Physicians’ Psychosocial Work Environment and Quality of Care: A Systematic Review

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Being a doctor and staying a person

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46.3% can’t meet demands (vs 28.5%)\(^2\)
48.2% insufficient staff (vs 32.2%)\(^2\)
85.3% work extra hours\(^2\)
33.6% harassed by patients\(^2\)
11.9% assaulted\(^2\)
25.1% bullied\(^2\)

28% psychological distressed (vs 18% population)\(^4\)
25-50% burnt out\(^3\)
34.3% work-related stress\(^2\)
Higher rates of substance abuse\(^7\)
54.2% presenteeism\(^2\)
52% consider leaving\(^5\)
24% fallen asleep driving home\(^1\)

5% of deaths in the NHS preventable\(^6\)
8-10% admissions contain errors\(^8-9\)
48.3% seen a harmful error\(^2\)
42% fatigued-related error in 6 months\(^1\)

\(^1\)Gander et al., 2007; \(^2\)NHS Staff Survey, 2014; \(^3\)Prins et al., 2007; \(^4\)Firth-Cozens, 2003; \(^5\)Ochsman, 2012; \(^6\)Hogan et al., 2013; \(^7\)Ghodse & Galea, 2006; \(^8\)Sari et al., 2007; \(^9\)Avery et al., 2012
Connecting the boxes
This systematic review, therefore, seeks to understand the observable gap in the literature by examining:

1. The types of psychosocial working conditions faced by doctors;
2. The impact of these working conditions have on different types of quality of care outcomes
Database Search  
\[ n = 3,680 \] 

Duplicates removed  
\[ n = 1,314 \] 

None-healthcare related titles removed  
\[ n = 40 \] 

Abstracts reviewed  
\[ n = 2,326 \] 

Abstracts rejected due to not meeting criteria on  
\[ n = 2,250 \]  
- Predictor variable  
\[ n = 1,825 \]  
- Profession  
\[ n = 1,600 \]  
- Outcome measure  
\[ n = 1,378 \]  
- Research design  
\[ n = 1,135 \]  
- Language  
\[ n = 12 \] 

Full text articles retrieved  
\[ n = 75 \] 

Articles obtained from none-database searches  
\[ n = 13 \] 

Full text articles rejected due to not meeting criteria on  
\[ n = 68 \]  
- Predictor variable  
\[ n = 44 \]  
- Profession  
\[ n = 5 \]  
- Outcome measure  
\[ n = 19 \]  
- Research design  
\[ n = 17 \]  
- Being conference abstract  
\[ n = 8 \] 

Final included articles  
\[ n = 19 \]
19 studies, from the United States (n=6), Germany (n=5), Israel (n=3), United Kingdom (n=2), Netherlands (n=2), Sweden (n=1)

Two forms of psychosocial working conditions:
1. Six job demands from fifteen studies
2. Six job resources from eleven studies

Quality of care outcomes:
1. Clinical excellence (e.g., subjective work performance, chart audits, and self-rated care quality of care provided);
2. Patient safety (e.g., number of self-reported or observer-assessed errors);
3. Patient-rated care outcomes (e.g., patient satisfaction, patient-rated quality of care).
<table>
<thead>
<tr>
<th>Job demands</th>
<th>Clinical Excellence</th>
<th>Patient Safety</th>
<th>Patient Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived workload</strong></td>
<td>r= -0.250 (CI: -0.381, -0.110) k=4</td>
<td>r= 0.097 (CI: 0.015, 0.179) k=3</td>
<td>r= 0.016 (CI: -0.254, 0.282) k=2</td>
</tr>
<tr>
<td><strong>Demanding patients</strong></td>
<td>◊</td>
<td>×</td>
<td>x</td>
</tr>
<tr>
<td><strong>Time pressure</strong></td>
<td>☑</td>
<td>☑</td>
<td>r= -0.239 (CI: -0.547, 0.126) k=1</td>
</tr>
<tr>
<td><strong>Perceived physical load</strong></td>
<td>r= -0.200 (CI: -0.318, -0.076) k=1</td>
<td></td>
<td>r= -0.123 (CI: -0.353, 0.121) k=1</td>
</tr>
<tr>
<td><strong>Emotional demands</strong></td>
<td>r= -0.404 (CI: -0.557, -0.224) k=2</td>
<td></td>
<td>r= -0.380 (CI: -0.467, -0.286) k=1</td>
</tr>
</tbody>
</table>

Note: r: correlation effect size; CI: Lower and upper 95% Confidence Interval; k: number of studies; Bold denotes significant relationships; ◊ expected findings found; × predicted results not supported; × results opposite to that predicted.
### Job resources

<table>
<thead>
<tr>
<th></th>
<th>Clinical Excellence</th>
<th>Patient Safety</th>
<th>Patient Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autonomy</strong></td>
<td>r=.364</td>
<td></td>
<td>r=-.015</td>
</tr>
<tr>
<td></td>
<td>(CI: .309, .416)</td>
<td></td>
<td>(CI: -.136, .107)</td>
</tr>
<tr>
<td></td>
<td>k=2</td>
<td></td>
<td>k=2</td>
</tr>
<tr>
<td><strong>Job control</strong></td>
<td>r=.390</td>
<td></td>
<td>r=-.180</td>
</tr>
<tr>
<td></td>
<td>(CI: .228, .530)</td>
<td></td>
<td>(CI: -.228, -.131)</td>
</tr>
<tr>
<td></td>
<td>k=1 (¤)</td>
<td></td>
<td>k=1 (¤)</td>
</tr>
<tr>
<td><strong>Learning &amp; development</strong></td>
<td>r=.316</td>
<td></td>
<td>r=-.160</td>
</tr>
<tr>
<td></td>
<td>(CI: .198, .425)</td>
<td></td>
<td>(CI: -.272, -.044)</td>
</tr>
<tr>
<td></td>
<td>k=1</td>
<td></td>
<td>k=1</td>
</tr>
<tr>
<td><strong>Social Support - Colleagues</strong></td>
<td>r=.134</td>
<td></td>
<td>r=.137</td>
</tr>
<tr>
<td></td>
<td>(CI: .134, .457)</td>
<td></td>
<td>(CI: -.119, .376)</td>
</tr>
<tr>
<td></td>
<td>k=1</td>
<td></td>
<td>k=1 (¤)</td>
</tr>
<tr>
<td><strong>Social Support - Supervisors</strong></td>
<td>r=.250</td>
<td></td>
<td>r=.137</td>
</tr>
<tr>
<td></td>
<td>(CI: .076, .409)</td>
<td></td>
<td>(CI: -.119, .376)</td>
</tr>
<tr>
<td></td>
<td>k=1</td>
<td></td>
<td>k=1</td>
</tr>
<tr>
<td><strong>Higher-order job resources</strong></td>
<td>r=.429</td>
<td></td>
<td>r=.420</td>
</tr>
<tr>
<td></td>
<td>(CI: .313, .532)</td>
<td></td>
<td>(CI: .329, .503)</td>
</tr>
<tr>
<td></td>
<td>k=2</td>
<td></td>
<td>k=1</td>
</tr>
</tbody>
</table>

Note: $r$: correlation effect size; CI: Lower and upper 95% Confidence Interval; $k$: number of studies; Bold denotes significant relationships; ¥ predicted results not supported;
Psychosocial working conditions and quality of care

» The most consistent predictors of quality of care, with the largest effect sizes, were higher-order job demands and resources.

» Specificity of an outcome should match that of the predictor

» Quality of care initiatives should target a range of psychosocial factors:
  > Focusing on specific job demands or resources may fail to address the underlying problems within the system
  > May only yield improvements on specific outcomes.
Do the type of outcome measures matter?

» Studies only used behavioural or attitudinal outcome measures

» Psychosocial working conditions were better predictors of clinical excellence and patient safety than they were of patient experience.

» Could the relationship involving patient experience be more complex?
  > Capturing the patient’s attitudes and expectations about the service received.
  > Doctors’ professional standards
Theoretical consideration

- Other factors potentially affect this relationship:
  > Curvilinear properties were observed for mental workload and autonomy.
  > Interaction effect, where in an environment which did not encourage learning, autonomy was associated with an increase in the number of treatment errors made.
  > Other constructs prevalent in the healthcare sector (e.g., job insecurity, role conflict) were not uncovered.

- Plausible that working in environments with lower standards of care leads to doctors perceiving the environment as more demanding and less resourceful.

- Lack of theoretical consideration from the included studies, only two studies utilised a theoretical framework.
Limitations

- The heterogeneity of doctors
- The meta-analysed effect sizes did not account for study quality or publication bias.
- Not all studies reported all $r$ values.
- Small number of cross-sectional studies found, particularly within the different types of psychosocial working conditions.
Conclusion

- Better psychosocial working conditions to correlate with better clinical excellence and patient safety outcomes
- The largest and most consistent predictors of quality of care were higher-order measures of job demands and resources.
- But these relationships are fraught with a number of challenges that warrant further attention.
- What is needed is more longitudinal and multilevel designs, accounting for the methodological and theoretical challenges highlighted here.
Questions and feedback

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