

**Psychometric properties of the Malay version Chronic Stress Screening Scale (CSSS)
among manufacturing industry workers**

ABSTRACT

Background: This study evaluated psychometric properties of the Malay version of 12-item Chronic Stress Screening Scale (CSSS) among manufacturing industry workers. Materials and Methods: A cross sectional study was conducted in a pipeline manufacturing company at Kuantan. A total of 42 production workers who fulfilled the inclusive criteria were recruited randomly as participants. The Malay version of CSSS was translated and back translated before administration to ensure face validity. Psychometric properties of CSSS were evaluated in term of its construct validity, internal consistency reliability and concurrent validity with Perceived Stress Scale (PSS-10). Result: Total CSSS scores did not differ significantly across socio-economic characteristics ($p > .05$). Construct validity was established by a 2-factor structure extracted using principal component analysis under varimax rotation ($\sigma^2 = 50.53\%$) with factor loadings of items ranged from 0.52 to 0.83. KMO value (> 0.5) and significant Bartlett's Test indicated items adequacy and appropriateness for factor analysis. Internal consistency reliability was shown by high Cronbach's alpha coefficient at 0.84. Concurrent validity was reflected by significant correlation with PSS-10 [$r(40) = 0.67, p < 0.05$]. Chronically stressed respondents as classified according to CSSS were found having higher PSS-10 scores [$t(40) = -3.11, p < 0.05$] Conclusion: This is the first study that evaluates psychometric properties of the Malay version of CSSS. The findings supported that Malay version CSSS is a valid and reliable scale to measure chronic stress level among manufacturing industry workers.

Keyword: CSSS; PSS-10; Psychometric; Validity; Reliability; Manufacturing industry