

Depression anxiety stress scales (DASS-21): Psychometric analysis among Malaysian university student during covid-19 pandemic

ABSTRACT

The aim of this study is to test the psychometric properties of the 21-item Depression Anxiety Stress Scale (DASS-21). The DASS-21 is a set of three self-report scales consisting of 21 items to measure the emotional states of depression, anxiety, and stress. A sample of 380 (256 female, 124 male) university students in Malaysia were randomly selected to participate in this study. The reliability of the DASS-21 was evaluated by measuring the internal consistency (Cronbach's alpha) reliability. The convergent, concurrent, and discriminant properties were examined to evaluate the validity of the scale. Item analysis was also performed through the item-total correlation approach. The reliability of the DASS-21 showed excellent Cronbach's alpha values of .916 and .891 for the subscales of depression and anxiety respectively, while the stress subscale showed low reliability with Cronbach's alpha value of .472. The convergent validity of the DASS-21 was tested by examining the relationship between the dimensions of the scale which have moderate to strong and positive correlations ranging from $r = .561$ to $.777$. The concurrent validity was assessed by examining the relationship between the three subscales of DASS-21 and the score of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) which showed negative and significant correlations ranging from $r = -.377$ to $-.615$. The discriminant validity was evaluated by factor analyzing items of DASS-21 and items of World Health Organization Quality of Life, WHOQOLBref (Field Trial Version). All items of DASS-21 were loaded in one component while the items of WHOQOL-Bref (Field Trial Version) were loaded in another component, except for 3 items. The item analysis showed that the item-total correlation coefficient for three subscales of DASS-21 exceeded the recommended value of .30, except for item 14. From this study, the DASS-21 showed a high reliability and validity score and can be used to assess and measure mental health states among university students in Malaysia during the COVID-19 pandemic. However, further studies are required to enhance the evidence of reliability and validity for the DASS-21 instrument.