

Reliability and validity DASS 21: Malay students

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ABSTRACT

A study was conducted to examine the reliability and validity of Depression Anxiety Stress Scale -21 (DASS 21) among undergraduate students. A total of 79 Malay students were involved in this study. Our result indicates the internal consistency of 21-item versions of the questionnaire are typically high (cronbach alpha = 0.881). The factor loading analysis also shown a good factor loading for most items (ranging from 0.3 to 0.75) which explain the theoretical construct of 21 items are reliable and valid for assessing depression, anxiety and stress in other undergraduates' students.

Key Words: depression; anxiety; stress; reliability; validity.

1 INTRODUCTION

Depression, anxiety and stress scale also known as DASS, is a self report instrument. It was designed to measure three related negative emotional states of depression, anxiety and stress (DASS, 2014). The shortest version of DASS 21 was developed by Lovibond & Lovibond (1995). The DASS 21 is more simple and easy to administer without the need of special training. This instrument widely used for non-clinical study (Sinclair et al.2012). The shorter 21 item version of DASS (DASS 21) takes 5 to 10 minutes to complete. The items in the depression scale tap mainly on dysphoria, low self-esteem and lack of incentive. The item in stress scale measure negative affectivity responses, such as nervous tension and irritability which are the characteristics of both depression and anxiety (Brown, 1997 and Crawford & Henry, 2003), while items in the anxiety scale measure somatic and subjective responses to anxiety and fear. Our study aimed to construct the validity and reliability of DASS 21 for undergraduate students (Malay students).

2 METHODOLOGY

A special permission from the original author of DASS (Peter Lovibond) were acquired before the commencement of this study. There are 79 students from Diploma in Mathematics Sciences and Diploma in Computer Sciences was selected as a sample. The participants were explained on the confidentiality of the result and the information gathered would only be used for research purposes.

The DASS 21 was developed to measure emotional status which categorized into three parts; depression, anxiety and stress based on four rating scales. The rating scale ranging from 0 ("strongly Disagree") to 3 ("Totally Agree"). Each subscale consists of seven items that evaluate this three emotional states. The final result is obtained by summing the scores of items on each subscale. Subscale scores from DASS 21 are converted into normative data by multiplying the total scores by two. The higher the score obtained, the severe the emotional status of participant.

3 RESULT

3.1 Demographics variable

A total of 79 Malay students involve in this study. Table 1 summarized the demographic characteristics of the participants in this study. Most of the students involve in the study were dominated by female students (63.3%) and student age 20 years old (84.8%).

Table 1. Demographic data

	%
Gender	
Female	63.3
Male	36.7
Age	
19	10.1
20	84.8
21	3.8
22	1.3
	0.57
Living arrangements	
Family	17.7
Friends	81
Alone	1.3

3.2 Reliability (Internal consistency)

The reliability of DASS 21 was determined by using Cronbach's alpha. The cronbach's alpha for overall item shows in a good range (0.818). Result for item total correlation and cronbach alpha for 21 items were given in Table 2. The scale of depression, anxiety and stress shows had a good correlation with other items except Q3 and Q14. Both items for Q3 and Q14 had a satisfactory value.

Table 2 Internal consistency

	Item-Total Correlation	Cronbach's Alpha
1	.523	.882
2	.594	.883
3	.471	.876
4	.557	.879
5	.579	.876
6	.577	.876
7	.513	.883
8	.560	.880
9	.676	.869
10	.568	.873
11	.671	.869
12	.596	.872
13	.648	.871
14	.454	.873
15	.566	.874
16	.626	.872
17	.591	.873
18	.539	.881
19	.500	.882
20	.525	.875
21	.583	.874

3.3 Validity test

Using principal component analysis, three factors have eigenvalues greater than 1 indicates three factors will be retained. The three factors retained represent 49.17% of the item variance. It proved that DASS 21 managed to explain three factors which are depression, anxiety and stress. The confirmatory factor analysis was used to construct validity. Factor loading more than 0.6 was considered as significant (Hair,2010). The result shows in Table 3. All factor loading are range between 0.3 to 0.75. The poor factor loading is items Q1,Q4 ,Q8, Q11 and Q18.

Table 3 Factor Loading

Summary	n	Scale		
		Depressio	Anxiety	Stress
Q3	perasaan positif	0.636		
Q5	mendapat semangat	0.665		
Q10	tiada apa diharapkan	0.673		
Q13	sedih dan murung	0.694		
Q16	tidak bersemangat	0.720		
Q17	tidak berharga	0.687		
Q21	tidak bermakna	0.681		
Q2	Mulut kering		0.593	
Q4	Kesukaran bernafas		0.384	
Q7	Menggeletar		0.669	
Q9	Panik dan membodohkan diri		0.728	
Q15	Menjadi panik		0.640	
Q19	Tindak balas jantung		0.604	
Q20	takut		0.611	
Q1	Sukar ditenteramkan			0.307
Q6	Bertindak keterlaluan			0.616
Q8	Tenaga cemas			0.390
Q11	Gelisah		0.729	0.294
Q12	Sukar untuk relaks			0.652
Q14	Tidak dapat sabar			0.600
Q18	Mudah tersentuh			0.387

Item Q11 does not gauge stress but had high factor loading for anxiety (0.729). By comparing the three scales (depression, anxiety and stress) , depression items generally had good factor loading as compared to other scales.

4 CONCLUSION

The DASS 21 showed satisfactory and high value of validity and reliability and the used of this instrument for research is warranted.

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