.22, 1.61)</td>
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<tr>
<td>Netterstrom 2010, women</td>
<td>1.39 (1.23, 1.57)</td>
</tr>
<tr>
<td>IPD-Work 2012, men &amp; women</td>
<td>1.34 (1.18, 1.52)</td>
</tr>
<tr>
<td>Toren 2014, men</td>
<td>1.33 (1.19, 1.49)</td>
</tr>
</tbody>
</table>

Workplace demands, economic reward, and 4-year progression of carotid atherosclerosis in 940 Finnish men

Control at work and blood pressure

Mean ambulatory blood pressure (low control vs. high control).

N = 227 men and women (47-59 years); Whitehall Cohort Study

Review of results from prospective studies on work stress and elevated risks of depression

Demand-control model (or single scales)
12 out of 14 studies provide positive results with odds ratios varying between 1.2 and 3.4

Effort-reward imbalance model (or single scales)
10 studies: all provide positive results with odds ratios varying between 1.5 and 4.6

Organizational injustice model (single scales)
11 studies: all provide positive results with odds ratios varying between 1.2 and 2.4

Overall: Exposure to work stress almost doubles the risk of onset of depression (> 30 cohort studies!); PAR ca. 20% !
Cumulative hazard curves of disability pension due to depression by quartiles of work stress (ERI) (n = 51,874)

Reduced fatigue and depression is associated with labour market exit (GAZEL-study, France)


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Policy implications: Create more good and healthy jobs!

- Reduction of occupational hazards/injuries
- Protection from discrimination and violence
- Decision-making in task performance and work schedules
- Challenging work with options of skill discretion/learning
- Fair pay, recognition and transformational leadership
- Participation in relevant information/communication, social capital
- Promotion prospects according to qualification, continued training
- Reconciliation of work and family/private life
Large variations of stressful work across Europe
(SHARE, ELSA, n = 14 254, aged 50-64)

Source: based on T. Lunau et al. (2015) *PLoS One* 10 (3) e0121573
www.healthy-workplaces.eu
Primary prevention: promoting healthy work at three levels

- **Personal level**: Stress prevention programs
- **Interpersonal level**: Leadership training; communication skills;
- **Structural level**: Organizational/personnel development (based on work stress models)
  - Job enrichment/ enlargement (autonomy, control, responsibility)
  - Skill utilization / active learning
  - Participation / team work and social support
  - Culture of recognition
  - Fair wages/ gain-sharing
  - Continued qualification/ promotion prospects
Worksite health promotion RCTs: Most interventions focus on behavior change and on higher skilled occupations!

Frequencies of the occupational class of samples and outcomes of RCTs


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Putting research evidence into practice

**Disseminate scientific evidence on**
- adverse health effects of stressful work in cohort studies (e.g. Kivimäki et al. Lancet 2015)
- successful organizational-level intervention studies (e.g. Bourbonnais et al. Occup Environ Med. 2011)

**Establish business case of investments into good work**
(e.g. the average return on investment was $3 for every dollar spent on the work site health-promotion programs. Goetzel RZ, et al. Annu Rev Public Health. 2008)

**Promote and disseminate models of good practice**
(e.g. HWP Campaign awards; Eur. Network Enterprise for Health etc.)
What are the implications for treatment and rehabilitation?

Secondary prevention:
Monitoring and treating employees with chronic disease/disability
- Access to and quality of treatment (clinical guidelines);
- Therapeutic teams (manpower, organization, training, motivation);
- Establish models of outpatient settings with continuous support and supervision

Managing/ assisting return to work processes
- Early RTW; stepwise re-integration; supported employment programs; relapse prevention
- Policies of inclusion, social participation: appropriate job availability
Initiatives at national and EU-level

• Apply legal frameworks (national, international)
• Monitor working conditions (e.g. DWEA, SILC; OECD standards)
• Enforce fair work standards in trade contracts
• Promote voluntary agreements between employers and trade unions
• Support social movements (e.g. EU: Corporate Social Responsibility)
• Maintain and develop distinct national labor and social policies

➢ Welfare regimes securing basic social and economic protection, access to health care, further education in times of neoliberal policies
Mean score of stressful work and extent of implementation of national labour market integration policy (SHARE-Study)

Conclusion

Given solid research evidence on adverse health effects of poor work and employment conditions efforts are needed to reduce the science-policy gap by creating more good and healthy jobs, and by strengthening labor and social policies at national and EU levels!

“Do something, do more, do better!”

Thank you!