

**UNIVERSITI TEKNOLOGI MARA**

**A PREVALENCE OF OCCUPATIONAL STRESS AND  
PHYSIOLOGICAL CHANGES AMONG SHIFT WORKER  
AT AUTOMOTIVE PART MANUFACTURE**

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**Project paper submitted in partial fulfillment of the requirements for  
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## DECLARATION

Project entitled "A Prevalence Study of Occupational Stress and Physiological Changes among Shift Worker at Automotive Part Manufacture" is a presentation o of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Mr. Amir Herberd Abdullah as a Project Supervisor and Mr. Abd. Rahim Dal as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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## Abstract

### A Prevalence Study of Occupational Stress and Physiological Changes among Shift Worker At Automotive Part Manufacturing Industry

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**Introduction:** Occupational stress define as the harmful physical and emotional responses occur when the job requirement different with the capabilities or needs of the worker. Shift work system with existence of stress would change the normal 'circadian rhythm' of body function such as changing in blood pressure and heart rate. Two risk factors which are organizational factor and working environment influence the stress level of individual.

**Methodology:** The study was conducted in 'Plant 1' at the casting manufacturing section of an automotive part industry located at Shah Alam, Selangor Darul Ehsan. A cross-sectional comparative study was conducted to determine the higher prevalence of occupational stress and to determine factor of stress, effects and physiological changes of body among selected male shift workers of factory. Sampling data were obtained using measurement of environment condition, measurement of blood pressure, body temperature and body mass index, observation and distribute of Occupational Stress Index Questionnaire. A Statistical Package for the Social Science (SPSS) version 17.0 was used to analyse statistical data collected in this study. **Results:** The study was found that most of the shift workers (study group) expose with organizational factors and environmental factors. Using Independent t-test, there were significant differences ( $p$ -value  $< 0.05$ ) of organizational factors such as day works per week, work period, night shift, and repetitive work, speed up work and control more machines while for environment factors such as exposed to strong light, exposed to noise, heavy lifting, work at hot place, thermal condition, humid condition, expose with gases or dusts and expose to vibration. Beside, acute disorder statistical showed especially in emotional such as feeling worry and panicky (63.3%), edgy (63.3%) and in behavioural such as fatigue (43%), pain (60%), frequent mistake (80%), accident (60%), take medicine (33%) and social problems (30%). For physiological change of study group showed significant differences with  $p$  value is 0.0001 compared with control group. Comparison for both level of blood pressure showed study group were most exposed with hypertension (20%) than control group (6.7%). Thus, the prevalence of occupational stress was significantly higher among shift workers compare to normal day workers. **Conclusion:** There was prevalence of occupational stress occur among shift workers. Factor of environment was more led to occupational stress compared with the organizational factor. There is a high probability acute disorder of occupational stress occurs rarely among shift workers.

**Keywords:** occupational stress, shift work, physiological change, acute disorder