

## Further Validation of the Chinese Version of the Smoking Self-efficacy Survey (CSSES-20)

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### ABSTRACT

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<b>Introduction</b>	Empirical evidences from previous studies with children suggested that the Chinese version of Smoking Self-efficacy Survey (CSSES) had acceptable reliability and validity and it could be shortened from 33 items to 20 items (CSSES-20). Although an instrument might have established sound psychometric properties in one population, it is necessary to evaluate the reliability and validity of a newly developed instrument with different populations. The purpose of this study was to conduct further psychometric testing on the CSSES-20 with Taiwanese adolescents.
<b>Methods</b>	Random cluster sampling method was used in this study and a sample of 990 adolescent aged 11 to 17 years was recruited in this study. A cross-sectional design was used in this study. The CSSES-20 was administered to the 5 <sup>th</sup> , 6 <sup>th</sup> , 7 <sup>th</sup> , 8 <sup>th</sup> , and 9 <sup>th</sup> graders who were recruited from three junior high and three elementary schools in northern Taiwan. Cross validation method was used in this study by randomly splitting the data file into 2 halves.
<b>Results</b>	Exploratory factor analysis from half of sample size yielded three components (Emotional stress, Influence of friends, and Opportunity to smoke) for the CSSES-20 accounting for 78.3% of the total variance, with factor loadings above 0.60. The results from confirmatory factor analysis with the rest of half sample indicated that the three-factor structure was the best fit for the CSSES-20 (CFI = 0.97). The contrasted group approach affirmed the construct validity of 3 subscales. Cronbach's alphas for three subscales ranged from 0.93 to 0.96. Item-to-subtotal correlation coefficients for the subscales were above 0.50.
<b>Conclusions</b>	Validity and reliability of the CSSES-20 were supported by the psychometric test results of this study. The results of this study suggested that the parsimonious CSSES-20 was applicable to and congruent with the culture of the Taiwanese students in a study of smoking behaviors.