

**An investigation into the role of perceived work stress upon absenteeism, job satisfaction, psychological health and family, across 5 disparate occupational groups.
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Abstract

The study explored the validity of Warr's (1994) nine-environmental stressors' questionnaire in a sample of employees from five occupational groups (police service, fire service personnel, school teachers, train personnel, and librarians) argued to vary in the stressful nature of their work duties. The association between perceived occupational stress and absenteeism, psychological health, job satisfaction, and family stress was examined. It was hypothesised that high reported stress would be characterised by poor job satisfaction, greater unofficial absenteeism, psychological disturbance and greater work-family stress. All hypotheses were supported. It was also predicted that Occupations such as the Police and Fire service would report greater levels of perceived stress than individuals from Occupational groups such as the Library service. This was found to be contrary to the hypothesised direction. Interestingly, no gender differences for Occupational stress were found.

Introduction

The link between psychological well-being and occupational stress has received extensive investigation within the literature (Warr, 1994). Several researchers have focussed upon specific variables deemed to impact upon work-related stress, but few have attempted to provide an "all-encompassing" theoretical explanation. A prominent example of the latter is provided by Warr (1994), who proposed the nine-factors (environmental stressors) for job-related well-being: 1. Job Autonomy; 2. Opportunity for skill use; 3. Workload; 4. Job Variety; 5. Job clarity; 6. Availability of money; 7. Job security; 8. Opportunity for interpersonal contact; 9. Valued social position. These factors were formulated into an environmental stressors' questionnaire (Warr, 1994), which has enjoyed some success within industry.

The prevailing consequence of work-related stress appears to be psychological disorder. For example, work-related stress has been linked to depressive disorder by Tennant (2001) in his seminal paper outlining the major implications of work-related stress (distress) including worker dissatisfaction, mental health, absenteeism and the wider impact on family function.

Hypotheses

1. Irrespective of occupational group, psychological disturbance (GHQ) will be characterised by the presence of high levels of unofficial absenteeism, low job satisfaction and greater work to family stress, in comparison to those who do not display such disturbance.
2. Irrespective of occupational group, high-perceived work stress will be characterised by the presence of low job satisfaction, higher rates of unofficial absenteeism, and greater work to family stress.

3. High-perceived stress would be characterised by the presence of psychological disturbance (GHQ), regardless of occupation.
4. Individuals in the police and fire service will report greater perceived stress levels than schoolteachers, train drivers, and librarians, and perceived work-related stress levels will decrease respectively across each professional group respectively, with Police personnel reporting the highest and librarians reporting the lowest.

Design

The study employed a between-subjects design, with independent variables of occupation type and psychological health (GHQ). The dependent variables were the scores for the perceived environmental stress (Warr) and distress as measured in terms of job satisfaction, work to family stress and absenteeism.

Participants and Assessments

292 participants: Fire services (99), Police (117), Teachers (18), Train Personnel (14), and Librarians (44), were recruited from 26 organisations. The age of the participants across the five groups ranged from 18 to 64 years, with an overall mean of 40.65 years. The majority of the participants were male (208), in comparison to 84 females.

Unofficial absenteeism was assessed utilising a 3-item measure, which was employed and extensively validated by the University of Surrey Psychology department. The measure has a typical reliability of approximately 0.7 (Hair, personal communication). Work to Family stress was determined using items taken from Carlson, Kacmar & Williams' (2000) Work-Family conflict scale. Perceived environmental stressors (9-factor) questionnaire (Warr, 1994) was employed to assess perceived stress in the workplace. A higher score depicted a greater effect for that factor. The 9-factor questionnaire has been shown to have good reliability and validity (Eysenck & Saddiq, in prep). Psychological Health was assessed using the GHQ-12 (Goldberg, 1992). Job Satisfaction was measured using a self-report measure (Price & Mueller, 1981). The scale has good internal consistency reliability and good validity (Price & Mueller, 1981).

Results

Based upon the established cut-off of 3 for this questionnaire, participant scores were designated healthy (GHQ < 3) or non-healthy (GHQ ≥ 3). The results of this classification are depicted in table 1 below.

	Police Service		Fire Service		Train Drivers		School Teachers		Library Services		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Healthy	76	65	70	71	9	64	11	61	30	68	196	67
Non-healthy	41	35	29	29	5	36	7	39	14	32	96	33

Table 1 depicting the number of participants within the two GHQ classifications for each profession and in total.

Overall then, two-thirds of all participants were categorised healthy, and a third as experiencing some psychological difficulties. These proportions are broadly consistent for each occupational group.

Hypothesis 1- Psychological Health (GHQ) and its impact upon Absenteeism, Job Satisfaction, and Work-Family Stress.

In comparison to the non-healthy subgroup, healthy participants had greater job satisfaction [T(153.10)=5.702, $p < .001$, 1-tailed], less work-family conflict [T(290)=7.30, $p < .001$, 1-tailed], and lower rates of unofficial absenteeism from work [T(137.0)=2.05, $p < .05$, 1-tailed]. Thus hypothesis 1 was accepted.

Hypothesis 2 - Stress as a predictor

Multiple regression analyses were employed to determine whether perceived stress predicted “job satisfaction”, “work-family conflict” and unofficial “absenteeism” from work.

Job Stress as a predictor of Job Satisfaction

The models produced from multiple regressions only included the variables of “perceived workload”, “valued social position”, “perceived variety” and “perceived clarity”; all other variables were excluded. “Perceived variety” and “valued social position” were found to account for 39% of total variance. Analysis of Variance reported all models to be significantly better predictors than the mean. All predictors made a significant contribution to the model: perceived variety [T(287)=7.482, $p < .001$], valued social position [T(287)=6.24, $p < .001$], perceived clarity [T(287)=2.517, $p < .05$], and perceived workload [T(287)=2.165, $p < .05$].

Job Stress as a predictor of Unofficial Absenteeism

Multiple regressions suggested a model that only included the variable of “perceived skill use”. This predictor was indicative of a R^2 value of .026 accounting for 2.6% of variance for absenteeism. Analysis of Variance reported the model to be a significantly better predictor than the mean: perceived skill use [F(1,290)=7.78, $p < .01$]. This predictor made a significant contribution to the model [T(290)=2.79, $p < .01$].

Job Stress as a predictor of Work-family conflict

The models produced from multiple regressions only included the variables of “perceived workload”, “valued social position”, and “perceived clarity”; all other variables were excluded. “Perceived workload” and “valued social position” accounted for 32.5% of the variance. Analysis of Variance reported all models to be significantly better predictors than the mean. All predictors made a significant contribution to the model: perceived workload [T(288)=8.317, $p < .001$], valued social position [T(288)=4.452, $p < .001$], perceived clarity [T(288)=3.315, $p < .05$].

Hypothesis 3 - Perceived Stress and Psychological Health (GHQ)

Differences between healthy and non-healthy individuals were evident for all of Warr’s factors except those of “Perceived variety” and “Availability of money”. In comparisons to the healthy individuals, the non-healthy participants reported lesser control over their work duties

[T(290)=3.83, p<.001], a lesser opportunity to utilise their skills [T(290)=3.70, p<.001], felt that they had a greater workload [T(290)=6.98, p<.001] and less clarity over what was required of them in the job [T(290)=6.42, p<.001], perceived less opportunity for interpersonal contact [T(290)=3.28, p<.01], felt they were in a less valued social position [T(290)=3.975, p<.001], and reported having greater difficulties in performing their job in their current physical environment [T(290)=3.44, p<.01]. Finally, the non-healthy group reported higher levels of perceived overall stress than those individuals in the “healthy” group [T(290)=5.91, p<.001]. Thus the impact of work-related stress upon psychological health is robustly supported by these findings.

Hypothesis 4 - Occupational differences for Perceived stress

Table 2 and figure 1 depict the mean scores for the 9 stressors, for each occupational group.

Stressor variable	Occupation				
	Police Service (n=117)	Fire Service (n=99)	Train Drivers (n=14)	School Teachers (n=18)	Library Services (n=44)
Perceived clarity	10.59	10.02	9.50	8.17	10.80
Perceived control	12.22	11.64	12.29	12.67	12.91
Valued social position	11.23	7.33	9.64	9.33	8.52
Perceived skill use	10.79	11.15	11.86	9.33	12.07
Perceived variety	9.39	9.59	13.86	7.72	10.82
Perceived workload	13.11	12.54	12.14	13.17	12.64
Physical environment	9.77	9.21	10.50	9.50	12.50
Availability of money	14.11	15.03	10.07	12.17	14.39
Opportunity for interpersonal contact	8.35	8.48	9.79	7.72	7.75
Overall Stress	11.06	10.55	11.07	9.98	11.38

Table 2 depicting mean scores for the 9-factor stressors for the five occupational groups.

Occupation type was responsible for significant variations in perceived employee stress for: the impact of work environment [F(4,287)=3.77, p<.01]; the extent of variety, which employees felt they had in their job [F(4,287)=4.61, p<.01]; the perceived kudos employees associated with their jobs [F(4,287)=12.61, p<.001] and, the extent to which individuals felt they received sufficient financial reward [F(4,287)=4.61, p<.01]. No differences were evident for the “overall stress”

Figure 1

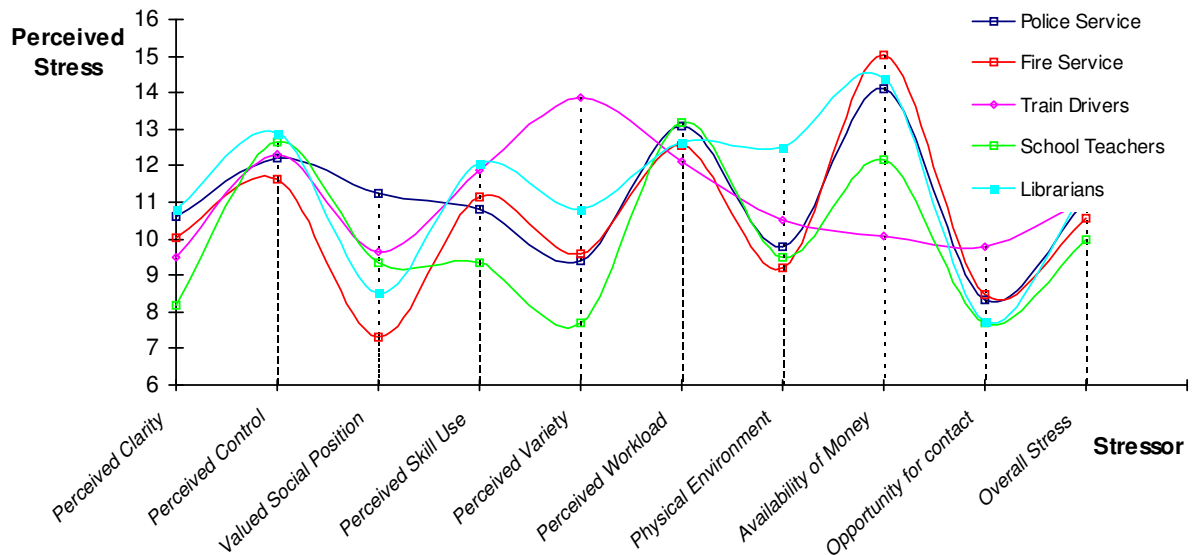


Table 1

Figure 1 depicting mean scores for perceived stress, between occupations.

Post-hoc analyses revealed that librarians associated greater stress to their physical environment hindering their ability to perform work duties than fire-fighters ($p < .01$) and the police force ($p < .05$). Train drivers felt they had less job variety in comparison to the police service ($p < .05$), fire-fighters ($p < .01$) and school teachers ($p < .01$). The police service reported greater stress due to the perceived kudos employees associated with their job relative to fire-fighters ($p < .001$) and librarians ($p < .01$). Finally, train drivers reported greater levels of stress associated with poor pay, in comparison to fire-fighters ($p < .01$), librarians ($p < .05$) and individuals from the police service ($p < .05$).

Gender differences for Perceived stress

No differences were found between males and females on any of the stressor variables (see figure 2) except a borderline difference ($p = .049$) for the “availability of money” factor [$T(290) = 1.973$, $p < .05$]; males reporting higher stress levels associated with poor pay.

Comment [Z11]: Is this correct?

Figure 2

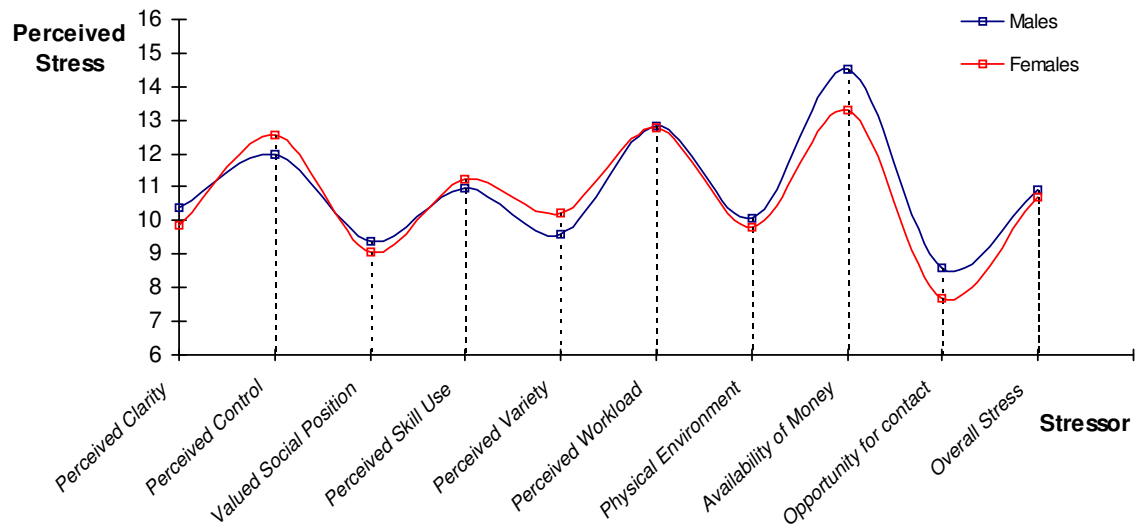


Figure 2 depicting mean scores for perceived stress, between males and females.

Discussion

Overall, the study's hypotheses were supported. Psychological disturbance was concomitant with the presence of unofficial absenteeism, lower job satisfaction and greater work to family stress. Perceived work stress (as measured by Warr's 9 stressors) was found to predict job satisfaction and work to family stress, although not all 9 variables were predictive in either instance. Psychological disturbance was found to be evident in approximately one-third of all participants with these proportions being broadly consistent for each occupational group.

Psychological Disturbance, Absenteeism, Job Satisfaction and Work-to-Family Stress

Three of Warr's stressors: perceived workload, valued social position and perceived clarity were predictive of work-to-family stress, respectively. It would appear evident that a job with a high workload (or perceived workload) is likely to involve a greater deal of work and longer hours, resulting in less "family time".

Higher perceived stress on 7 of Warr's 9 stressors was indicative of psychological disturbance, with perceived variety and availability of money not differentiating between psychologically disturbed and healthy participants.

Stress and Occupational Differences

Clear-cut differences in perceived stress were not evident between occupations in the hypothesised hierarchical manner. Rather, a more complex picture emerged where some (but not all) of the 9 stressors discriminated between the employment groups, and in addition, the severity of each stressor was not linked to a particular profession.

Conclusion

The study has provided extensive support for the effects of occupational stress upon psychological health and undesirable work outcomes. Participants who reported greater

stress levels were likely to have poor job satisfaction, have greater work-family stress and also more unofficial absenteeism in comparison to those reporting lower stress. Furthermore, individuals with greater perceived stress were more likely to exhibit psychological disturbance. Interestingly, no differences in stress were found between stress reports by males and females. The greater levels of perceived stress reported by Librarians might suggest a personality co-variant that results in certain personality types to seek jobs that are unlikely to induce high levels of stress. Indeed, a highly trait anxious individual is unlikely to seek out a career in a profession that is highly anxiety inducing such as the fire service or the police force.

References

Carlson, D. S., Kacmar, K. M. & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work-Family Conflict. Journal of Vocational Behaviour, 56: 249-276.

Eysenck, M. W. & Saddiq, M. S. (in prep.). Unpublished undergraduate dissertation.

Goldberg, D. (1992). General health questionnaire. Windsor: NFER-Nelson.

Price, J. L. & Mueller, C. W. (1981). Professional Turnover: The case of nurses. New York: SP Medical & Scientific Books.

Tennant, C. (2001). Work-related stress and depressive disorders. Journal of Psychosomatic Research, 51: 697-704.

Warr, P. (1994). A conceptual framework for the study of work and mental health. Work and Stress, 8, 84-97.

