

Standardization of Anxiety, Depression and Stress Scale

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Abstract

The research paper attempts to unfold the reliability of Anxiety, Depression and Stress Scale (Bhatnagar, Singh, Pandey, Sandhya, & Amitabh, 2011). Internal consistency as measured by Cronbach Alpha and Spearman Brown coefficient is .81 and .89 respectively for the total scale. Besides, convergent validity of Anxiety, Depression and Stress Scale (ADSS) (Bhatnagar, et.al., 2011) with Depression Anxiety Stress Scale (DASS) (Lovibond & Lovibond, 1995) was also seen. Obtained Correlations between the Anxiety, Depression and Stress Scale total scale score and Depression Anxiety Stress Scale total scale score was 0.57 ($p < 0.01$). The internal consistency, as well as, convergent validity between ADSS and DASS scales of anxiety, depression and stress have been also given along with the factors underlying ADSS.

Keyword: Anxiety, Depression, Stress and Convergent Validity.

At present anxiety, depression and stress are the most frequently used words in common man's life. They have become part of his existence and thus are often misinterpreted and misconstrued due to lack of awareness. 'Depression' in medicine is seen as being closely linked to mood changes (Patel, 2001). The relationship between depression and anxiety has been the cornerstone of research for mental health professional, as well as, researchers for a long time. In fact the coexistence of anxiety and depression brings to fore the tripartite model given by Clark & Watson (1991). According to this model both anxiety and depression share a number of symptom of elevated negative effect viz. (distress and irritability). Depression is characterized by low level of positive effect including experiences of happiness, confidence, and enthusiasm, while psychological hyper arousal is unique to anxiety. Even though depression and anxiety are conceptually distinct, there is substantial overlap between the two states that makes them difficult to distinguish in screening (Tran, Tran & Fisher, 2013). Depression and anxiety are common non psychotic disorder experienced in developing countries (Goldberg and Huxley 1992; Fisher, et.al, 2012). With special reference to rural mental health, Common mental disorders (CMDs) are often reported in the context of poverty prevalent areas with low standard of living, especially among those with a long-term experience of poverty (Weich and Lewis, 1998; Reijneveld & Schene, 1998; Kuruvilla and Jacob, 2007). The explanatory models of persons suffering from common mental disorders have been described in a number of studies, in all of which poverty and socio-economic problems have been cited as one of the most important factors causing emotional distress Patel, Gwanzura, Simunyu, Lloyd & Mann, 1995; Patel, Pereira & Mann, 1998). This needs further screening and exploration.

Besides, there is an increasing need for screening tools to identify people experiencing common mental disorder a country like India which has imbibed in its

cultural ethos magnificent diversity and multiple shades of livelihood. (Tran, Tran & Fisher, 2013).

Objectives

The objective of this study were

1. To assess the internal consistency of Anxiety Depression Stress Scale.
2. To assess the convergent validity and strength of association between Anxiety Depression Stress Scale (Bhatnagar, Singh, Pandey, Sandhya, & Amitabh, 2011) with Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995).
3. To discuss the factors of Anxiety Depression Stress Scale.

Method

Sample

For obtaining the internal consistency and factor structure ADSS was administered on 1177 participants (972 from community setting (376 students (187 male and 189 female) of UG and PG from University of Lucknow, 207 from Deva District Barabanki (128 male and 79 female) and 201 (105 male and 102 female) from slums of Lucknow) and 205 from clinical setting). For obtaining the convergent validity, the sample comprised of 174 participants (87 males and 87 females of UG and PG students from University of Lucknow) from community setting.

Tools

Brief description of ADSS (Bhatnagar, Singh, Pandey, Sandhya, & Amitabh, 2011) comprised of 48 items divided into three Subscales: Anxiety Subscale (19 items), Depression Subscale (15 items) and Stress Subscale (14 items).

Brief description of DASS-21 (Lovibond and Lovibond, 1995) comprised of 42 items divided into three subscales: Anxiety Subscale (14 items), Depression subscale (14 items) and Stress subscale (14 items).

Results

In line with the objectives, the results are being given in two sections. Section I pertaining to the reliability of ADSS and Section II enumerates the results on

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convergent validity. Besides, the factor structure of ADSS would also be briefly discussed.

Section I

Reliability for Anxiety, Depression and Stress Scale:

Cronbach’s alpha and Spearman Brown coefficients measuring the internal consistency for a scale has been conceived as a good measure of reliability. The Cronbach’s alpha and Spearman Brown coefficients were taken out. Reliability of the total scales in terms of internal consistency for the total scale was 0.81 (Cronbach Alpha) and 0.89 (Spearman Brown

its pretesting (Bhatnagar, et.al., 2011). At this point, it would be significant to share briefly the factors of ADSS generated through principal factoring with VARIMAX rotation.

- For anxiety scale three factors (named as Physical symptoms, apprehension and Dryness of mouth) emerged accounting for 43.94% of total variance.
- For depression scale two factors (named as Inertia-loss of interest and worth and poor emotional control) emerged accounting for 46.03% of total variance.

Table 1: Reliability for Anxiety, Depression and Stress Scale

Scales	Reliability Forms	Samples		
		Community Sample	Clinical Sample	Total Sample
Anxiety scale	Cronbach’s Alpha	.76	.66	.76
	Spearman Brown Coefficient	.86	.79	.86
Depression Scale	Cronbach’s Alpha	.76	.68	.75
	Spearman Brown Coefficient	.86	.81	.86
Stress scale	Cronbach’s Alpha	.63	.56	.61
	Spearman Brown Coefficient	-.77	.71	.76

coefficient). Reliability forms for the three scales for clinical and community samples is as follows (Bhatnagar, et.al., 2011)-

The internal consistency of DASS 21 by Cronbach’s alpha for each subscale has also been documented high: (DASS-21-Depression subscales 0.72, DASS 21-Anxiety subscale 0.77, and DASS 21-stress subscale 0.7.). The overall internal consistency (Cronbach alpha) score for DASS-21 was also reported as 0.88) (Tran, Tran and Fisher, 2013). The results are thus comparable.

Section II

Convergent validity of ADSS with DASS:

- Pearson correlations between the ADSS (Bhatnagar, et. al., 2011) total score and DASS (Lovibond and Lovibond, 1995) total score was .57 (p<.01)
- Between Anxiety scale score of ADSS and Anxiety scale score of DASS the correlation was .53 (p<.01).
- Between Depression scale score of ADSS and depression scale score of DASS correlation was .55 (p<.01).
- Between stress scale score of ADSS and stress score of DASS the correlation was .52 (p<.01).

Since ADSS is bilingual in nature, it is used mostly for community people particularly rural community. The Hindi translation of the scale was done using the back translation method along with

- For stress scale two factors (named as Emotional Arousal and Negative Life events) emerged accounting for 39.19% of total variance.(For a detailed discussion on factor analysis of ADSS refer to Singh and Bhatnagar, 2016)

Like wide application of The Depression Anxiety Stress Scale (DASS) for assessment of mental disorders (Crawford and Henry, 2003; Tran, Tran and Fisher, 2013; Beaufort, DeWeert- Van Oene, Buwalda, de Leeuw, Goudriaan, 2017; Hong Le, Tran, Holton, Thanh Nguyen, Wolfe& Fisher, 2017), ADSS is also being used extensively (Sankar & Wani, 2016; Joshi &Yadav, 2017; Walia & Baby, 2017; Prakash & Saini, 2018; Bumb & Odamani, 2019; Baby and Chauragade, 2020)

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