

ABSTRACT for the 7th Annual Conference of the European Academy of Occupational Health Psychology held in Dublin, Ireland, November 10-12, 2006.

THE RELATIONSHIP BETWEEN JOB CHARACTERISTICS AND STRESS RESPONSES IN HEALTH PROFESSIONALS

Bial Project 126/02

MCINTYRE, S.¹, MCINTYRE, T.M.², JOHNSTON, D.³ & JONES, M.⁴

¹Instituto Superior da Maia, Portugal

²Universidade do Minho, Portugal

³School of Psychology University of Aberdeen, Scotland

⁴ School of Nursing and Midwifery, Scotland

Objectives: Stress audits in Portugal have shown that health professionals are highly stressed in comparison to their European colleagues (e.g. McIntyre et al., 2000). Managerial position has appeared as a significant predictor of job stress. Few studies have been done with health professionals in management positions, although these professionals are critical in the provision of quality services to patients and the effects of stress may impact negatively the provision of these services. In addition, prolonged stress may lead to absenteeism, stress related disability and early retirement from the profession (Kamarck et al, 2002). Most job strain studies use self-report questionnaires although these methods have been criticized for being open to various sources of bias and error. Real-time assessment methods (ecological momentary assessment or EMA) have been considered promising as they allow more continuous monitoring and in the person's real environment (e.g. Kamarck, et al, 2002).

This study has the following main **objectives:** - To characterize nurses and physicians in management positions in terms of emotional stress, task demand, decisional control, skill discretion, decision authority and overall strain, in comparison to their subordinates. - To investigate the relationship between the characteristics of the job, such as task demand, decisional control, and the levels of stress, on the basis of Karasek's (1979) Demand-Control model of job stress. - To investigate the relationship between social reciprocity on the job and stress using the ERI model of Siegrist. - To compare self-report and real-time assessment of stress and job variables, on the basis of Karasek's (1979) Demand-Control model of job stress and Siegrist's Effort Reward Imbalance model. - To compare the relationship between these three forms of assessment and their applicability to a Latin based culture. Methods Self-report instruments used were the Portuguese versions of: The General Health Questionnaire (GHQ-12). The Job Content Questionnaire (JCQ, Karasek, 1985) . The Effort Reward Imbalance questionnaire (ERI, Siegrist, 2004). Ecological Momentary Assessment (EMA): The real-time assessments of stress and job characteristics, according to Karasek's model, were done by a Portuguese adaptation of the Diary of Ambulatory States (DABS) on a Palm Zire hand-held computer (Kamarck et al, 1998).

Sample Participants completed the questionnaires before initiating the real-time assessment shift. The real-time data was collected over 1 day shift (app. 8 hours), where diary entries were timed to occur on an average of 90 minutes. Participants were 72 nurses and 19 doctors, 34 in management positions and 57 subordinates. Overall participation rate was 90%. Of this sample, 3 did not complete either the self-report or the diaries. The sample is mainly female (78%), average age 40.04 (SD=10.06), and worked an average 15.93 years in the unit (SD=23.69). Subjects provided an average 3.94 entries (SD=.95). Scores were averaged across all entries to provide average scores for each participant.

Results. Stress prevalence (GHQ-12): - M=2.57 (SD=2.22) - Overall prevalence: 46.1% (cut off 2/3) - Managers: 37.5%; Subordinates: 50.9% ($\chi^2 = 1.47, p=.22$) - Higher values than in previous study (38.8%), McIntyre et al, 2000. EMA stress (real time) - Managers: M=27.03, Subordinates: M=28.60, $t=-.33, p=.742$ No significant differences found in reported stress by both methods. Job Characteristics (JCQ): .Decision authority: - Managers (M=9.38); Subordinates (M=8.86), $t=1.97, p=.053$. No significant differences in Demand, Control, Skill Discretion and overall Strain Real time assessment: . Strain: - Managers (M=.57); Subordinates (M=.73), $t=-.1.79, p=.076$ No significant differences were found between managers and subordinates in most job characteristics included in Karasek's model

of job stress. Relationship between questionnaires and EMA: - GHQ/EMA Emotional stress $r=.24^*$ - GHQ/EMA Strain $r=.21^*$ - JCQ Strain/EMA Strain $r=.41^{***}$ - JCQ Demand/EMA Emotional stress $r=.30^{**}$ - JCQ Demand/EMA Strain $r=.41^{***}$ * $p<.05$; ** $p<.01$; *** $p<.001$.

Conclusion The data have not been completely analysed, but preliminary results show that there is a consistent relationship between questionnaire measures of strain and distress and real time measures. Nurses and physicians report high levels of stress which are independent of management position. . No significant differences were found between managers and subordinates in most job characteristics included in Karasek's model of job stress, with the exception of decision-authority. There is a consistent relationship between questionnaire measures of strain and distress and real time measures of strain and distress. Karasek's model worked fairly well: strain and demand concepts predicted distress in both methods of measurement. However, control, a key concept in his model, is not related to EMA or questionnaire assessments of distress. EMA methods were user-friendly and had good convergent validity with questionnaire measures, which is promising in terms of future use of this method of studying job stress. Advantages include the ability to study process through frequent monitoring and the study of contextual factors. A more detailed analysis of the results will be presented.

McIntyre, S. E, McIntyre, T. M., Johnston, D., & Jones, M. (2006). The relationship between job characteristics and stress responses in health professionals: using real-time data. In S. E. McIntyre & J. Houdmont (Eds.). *Occupational Health Psychology: key papers of the European Academy of Occupational Health Psychology, 7th Edition*. Maia: ISMAI Publications.