SHORT REPORT

Risk factors for work-related stress and health in head teachers

Samantha J. Phillips¹, Dil Sen² and Roseanne McNamee³

Background Work-related stress (WRS) is known to cause ill-health and decreased productivity. Work in the education sector is thought to be particularly stressful. Few studies have considered risk factors for WRS and health in head teachers.

Aims To investigate health in head teachers in West Sussex. To determine personal risk factors most likely to predict cases of WRS and of poor health in head teachers.

Methods A cross-sectional study, in a population of 290 head teachers and principals of colleges of further education, using a validated questionnaire, ‘a short stress evaluation tool’ (ASSET) and additional questions derived from earlier studies. Results were compared with the ASSET database ‘norm’ groups: a general population of workers (GPN) group and a group of managers and professionals (MPN). ‘Caseness’ was defined as respondents who felt work was ‘very or extremely stressful’.

Results Head teachers had poor physical and mental health compared to the GPN group. Psychological well-being, particularly of females and primary head teachers was worse than a comparative group of managers and professionals. Teaching <5 h/week was a significant predictor of caseness and being female was the main risk factor for poor psychological well-being.

Conclusions Prevalence of self-reported stress in head teachers in West Sussex is high. Female head teachers had worse health outcomes. Our study identified possible personal risk factors predicting WRS and/or poor health in head teachers.

Key words Head teachers; health outcomes; work-related stress.

Introduction

Few studies have considered health in head teachers or personal risk factors predictive of work-related stress (WRS) and health [1,2].

In a recent publication, the authors reported on the prevalence of self-reported WRS and stressors in head teachers in West Sussex as compared to a general population of workers (GPN) group and a group of managers and professionals (MPN) [3]. The prevalence of self-reported WRS, 43%, was more than double that found in workers in the Health & Safety Executive Bristol study [4]. The two main stressors were workload and work–life imbalance.

The study also investigated physical and psychological health outcomes of head teachers compared to the GPN and MPN normative groups and personal factors that might predict cases of WRS and poor health. We report on these results here.

Methods

The full method of our study and description of a short stress evaluation tool (ASSET) questionnaire are detailed in the original paper [3]. The ASSET ‘norm’ groups used as comparators were the GPN (>25 000 workers) and the MPN (~6000 people). Cases of WRS were defined as individuals who felt that their work was ‘very or extremely stressful’ (Bristol study question) [4]. ASSET scores from head teachers were compared to the mean results for the norm groups using one-sample t-tests. For each measure, ASSET software was used to derive a group ‘sten score’ for comparison with each norm group. (Sten scores have a scale of 0–10 with a score of 4–7 being considered ‘average’.) [3,5].

Regression analysis (using P < 0.10 as criterion for inclusion) was used to investigate personal risk factors, as
measured by ASSET, which might be predictive of WRS, poor physical or poor psychological health. The personal risk factors considered were age, gender, disability (self-assessed), marital status, family size, training/experience, school type, location and size, number of staff, hours worked per week (HPW) and hours spent teaching.

Results

The response rate was 64%. The demographic pattern of respondents was similar to that of the survey population. Head teachers had worse health outcomes (higher sten scores) compared to both GPN and MPN (Table 1). Constant tiredness, feeling unable to cope, avoiding contact with others and difficulty concentrating were the highest scoring items in the psychological health assessment. Mental health score for females was significantly higher than for males. Mental health score for primary head teachers was higher (although not statistically significant) than for secondary head teachers.

Personal risk factors individually predicting WRS ($P < 0.10$) were having a disability, having no management training, working in an urban/city catchment area and fewer hours teaching. When analysed together, using multiple regression analysis to eliminate confounding, the only factor which significantly predicted WRS was teaching $>5$ HPW (odds ratio (OR) $= 0.31$, $P < 0.05$).

Although not significant alone or in multiple regression, there was a progressive increase in risk of WRS with increase in hours worked (OR $= 1.4$ for 50–59 HPW, OR $= 1.7$ for $>60$ HPW compared to those working $<50$ HPW).

Personal risk factors predicting poor physical health were living alone, having a disability and being female. Increasing length of service as a head teacher and working in a large school ($>500$ pupils) were associated with better physical health. When these factors were analysed together, length of service was significantly associated with better physical health ($P < 0.05$) as was living with a partner ($P < 0.05$).

Discussion

In this study, the ASSET psychological score for head teachers was significantly higher than the norm groups. Mental health appeared worse in primary head teachers; regression analysis found that working in a large school ($>500$ pupils) was predictive of better mental and physical health scores. Previous studies have documented poor mental health in primary head teachers [1]. Secondary schools tend to be larger organizations with more management tiers and administrative support than in the primary sector.

Female head teachers’ mental well-being was very poor compared to other managers/professionals and significantly worse than that of their male colleagues. Female gender was the only personal risk factor significantly associated with poorer psychological health following regression analysis. This is in keeping with findings of many other stress studies, with females declaring stress and poor mental health more readily [6]. Their ‘caring’ roles at home could be additional stressors compounding those faced in the workplace.

Physical health scores for head teachers differed significantly to the norm groups. Female and primary head teachers had worse outcomes than their male and secondary counterparts. Living alone was the main predictor of worse physical health. Increasing length of service as a head teacher was associated with better physical health possibly as a result of a ‘healthy worker effect’.

A teaching commitment of $<5$ HPW was the single most important predictor of WRS in our study group. In an earlier New Zealand study [7], head teachers with full-time teaching responsibilities had lower stress ratings, but they also came from the smaller schools, a possible

<table>
<thead>
<tr>
<th>ASSET category</th>
<th>Number of respondents</th>
<th>Mean score (SD)</th>
<th>One-sample $t$-test comparing to GPN</th>
<th>One-sample $t$-test comparing to MPN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Test mean (mean difference)</td>
<td>95% CI of the difference</td>
</tr>
<tr>
<td>Physical health</td>
<td>175</td>
<td>14.8 (4.0)</td>
<td>13.8 (0.9)$^a$</td>
<td>0.4–1.5</td>
</tr>
<tr>
<td>Psychological health</td>
<td>182</td>
<td>25.6 (6.7)</td>
<td>23.2 (2.5)$^b$</td>
<td>1.5–3.4</td>
</tr>
</tbody>
</table>

CI, confidence interval.

$^a$Difference is significant at the 0.05 level (two-tailed).

$^b$Difference is significant at the 0.001 level (two-tailed).
confounder. Teaching is the vocation which led head teachers into their profession and they may feel better trained in this aspect of their role, making it both enjoyable and rewarding. However, headship has changed with the emphasis being on management and leadership rather than teaching.

All disabled head teachers and those without management training reported WRS, and for each of these factors, the risk of WRS was increased 8-fold. Due to the small numbers involved, the confidence intervals for these groups are large and the results should be interpreted with caution.

It is not possible to determine convincingly cause and effect from cross-sectional studies. The authors are also aware that the effect of non-work stressors has not been considered.

In conclusion, our study shows that, compared to other professionals, head teachers have poor psychological health, and female and primary head teachers’ health is worse than in their male and secondary counterparts.

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**Key points**

- Head teachers report high levels of WRS and their psychological health is poor compared to that of other professionals.
- Being female is a significant risk factor for poor psychological health in this group.
- A teaching commitment of <5 HPW is a significant risk factor for WRS in this group.

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**Conflicts of interest**

None declared.

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**References**