Urdu Translation and Validation of Toronto Alexithymia Scale

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The present study was conducted to translate and validate the Toronto Alexithymia Scale (Taylor, Bagby & Parker, 1994) for the purpose of having a culturally equivalent, linguistically accurate Urdu version with theoretically replicable factor structure to use in Pakistan. The forward-backward translation method was used for translation of this scale. Urdu translated version of the scale was applied on 300 participants of different age groups (M= 35.5, SD= 12.1). Based on a confirmatory factor analysis (CFA), results confirmed that a three-dimensional model with the factors difficulty describing feelings, difficulty identifying feelings and externally oriented thinking, provided an excellent fit to the data. Its Cronbach alpha reliability coefficient was .82. The cross-language validity determined on a sample of 60 participants showed highly satisfactory validity indices. Convergent validity of the scale was proved by finding positive correlation of Toronto Alexithymia Scale with anxiety (r = .51, p < .001) and negative relationship with emotional intelligence (r = -.35, p < .001), which revealed its divergent validity.

Keywords: Toronto Alexithymia Scale, Translation, Validation, Confirmatory factor analysis

Alexithymia is psychosomatic phenomenon and this word was first coined by Sifneos (1973). He described it as scarcity in understanding, processing, or describing emotions. Alexithymia is a broad personality dimension having a cognitive and affective domain, which involves difficulty in recognition and identification of feelings, fantasizing and emotionalizing these feelings associated with bodily sensations of emotional arousal (Bermond et al., 2007). There are various facets of alexithymia such as behavioural, physiological and neurological on which alexithymia has been tested by focusing on individual and cultural differences (Kano & Fukudo, 2013).

Alexithymia is emotional blindness and to measure this emotional blindness through a valid and reliable tool is a very controversial task. Several measures have been developed for the measurement of this construct including self-report scales (MMPI Alexithymia by Kleiger & Kinsman, 1980) and Schalling-Sifneos Personality Scales (Apfel & Sifneos, 1979) but, these scales were not considered as valid and reliable measure of alexithymia, therefore were not much empirically supported.

The need for alexithymia scale was accomplished by development of Toronto Alexithymia Scale (TAS-20) comprising of 20 items developed by Taylor, Bagby, and Parker (1997). They defined alexithymia on the basis of these underlying features: (a) Experiencing difficulty in identification of feelings and the associated physiological changes in the body; (b) Difficultly in the expression of emotions; (c) Constricted imagination coupled with devoid of fantasies and; (d) Externally oriented thinking style due to lack of introspective awareness. TAS-20 is considered as the most famous scale among all the other measurements of alexithymia. Research work indicated that it is a highly valid and reliable scale (Bagby, Parker & Taylor 1994). Trajanović, Djurić, Latas, Milovanović, and Djurić (2013) claimed that it is translated in more than 20 languages in order to validate it across cultural and language obstacles. He proposed it as a universal trait. This scale shows Alexithymia as a multidimensional construct as it comprises of three factors. These three factors are completely separate factors but, empirically related depicting difficulty in identifying feelings, difficulty in describing feelings, and externally

oriented thinking patterns such as fantasizing feelings.

The TAS-20 has been replicated for many samples such as students, clinical and different communities in different languages, for example, German, Hindi, Italian, Korean, Lithunain and Swedish etc. (Bach, Bach, de Zwaan, & Serim, 1996; Bressi et al., 1996; Lee, Rim, & Lee, 1996; Pandey, Mandal, Taylor, & Parker, 1996; Simonsson-Sarnecki et al., 2000). In these studies, TAS-20 was translated by using back translation method and its three factor structure was tested through confirmatory factor analysis. Most of these studies confirmed its three factor structure but, few studies failed to achieve this consistency especially, in the third factor (Simonsson-Sarnecki, et al., 2000). While translating TAS-20 in English language Taylor, Bagby and Parker (2003) reported low internal consistency of the third factor. The lowest Cronbach Alpha value for factor three ranged from .34 to .68 for different translations. They claimed that the third factor of TAS-20 has a large number of items, which can negatively influence an internal reliability of whole scale. This factor has more negative scoring items and these negative items can change the meaning during translation process or can be influenced by true cultural differences. The third factor assesses individuals mental processes especially reduced fantasy and imaginal activity indirectly and these processes are difficult to measure through self-report tools (Parkera, Taylorb, Bagbyc, 2003). Nevertheless, there is pertinent literature available claiming the three factor structure of the TAS-20 as a stable and replicable scale across clinical and nonclinical populations (Bagby, et al., 1993).

For TAS-20, however, evidence of construct validity has been provided by studies that have shown that the scale converges and diverges in theoretically meaningful ways with measures of closely related and unrelated constructs. Guttman and Laporte (2002) suggested a strong and positive correlation of TAS-20 with emotional distress, depression and negative affectivity (Espina, 2003). Andersson, Kaldo-Sandström, Ström, and Strömgren (2003) also provided evidence of TAS-20's construct validity by founding its equivalence with the Hospital Anxiety and Depression Scale.

Parker, Taylor and Bagby (2001) through their research findings also proved that TAS-20 is a multidimensional scale measuring alexithymia as an independent construct with high internal consistency and construct validity. They claimed a strong, negative correlation of alexithymia assessed through TAS-20 with emotional intelligence. They suggested that their findings are in line with clinical reports that high alexithymia individuals manifest a limited ability for understanding emotional states of others (Krystal, 1979; McDougall, 1989). Previous findings also showed a negative correlation between TAS-20 and its three factors and the adaptability and stress management factors of the EQ-I (Parker et al., 1998), vulnerability to stress (Bagby et al., 1994), and psychiatric disorders and somatic illnesses (Taylor et al., 1997).

Scarcity of researches related to alexithymia in Pakistan lead towards the translation and validation of TAS-20. Furthermore, it aimed at confirming the replication of three factor structure on the population of Pakistan.

Method

In order to accomplish the objectives, the current study was designed to be completed in four phases. Phase 1 was about translating the scale, Phase II comprised of confirmatory factor analysis and determination of psychometric properties, Phase III was intended to cross language validation and Phase IV determined convergent and divergent validation of the TAS-20.

Measure

Toronto Alexithymia Scale (TAS–20; Taylor, Bagby & Parker, 1994): TAS-20, a 20-item self-report measure was used to measure the presence and intensity of Alexithymia. The responses were taken on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale measured the three main dimensions of alexithymia, which are Difficulty in identifying feelings (DIF, 7 items), Difficulty Describing Feelings (DDF, 5 items)

and Externally Oriented Thinking (EOT, 8 items). Reliability and validity of TAS-20 is consistently proved by various researches (Andersson, et al., 2003; Espina, 2003; Simonsson-Sarnecki et al., 2000).

Phase I: Translation of Toronto Alexithymia Scale

Consent from original authors of the scale was taken and the following procedure was subsequently ensued:

Forward Translation. At the initial stage, English to Urdu translation was done for Toronto Alexithymia Scale according to the standardized translation procedure (Brislin, 1976). As a result three bilingual individuals translated the scale from English (source language) to Urdu (target language). The main objective behind following this procedure was to make translation conceptually equivalent to the culture from where the target language belongs. To achieve the objective three bilingual experts (assistant professor of psychology from psychology department, University of Sargodha) were selected cautiously. They were proficient in both languages; familiar with both cultures and had vast experience in Psychological test development. Moreover, they were asked to be vigilant regarding technical correspondence of the language such as grammar, item length, and an acceptable level of abstraction with respect to socio-cultural context. Finally, three independent Urdu translated versions of Toronto Alexithymia Scale were obtained.

Evaluation of translated items by committee. By analysing the theoretical uniformity through committee approach, three independent forward versions were compared from item to item and best fitted items were retained. This committee comprised of two assistant professors from department of Psychology and one assistant professor of linguistics from department of English, University of Sargodha. By analysing each and every item critically experts selected one translation, conveying the best meaning of each item. Furthermore, the committee members evaluated translated items in terms of context, grammar and wording. Finally, with the

consensus of all experts the forward translation was reconciled that consisted of the best fitting translation of the items.

Back translation. This was mainly done to assess the conceptual equivalence of the acquiescent forward translation and original version. To follow this, two bilingual experts including one lecturer from the department of English and one assistant professor from the Psychology Department, University of Sargodha translated back the finalized Urdu version of the scale into English. It was kept under consideration that these experts would be unfamiliar with the original scale. Both experts translated the Urdu version of the scale into English. The purpose of this step in the present study was to ensure that Urdu translated version is correct, valid, reliable and is free from linguistic biases. Consequently, two independent English translations of Urdu version of the scale were ready.

Evaluation of back translated items by Committee of Experts. Back-translated items were critically analyzed and the final list of items for Urdu Translated Toronto Alexithymia Scale were selected by a committee of experts consisting of one lecturer and two assistant professors from the department of Psychology, University of Sargodha. Accuracy of translation was ensured by the consensus of all the experts.

Phase II: Determination of Psychometric Properties and confirmatory factor analysis of Urdu Toronto Alexithymia Scale.

The data was analysed in terms of factorial validity, alpha reliability, correlations, and item-total correlations by using AMOS 20 and Statistical Package for Social Sciences (SPSS).

Sample

The sample comprised of 300 participants (150 men & 150 women) with an age range of 22 to 70 years (M= 35.5, SD= 12.1) was selected for the present study. In order to get representation of young, middle and late adults, the sample was taken from different age groups. Men and women were given equal representation in the sample (n=150). There was a prerequisite to read the items therefore literate participants were required for the current study. Participants

were having different educational qualifications ranging from matriculation to post graduation. Participants showed diversity in terms of socioeconomic status.

Procedure

Participants of the study were personally contacted to collect the data. Purpose of the study was briefly described to them and instructions were provided regarding the response format and successful completion of scales. All their queries were adequately entertained and participants were requested to answer the questions honestly. Moreover, they were ensured that the confidentiality and privacy of their information will be maintained. No time limit was decided for completion of the scales. At the end, the participants were thanked for their cooperation and invaluable participation.

Results of Phase II

Confirmatory factor analysis was carried out to confirm the measurement model and the factor structure of TAS-20. In the current study, various indices and criteria were assessed to explain which model fits as the best (CFI, GFI, and RMSEA).

The Tables 1 and 2 show the results of model fit indices and factor loadings of CFA for the translated Toronto Alexithymia Scale. Based upon the initial criteria for model fit i.e., item loading > .35 of the original model with three factor structure (Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking) was examined through confirmatory factor analysis and the three factor structure showed a good fit to the data with chi square 229.5 (df = 85), CFI =.95, GFI = .95, and RMSEA = .05. The final model contains three factors with seven items in Difficulty Identifying Feelings subscale, five items in Difficulty Describing Feelings subscale and four items in Externally Oriented Thinking. Four items from the third factor was deleted due to loading below .35. The factor loadings of remaining 16 items ranged from .37 to .81.

Results of CFA provided strong evidence for the validation of the Urdu Translated Toronto Alexithymia Scale with sixteen items retained.

Table 3 depicts that Urdu Translated Alexithymia scale and its subscales are reliable.

Phase III. Cross Language Validity

The third phase of the current study was aimed at cross language validation of the Urdu translated version of TAS-20. The procedure followed a comparison between Urdu translated version and original English version of scale. The comparison was helpful to assess the quality of Urdu translated version and to determine its empirical equivalence with the original version.

Sample. About 60 individuals with a minimum age of 20 years were selected. The

Table 1. Model fit indices of CFA for Brief Muslim Practice and Belief Scale (n = 300)

Indexes	Chi square	df	CFI	RMSEA	GFI	TLI
Model	229.5	85	.95	.05	.95	.94

Table 2. Factor Loadings of Items on Three Factors of Toronto Alexithymia Scale (N=300)

Difficulty Identifying Feelings		Difficulty Describing Feelings		Externally Oriented Thinking	
Items	Loadings	Items	Loadings	Items	Loadings
1	.69	2	.66	8	.68
3	.41	4	.37	15	.45
6	.76	11	.64	16	.43
9	.74	12	.39	20	.45
11	.78	17	.58		
13	.81				
14	.69				

Table 3: Descriptive and Psychometric Properties of Scale of Present Study (N=300)

Variable	No of items	M	SD	α
Toronto Alexithymia Scale	16	41.64	9.49	.81
Difficulty Identifying Feelings	7	16.5	6.73	.86
Difficulty Describing Feelings	5	11.8	3.95	.70
Externally Oriented Thinking	4	13.2	3.21	.60

sample was categorized into four groups, each group comprising of 15 participants in test and retest phase. Qualification of the participants ranged from matriculation as minimum to post graduation as maximum. Participants that were selected represented different levels of socioeconomic status.

Procedure. This phase of the study was aimed at examining the validation of translated versions of scales, which were administrated twice to the four groups of participants in Urdu-Urdu, English-English, English–Urdu and Urdu-English sequence.

Two conditions were followed for tests administration on participants. In the first trial two groups were given Urdu versions and two were given English versions of both scales. After seven days, the second trial was taken and the same 60 participants were given the test again but, in this trial two groups were given the same language version but, the other two groups were given opposite language version of the test. The goal of this practice was to find out the inconsistency or equivalence between the Urdu and English versions of scales. The above mentioned distributions were made to control the learning effect that may take place due to testing of original and translated versions. This empirical equivalence was assessed by carrying out the correlations of the test and retest phase of seven days.

Table 4. Correlations between Urdu and English Versions of Short Muslim Practice and Belief Scale (N= 60)

Toronto Alexithymia Scale	r
Urdu-Urdu	.75***
Urdu-English	.68***
English-English	.72***
English-Urdu	.66***

***p < .001

Table 4 depicts the correlations between all test-retest phases of Toronto Alexithymia scale administration. It indicates that all test-retest phases for these scales are significantly correlated with each other and their correlations ranged from .66 to .75. On the whole, results in Table 4 show that there is sound empirically equivalence between Urdu translation of Toronto Alexithymia scale and its English version.

Phase IV: Convergent and Discriminant Validation of Urdu Translated Toronto Alexithymia Scale

Sample

The convenient sample consisted of 200 participants that was recruited from Sargodha city (100 male & 100 female) ranging in the age from 23 to 70 years (M=32.7, SD=12.67). Here, the minimum education level was intermediate and maximum was post-graduation.

Instruments

Toronto Alexithymia Scale (TAS–20; Taylor, Bagby& Parker, 1994). Urdu Translated Toronto Alexithymia Scale was used to measure the level of alexithymia of participants. The response format of the scale was based on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The three main dimensions of alexithymia measured through this scale are Difficulty identifying feelings, Difficulty Describing Feelings and Externally Oriented Cognitive Style of Thinking. There are 20 items in the original Scale but the Urdu Translated version is comprised of 16 items. Alpha reliability of the Translated version is .81 and the construct validity of the scale is also ensured.

Wong and Law Emotional Intelligence Scale (Fatima & Ghayas, 2013). The Urdu translated version was used in the present study. It comprised upon four subscales and

each subscale further contained four items: a) Appraisal and expression of emotion in oneself consisted of (1, 2, 3 and 4), b), Appraisal and recognition of emotions in others (5, 6, 7 and 8), c) Regulation of emotion in oneself and others (9, 10, 11 and 12), d) and Use of emotions to facilitate performance consisted 13, 14, 15, and 16 items. The responses anchored on a 6-point format, which ranged from strongly disagree to strongly agree. Maximum scores yielded higher level of EI, whereas low scores corresponded to lower level of EI. Reported alpha consistency of the translated scale and subscales ranged from .70 to .85.

Anxiety Subscale of DASS-42 (Farooqi & Habib, 2010). The Urdu version of anxiety subscale of DASS by Farooq and Habib (2010) was used to measure the anxiety level among the participants. DASS comprised of 42 items that was designed to check the severity of symptoms related to Depression (14 items), Anxiety (14 items) and stress (14 items). Its response format consists of a 4-point rating scale ranging from (0 -never, 1 - rarely, 2 - mostly and 3 - always). The scale was constructed by Lovibond and Lovibond (1995) and translated in Urdu language by Farooqi and Habib (2010). The original scale internal consistency of the DASS subscales ranged from .91 to .97 whereas the internal consistency of the translated version of DASS-42 ranges from .94 to .97.

Procedure

All the scales required for the validation of Toronto Alexithymia Scale were distributed among the participants of the study. After taking informed consent and ensuring the confidentiality of information, participants were given guidelines to read all the given instructions and fill all the questionnaires completely and carefully.

Results of Phase IV

Correlations among the Toronto Alexithymia Scale, Anxiety subscale of DASS and Wong and Law Emotional Intelligence Scale were computed to provide convergent and discriminant validity evidence for the Toronto Alexithymia Scale. Table 4 provides the evidence of convergent validity as it indicates that the Toronto Alexithymia Scale is significantly and positively correlated to the

Anxiety subscale of DASS (r = .34, p < .001). The table also depicts the evidence of Discriminant validity of the scale as it is revealed that there is a significant and negative correlation of the Wong and Law Emotional Intelligence Scale with the Toronto Alexithymia Scale (r = -.49, p < .001). These results provide evidence for convergent and discriminant validity of the Urdu translated Toronto Alexithymia Scale.

Table 4. Intercorrelations among Study Scales (N=200)

	Variables	2	3
1	Toronto Alexithymia Scale	.34***	-.49***
2	Anxiety subscale of DASS		-.28***
3	Wong and Law Emotional Intelligence Scale		

***p<.001

Discussion

Alexithymia is a very important construct in the field of Psychology as a lack of expressing emotions can lead towards different types of problems in developing new relationships. Unfortunately, scales for measuring Alexithymia are developed for other cultures and in Pakistan, which may not be a reliable and valid measure of alexithymia. Keeping in view the need to explore this area the current study attempted to translate and validate the Toronto Alexithymia Scale for the Pakistani population. Findings of the current study showed that the three factor structure of the original Toronto Alexithymia scale was replicated with a Pakistan sample in Urdu version. These findings are consistent with the previous studies conducted using the TAS-20 with the French, Serbian, Indian, Spanish and Swedish samples (Bach et al., 1996; Páez et al., 1999; Pandey et al., 1996; Simonsson-Sarnecki, et al., 2000; Trajanović, 2013). Alpha reliability coefficients obtained for the Urdu Translated Toronto Alexithymia Scale in the current study is close to the original TAS-20 in native English speaking sample (Bagby et al., 1994a; Parker et al., 1993). Results revealed that the alpha reliability for Externally Oriented Thinking subscale was lower than other subscales but,

these results are consistent with the previous findings (Bagby et al., 1994; Parker et al., 1993; Simonsson-Sarnecki, et al., 2000).

Results of the current study revealed that four items from externally oriented Thinking subscale appeared to have a low loading therefore item no,. 5, 10, 18, 19, were excluded from the scale and the confirmatory factor analysis on 16 remaining items revealed a good fit to the data. Exclusion of these items can be justified on the basis of Taylor's, Bagby's and Parker's (2003) arguments about the third factor. They claimed that the third factor of TAS-20 has large number of items, which can negatively influence the psychometric properties of the scale. Furthermore, it is pointed that this factor has more negative scoring items and these negative items can change the meaning during translation process or can be influenced by true cultural differences. It is also said that Externally Oriented thinking subscale deals with mental processes especially reduced fantasy and imaginal activity indirectly, which are cultural specific. Results of study conducted by Simonsson-Sarnecki, et al., (2000) are partially in line with the current findings as item no 18 appeared to be problematic when TAS-20 was translated and applied on Swedish sample. They claimed that low level of loading is not an indicator of problems in translation rather it depicts that this item no. 18 appears to have a different meaning in different cultures and therefore, it is found to be problematic in various samples (Beresnevaite et al., 1998; Bressi et al., 1996; Pandey et al., 1996). On the basis of previous findings exclusion of four items are justifiable as externally oriented subscale has already been found problematic in other cultures as more is also mentioned in previous researches that this subscale is culturally specific and therefore, it might be the reason because of which these items appeared to have low loadings on the current sample.

Results of cross language validation showed excellent validity indices. The Urdu Translated Toronto Alexithymia Scale was correlated with the Anxiety Subscale of DASS (Farooq & Habib, 2010) in order to ensure its convergent validity. Results demonstrated that both the scores on both the scales are high and positively correlate with each other thereby providing convergent validity of the scale. These results are in line with existing literature claiming the effect of alexithymia in increasing the level of anxiety (deTimary, Luts, Hers, & Luminet, 2008; Hendryx, Haviland, & Shaw, 1991; Marchesi, Brusamonti, & Maggini, 2000).

In the current study, the Urdu Translated Toronto Alexithymia Scale was found to be significantly and negatively correlated with Wong and Law Emotional Intelligence Scale (Fatima & Ghayas, 2013) and these results provided evidence for Discriminant validity of the scale. These results are in line with previous researches depicting the negative relationship between alexithymia and emotional intelligence (Fatima & Ghayas, 2013; Mikolajczak, Luminet, & Menil, 2006; Parker, Taylor, & Bagby, 2001).

The translation and validation of the scale will help to design research in various fields with reference to alexithymia among Pakistanis. Translation of this scale is a positive addition to the social science discipline as the field of alexithymia can easily and quickly be measured by this scale and this will lead towards exploration of new horizon regarding alexithymia and social and personal life of individuals whose first language is Urdu.

Limitations and Suggestions

Participants of the current study represented non-clinical population only and it would be better to use both clinical and non clinical populations.

To determine a better factor structure and more sound psychometric properties of the Toronto Alexithymia Scale for the Pakistani sample, a more generalizable group of respondents need to be taken from different provinces of Pakistan and must be recruited for factor analysis to establish a better construct validity of the scale.

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