

## **ABSTRACT**

Title: The Study of Heat Stress and Heat Strain Indices and Their Effects on Workers' Performance

Name: Raemy Md Zein Dr. Ahmad Rasdan Ismail,

Email: rasdan [at] umk. edu. my; raemy [at] niosh. com. my

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### Abstract:

Heat stress occurs "when a person's environment (air temperature, radiant temperature, relative humidity and air velocity), clothing and activity interact to produce a tendency for body temperature to rise". Excessive heat during work creates occupational health risks. Exposure to excessive heat levels can lead to heatstroke, sometimes even with a fatal outcome. The aim of this study is to discuss the methodology in experimental of the factor affecting heat stress in industrial workers exposed to extreme heat. The experiment will be conducted in an environmental chamber as simulates as same environment of the manufacturing industry and construction industry. The environmental parameters will be taken such as the temperature, relative humidity and also the physiological parameters such as the volume oxygen uptake level and the heart rate. This study is conducted in both outdoor and indoor conditions. It simulates the lifting work at both manufacturing and construction industry. For manufacturing industry, the subjects are demanded to lift boxes. Meanwhile, for the construction industry, the subjects are demanded to lift a sand bag. From this study, the optimum values of temperature and humidity can be obtained which can lead to the optimum workers' performance. The increase of performance will ensure the production level at the manufacturing industries at its best and will lead to monetary gain.