Assessment of stress among assembly-line workers: correlation between subjective and objective physiological measures

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ABSTRACT

The main objectives of this study were first to evaluate a correlation between self-reported stress and heart rate variability (HRV) as a physiological marker, and secondly to examine the HRV difference between high and low-stress level workers. The participants consisted of 36 assembly-line female workers who were divided equally into a high (HS) and low-stress group (LS). The HS group consisted of subjects who reported extremely severe of depression, anxiety, stress, scale (DASS) measures while the LS participants were randomly selected from the 99 participants who had normal to moderate levels of each scale of DASS. All participants attended one session HRV measurement. Pearson correlation coefficients showed negative associations between DASS and the HRV coherence scores as well as differences on HRV between two groups. These findings suggested that objective HRV physiological evaluations and self-reporting measures may be integrated when assessing stress to capture a well-rounded picture of participant's states.

KEYWORDS

Anxiety; Biofeedback; Blue-collar; DASS; Depression; Heart rate variability; HRV

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ACKNOWLEDGEMENTS
This research project is funded by Malaysian Government under research grant ERGS/l/2013/ICT07/UKM/03/1.