

A Malay version of perceived stress screening scale (PSS-10): psychometric evaluation among manufacturing industry workers

ABSTRACT

The 10-item Perceived Stress Scale (PSS-10) is one of the most widely used scales for measuring psychological stress. It has been translated into more than 25 languages and validated among different populations. This study evaluated psychometric properties of Malay version PSS-10 in measuring perceived stress among manufacturing industry workers. A cross-sectional study was conducted in random sample of 42 workers from a pipeline manufacturing company. The Malay version PSS-10 was translated and back translated from original PSS-10. Psychometric properties of PSS-10 were evaluated by principal component analysis (construct validity), Cronbach's alpha coefficients (internal consistency) and correlation coefficients with the 21-item Depression, Anxiety, and Stress Scale (DASS-21) (concurrent validity). There were no significant differences of PSS-10 scores ($M=17.4$) across socio-economic characteristics ($p > .05$). Principal component analysis with varimax rotation showed a 2-factors structure that accounted for 48.59% of the variance (Factor loadings: 0.56 - 0.76). The Kaiser-Meyer-Olkin value (0.66) and significant Bartlett's Test of Sphericity suggested that the items were appropriate and adequate for factor analysis. Acceptable internal consistency was observed ($\alpha=0.77$). Concurrent validity of PSS-10 was reflected as the moderate correlations with DASS-21 stress subscale [$r(40)=0.58$, $p < .05$]. Severely stressed respondents as classified according to DASS-21 scores had significantly higher PSS-10 scores compared to normal respondents. [$F(3,38)=4.21$, $p < .05$]. This is the first study in Malaysia to evaluate the psychometric properties of PSS-10 among manufacturing industry workers. The findings supported that Malay version PSS-10 is a valid and reliable scale to measure perceived stress level of the population.

Keyword: PSS; Perceived stress; Psychometric property; Manufacturing industry; Validity; Reliability