Validation of the Arabic Version of the Depression Anxiety Stress Scales (DASS-42) among Undergraduates in Kuwait

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Introduction: Psychological distress is based on a tripartite framework that includes anxiety, depression and stress and assessed with standardized scales that are either self-administered or administered by a research interviewer or a clinician. The Depression Anxiety Stress Scales DASS-42 [4] provides relatively pure measures of the three related constructs including anxiety, depression and stress.

Objectives: To examine the reliability, validity and factor structure of the Arabic adaptation DASS-42 in an undergraduate sample.

Design: Descriptive study based upon self-reported The Depression Anxiety Stress Scales DASS-42, Beck Depression Inventory-II, Beck Anxiety Inventory –BAI, and BFI 2 Anxiety & Depression facet scales.

Methods:

Sample

The sample consisted of (1108) Kuwait University students (487) males and (621) females, with a mean age of (21.28 ±1.22). Participants completed the Arabic versions of DASS-42, BDI-II, BAI & BFI-2) Anxiety & Depression facet scales including demographics.

Measures

The Depression Anxiety Stress Scales DASS-42 [4] consisting of 42X4 items, The **Beck Depression Inventory-II** [2] consisting of 21X4 items, the **Beck Anxiety Inventory –BAI** [1] consisting of 21X4 items, and the **Second Big Five Inventory – BFI 2** [5] a 4X5 item, facet scales for Anxiety & Depression facet scales, were administered to assess psychological distress.

Statistical analysis

One-way ANOVA to assess gender differences, Cronbach's Alpha were computed for DASS-42 to assess the internal consistency, Pearson's correlations between DASS-42 and BDI-II, BAI & BFI-2) Anxiety & Depression facet scales were computed to assess concurrent validity, exploratory factor analysis were used to examine the structure DASS-42, BDI-II, BAI & BFI-2 (Anxiety & Depression) scales, and Kaiser-Meyer-Olkin (KMO) test of sampling adequacy were calculated in this study using IBM SPSS Statistics.

Results:

Table 1. One-way ANOVA of the scores of two gender groups in PD variable scores

Measures	Sum of squares	df	Mean square	*f-test*	*P-Level*
Stress (DASS)	5974.75	1	5974.75	132.58	.000
Depression (DASS)	3587.96	1	3587.96	70.56	.000
Anxiety (DASS)	2347.08	1	2347.08	51.28	.000
Depression (BDI-II)	2442.83	1	2442.83	25.72	.000
Anxiety (BAI)	1287.52	1	1287.52	7.87	.005
Anxiety (BFI-2)	146.27	1	146.27	19.52	.000
Depression (BFI-2)	323.31	1	323.31	35.27	.000

Table 1 shows significant gender differences between males and females in DASS Stress, Depression (DASS), Anxiety (DASS), Depression (BDI-II), Anxiety (BAI), Anxiety (BFI-2), and BFI-2 depression in which females have the highest means, therefore we run the following exploratory factor analysis using the separate samples (see table 2). Kaiser-Meyer-Olkin (KMO) Test value for the sample and was average (0.84) which indicate the sampling is adequate and thus may suggest the suitability of the data for factor analysis [3].

Table 2: Alpha Reliability, correlations, the explanatory (PCA) factor analysis of DASS-42, BDI-II, BAI and BFI-2 Anxiety & Depression facet scales extracts one factor solutions

Scales	Alpha r	Alpha r	Stress DASS	Depression DASS	Anxiety DASS	BDI-II	BAI	Anxiety BFI2	Depression BFI2	EFA Factor (male)	EFA Factor (female)
Stress (DASS)	.91	.81		.77	.69	.61	.39	.41	.49	.88	.85
Depression (DASS)	.90	.89	.88		.74	.58	.39	.38	.51	.89	.86
Anxiety (DASS)	.86	.79	.87	.84		.52	.45	.44	.41	.88	.83
Depression (BDI-II)	.90	.89	.51	.59	.51		.39	.34	.58	.69	.78
Anxiety (BAI)	.94	.92	.42	.51	.54	.41		.39	.36	.67	.47
Anxiety (BFI-2)	.69	.76	.39	.40	.38	.37	.42		.49	.51	.52
Depression (BFI-2)	.79	.70	.44	.43	.44	.45	.39	.61		.61	.72
Eigen – Value										3.93	3.75
% Variance										56.14 %	53.54 %

*All Correlation is significant at the 0.01 level (2-tailed).
Matrix above diameter for females.
Matrix below diameter for males.

The positive correlation between the scales ranging from (r=0.88 to 0.37) for males and from (r=0.77 to 0.34) for females which suggests that the DASS-42 shows good evidence of convergent validity of the DASS-42. The explanatory factor analysis (EFA) extracted one unipolar factor with the following loading for males: Depression (DASS), Stress (DASS), Anxiety (DASS), Depression (BDI-II), Anxiety (BAI), Depression (BFI-2), and Anxiety (BFI-2.). While the highest explanatory factor loading for females: Stress (DASS), Depression (DASS), Anxiety (DASS), Depression (BDI-II), Depression (BFI-2), Anxiety (BFI-2), and Anxiety (BAI). Cronbach's alpha reliability was satisfactory for DASS-42 scales ranging between (0.91 to 0.86) for males and between (0.89 to 0.87) for females.

Conclusions: The construct level analysis suggested that psychological distress (PD) is a single construct of unipolar factor. Findings confirm that the DASS-42 provides satisfactory validation and can be recommended as a measure of psychological distress among nonclinical Arab samples.

References:

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