Work

Quality & Inequality
How is work good or bad for your health?

Discuss the links in a small group.
Work is good for your health.

Obvious financial benefits, but also Jahoda’s five latent functions of employment:

- Time structure.
- Regular opportunity for shared experiences and contacts with people outside nuclear family.
- Links with collective goals and purposes outside their own.
- Defines status and identity.
- Enforces activity.
## Unemployment and inflammation

### Table 3: Associations of current unemployment with inflammatory markers: whole-sample analysis

<table>
<thead>
<tr>
<th>Adjustment level</th>
<th>CRP (mg/L, log-transformed) N=23 025</th>
<th>Fibrinogen (g/L, log-transformed) N=20 724</th>
<th>CRP &gt; 3 mg/L N=23 025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient CI p Value</td>
<td>Coefficient CI p Value</td>
<td>OR CI p Value</td>
</tr>
<tr>
<td>Age, gender, country, year, socioeconomic position, long-term illness, health behaviours and GHQ-12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In paid employment</td>
<td>Ref.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>0.14 0.06 to 0.23 0.001</td>
<td>0.02 0.00 to 0.04 0.02</td>
<td>1.43 1.15 to 1.78 0.001</td>
</tr>
<tr>
<td>Sick/disabled</td>
<td>0.18 0.11 to 0.25 &lt;0.001</td>
<td>0.03 0.01 to 0.04 0.002</td>
<td>1.54 1.31 to 1.82 &lt;0.001</td>
</tr>
<tr>
<td>Other economically inactive</td>
<td>0.05 0.01 to 0.08 0.01</td>
<td>0.01 0.00 to 0.02 0.003</td>
<td>1.20 1.10 to 1.30 &lt;0.001</td>
</tr>
</tbody>
</table>

CRP, C reactive protein; GHQ-12, General Health Questionnaire.


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### Table 4: Fully adjusted* associations of current unemployment with inflammatory markers in whole sample, stratified by age group

<table>
<thead>
<tr>
<th>Age band</th>
<th>Coefficient/OR</th>
<th>CI</th>
<th>p Value</th>
<th>N (unemployed)</th>
<th>N (total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log CRP</td>
<td>0.10</td>
<td>−0.06 to 0.26</td>
<td>0.21</td>
<td>188</td>
<td>4621</td>
</tr>
<tr>
<td>Log fibrinogen</td>
<td>0.01</td>
<td>−0.02 to 0.05</td>
<td>0.39</td>
<td>177</td>
<td>4411</td>
</tr>
<tr>
<td>CRP, dichotomised</td>
<td>1.29</td>
<td>0.86 to 1.95</td>
<td>0.22</td>
<td>188</td>
<td>4621</td>
</tr>
<tr>
<td>32–47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log CRP</td>
<td>0.07</td>
<td>−0.07 to 0.21</td>
<td>0.34</td>
<td>171</td>
<td>9309</td>
</tr>
<tr>
<td>Log fibrinogen</td>
<td>0.00</td>
<td>−0.03 to 0.03</td>
<td>0.99</td>
<td>165</td>
<td>8747</td>
</tr>
<tr>
<td>CRP, dichotomised</td>
<td>1.35</td>
<td>0.91 to 2.00</td>
<td>0.14</td>
<td>171</td>
<td>9309</td>
</tr>
<tr>
<td>48–64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log CRP</td>
<td>0.28</td>
<td>0.13 to 0.42</td>
<td>&lt;0.001</td>
<td>146</td>
<td>9095</td>
</tr>
<tr>
<td>Log fibrinogen</td>
<td>0.07</td>
<td>0.04 to 0.10</td>
<td>&lt;0.001</td>
<td>120</td>
<td>7566</td>
</tr>
<tr>
<td>CRP, dichotomised</td>
<td>1.57</td>
<td>1.08 to 2.27</td>
<td>0.02</td>
<td>146</td>
<td>9095</td>
</tr>
</tbody>
</table>

The bold text signifies associations in the stratified analyses which are significant at p<0.05.

*Adjusted for age in years, gender, country, survey year, occupational social class, housing tenure, presence of a long-term illness, smoking, alcohol consumption, categorised BMI and dichotomised GHQ-12.

BMI, body mass index; CRP, C reactive protein; GHQ-12, General Health Questionnaire.
Return to work is associated with an improvement in health…

Review of 53 longitudinal studies

There is strong evidence that re-employment:

- Improves physical & general health and well-being
- Improves mental health
- Magnitude of improvement comparable to the harmful effects of losing a job.

However:

- That depends on the quality and security of re-employment
Remember UK measure of social class – NS-SEC – is a measure of employment relations & conditions.

Enormous body of evidence showing class inequalities in health and premature mortality.

To what extent are these explained by differences in job quality?
Predicted (log) diurnal cortisol slopes by employment grade in Whitehall II study of civil servants

Hours since awakening

Log cortisol

High Grade
Low Grade

Retirement and Socioeconomic Differences in Diurnal Cortisol: Longitudinal Evidence From a Cohort of British Civil Servants
Tarani Chandola, Patrick Rouxel, Michael G. Marmot, and Meena Kumari

UCL
Likelihood of diagnosed Heart Disease by job grade
Whitehall II

Odds ratio

Age-adjusted only & job control & ERI only & trad'l risk factors only* fully-adjusted

High grade Mid-grade Low grade

*Smoking, cholesterol, BMI, BP, physical activity

Source: Marmot et al. The Lancet 1997
Models of work stressors

- Demand control model
- Effort Reward Imbalance model
- Security
- Flexibility
- Hours (long)
- Low pay
Karasek & Theorell’s Demand-Control Model

**Figure 1—Job Strain Model**
Siegrist’s Effort-Reward Imbalance Model

- Imbalance is maintained if (i) no alternative choices available; (ii) accepted for strategic reasons; (iii) motivational pattern presents (i.e., overcommitment).

Source: [http://www.uniklinik-duesseldorf.de](http://www.uniklinik-duesseldorf.de)
Good work matters....

#goodworkis
Taylor Review of Modern Working Practices

“Bad work – insecure, exploitative, controlling – is bad for health and wellbeing”

But also,

“The worst work status for health is unemployment”

http://www.newstatesman.com/politics/staggers/2017/05/matthew-taylor-politicians-should-commit-making-all-work-good-work

Is this true?
Research Questions

Is return to work into poor quality work associated with an improvement in health and well-being, particularly the biomarkers associated with stress, compared to remaining unemployed, in a cohort of British unemployed adults?

*Are bad jobs better than no job?*
Measures of low job quality in UKHLS

- Earnings quality (‘low pay’)
- Labour market security (‘job insecurity’)
- Quality of the working environment (‘low job control’, ‘job dissatisfaction’ and ‘job anxiety’)

Employment status by job quality (4 categories)

- Remained unemployed after 1 or 2 years
- Was re-employed in good quality work
- Was re-employed in work with at least one adverse job quality measure
- Was re-employed in work with two or more adverse job quality measures
Three types of allostatic load

- Repeated "hits"
- Lack of adaptation
- Prolonged response
- Inadequate response
Allostatic load biomarkers in UKHLS

### Biological systems
- Neuroendocrine
- Immune
- Metabolic
- Cardio
- Anthropometric

### Measures for each system
- DHEA-S
- IGF-1
- CRP
- Fibrinogen
- Triglycerides
- Chol/HDL
- Creatine
- HbA1c
- SBP
- DBP
- Pulse rate
- Waist/Height ratio

**Allostatic load** was constructed by first dichotomizing each of the 11 biomarkers based on respondents in the **highest sex-specific quartile of risk** (‘1’) versus the remaining quartile (‘0’). Except for DHEAS and creatine clearance rate for which the **lowest quartile** indicated higher risk. These binary measures were then summed to create the overall allostatic load score (ranging from 0 to 10).
Formerly unemployed adults who were subsequently employed in poor quality jobs had higher levels of allostatic load than those who remained unemployed.
Low wage jobs can act as springboards to better paid work

Low-Wage Jobs – Springboard to High-Paid Ones?

Andreas Knabe (Otto-von-Guericke University Magdeburg and CESifo)
Alexander Plum (Otto-von-Guericke University Magdeburg)

Abstract We examine whether low-paid jobs have an effect on the probability that unemployed persons obtain better-paid jobs in the future (springboard effect). We make use of data from the German Socio-Economic Panel (SOEP) and apply a dynamic random-effects probit model. Our results suggest that low-wage jobs can act as springboards to better-paid work. The improvement of the chance to obtain a high-wage job by accepting low-paid work is particularly large for less-skilled persons and for individuals with longer periods of unemployment. Low-paid work is less beneficial if the job is associated with a low social status.
Flexible Working Arrangements in UKHLS

Reduced hours:
Part-time working
Working term-time only
Job sharing

Variable hours:
Flexi-time
To work annualised hours
Working a compressed week

Other flexible working arrangements:
To work from home on a regular basis
Other flexible working arrangements
Levels of allostatic load by flexible work arrangements, UKHLS

Reduced hours FWA

Other FWA

Levels of allostatic load by work hours and number of children, women employees, UKHLS

Levels of allostatic load by flexitime work and number of children, women employees, UKHLS

But flexibility can work two ways

Negative correlations with health (Flexibility for employers):
• Fragmented/Portfolio careers
• Multiple jobs
• Job insecurity

Positive correlations with health (Flexibility for workers):
• Own account/Self-employed workers
• Flexible work arrangements
Since 2008 recession, increased employer flexibility has been part of a story of increased inequality in the US & UK: Hour glass economy

- Labour market is polarised into "lovely“ and “lousy” occupations
- High wage, high skilled non-routine work at the top
- Low wage, low-skilled jobs at the bottom.
- Skilled- and semi-skilled manual jobs are hollowed out.
Increase in zero hours contracts, agency and self-employed workers in the UK, 2000-2016
Increase in the number of workers willing to take up ‘Second Choice’ vacancies rather than remain unemployed since the recession.
# Atypical work characteristics and inflammatory markers, UKHLS

<table>
<thead>
<tr>
<th>Work pattern</th>
<th>All</th>
<th>Precariousness</th>
<th>Work hours (hr/wk)</th>
<th>Weekend work</th>
<th>Work schedules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Permanently employed</td>
<td>100</td>
<td>77.0</td>
<td>4.9</td>
<td>18.1</td>
<td>14.6</td>
</tr>
</tbody>
</table>

**Results are reported as means for log-transformed fibrinogen and CRP data. All samples use multiply imputed data, imputed independently for men and women, with 35 imputations for each, and analysis restricted to those participants with observed data on the outcome measures (GHQ-12). Samples sizes (n) are un-weighted and proportions were derived after applying the UKHLS recommended survey weights. Column percentages have been rounded up and may not add up exactly to 100.**


All UK employees had the right to request Flexible Working Arrangements (FWA) after six months. Government now moving this forward to the start of employment.

Designed to support women, those with disability, parents and carers.

Will this further entrench gender inequalities in unpaid care work? Will higher levels of home working increase current gender gap in occupational attainment?
Gender differences in unpaid care work during lockdown, UKHLS

![Bar chart showing gender differences in unpaid care work during lockdown, UKHLS.](chart)

- **Childcare / homeschooling (mean hrs / wk)**
- **Housework (mean hrs / wk)**
- **% Reduced employment hours due to childcare / homeschooling**
- **% Adapted work patterns due to childcare / homeschooling**

- **Women (April)**
- **Men (April)**
- **Women (May)**
- **Men (May)**
- **Women (June)**
- **Men (June)**
- **Women (Sept)**
- **Men (Sept)**
- **Women (Jan)**
- **Men (Jan)**

*Source: Xue & McMunn 2021 PLoS ONE + new analysis*
Summary

Work is an important determinant of health but job quality is also important.

Aspects of job quality have been shown to be associated with stress biomarkers and are likely to play an important role in health inequalities.