Urdu Translation And Validation Of Sports Anxiety Scale For Pakistani University Students

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Abstract
The study aimed to translate of the Sport Anxiety Scale (SAS-2) into Urdu language. In the first phase, scale was translated into Urdu by using forward and backward translation. In the second phase, validation was carried out. Urdu translated version of the scale was completed by 200 sports students (M=21.52 years, SD=1.58). Results revealed that Urdu translated scale was conceptually equivalent to the original English scale. In third phase, confirmatory factor analysis was carried out on a sample of 200 athletes from a public university. Confirmatory factor analysis replicated three factor structures. Analysis revealed good model fit with chi square 208.8(df = 87, p>.05), CFI =.88, GFI = .88, and RMSEA = .08. The model being finalized had three factors with 5 items in each subscale i.e., Somatic, Concentration Disruption, and Worry. The item loading of factors ranged from .44 to.81. Alpha reliability of the sub-scales of Urdu translated version of SAS-2 was high (somatic=0.8, worry=0.8, concentration disruption=0.8). Positive correlation of Sport Anxiety Scale with Athlete Burnout Scale and negative correlation with Extraversion sub scale of Big Five Inventory also indicated the convergent and divergent validity of the scale respectively.

Sport Anxiety is defined by I Smith et al. (2006) in the terms of somatic, worry and focusing hindrance complains before or during sport performance. Somatic related complains include feelings of tension in body, stomach disturbance, shakiness, and tightness in muscles. Worry related complains include apprehension about sport performance and letdown, worry about performance and nervousness during game. Concentration disruption related complains consist of difficulty to concentrate on game and to focus on personal objectives about performance, difficulty to hold focus on game and to focus on coach instruction, and inability to think clearly during game.
Already existing studies revealed that Sports performance anxiety relates with depression, stigma towards anxiety (Hálfdanardóttir, 2016), somatic anxiety, worry, and concentration (Smith et al., 2008), goal orientation (Smith et al., 2006), Parental Involvement (Verdaguer et al., 2016), gender, language, type of sport and age (Ramis et al., 2015), perception of the motivational climate, achievement orientation, and perceived ability (Abrahamsen et al., 2008), directional interpretations of state responses (Hantona et al., 2002), and perception of peer climate and perceived competence (Ingrell et al., 2016).

The Sports Anxiety Scale-2 (SAS-2) was developed by the research group of Washington University in psychology of sports to determine athlete’s anxiety. SAS-2 material and length of items of have been adapted for making it suitable for the children (Smith et al., 2006), and literature have supported its psychometric properties for adults and children (Grossbard et al., 2009). There are three dimensions of sports anxiety which are somatic anxiety, worry, and concentration disruption. Item no 3,5,8,9,11 measures worry, somatic anxiety is measured by item number 2,6,10,12 and 14, item no 1,4,7,13 and 15 measures the concentration disruption. The purpose to develop a new test was its multidimensionality indeed. Because the SAS-1 was unidirectional as it did not measure cognitive and somatic anxiety separately which, as per latest studies related to perceptual-somatic discrimination, was considered an important aspect of sports anxiety (Miller & Hoffman, 2005).

SAS-2 was developed to measure trait anxiety and it is based on multidimensional anxiety theory that focused on two types of anxieties which are somatic and cognitive anxiety. Smith et al. (2006) related this theory to sport performance. Response pattern was 4-point Likert scale while the reliability coefficient of full scale was .92. Subscale reliability Coefficients of reliability somatic subscale was .83, worry subscale was .84, and concentration disruption subscale was .75. SAS-2 has been ranked among the instruments which were considered best for the assessment of adolescent and child athletes (Harris et al., 2013). Furthermore, this scale has demonstrated good psychometric properties with Spanish population when translated in Spanish language (Ramis et al., 2010).

The literature review indicates the validation of Sports Anxiety Scale -2 with popular procedures, such as back-translation and translation, construct equivalence based on expert judgment and data of psychometric properties consist of internal structure, validity and construct reliability. Moreover, cross cultural methods are required to confirm the different languages version of the scale (Ramis et al., 2010). As SAS-2 is having multidimensional nature so confirmatory factor analysis (CFA) is chosen as a procedural method.

Silva-Rocha and Osório (2017) conducted cross-cultural adaptation of the Sport Anxiety Scale-2 (SAS-2) for the Brazilian context. The results reported good concordance between experts (≥ 80%). Moreover, the Sports Anxiety Scale was interpreted and adapted by Spanish author Ramis et al. (2010). A French version of SSA-2 has also been translated by Marceland Paquet (2010). Similar to the trend, Cho and Collogues (2018) developed the Korean version of SAS-2. Their results also supported the original 3-factor model of SAS-2.
Pakistan is one of those countries where very less attention is paid to sports psychology. So, there are very few researches present in the field of sports psychology. We can say that sport psychology is not a focused field of research in Pakistan. Due to rare work in the field of sports this test is not used before in Pakistan that’s why this has not been translated in Urdu language. However, at the same time, there is a need for the scales related to the mental health of sports persons which should be free from cultural and linguistic biases.

To reduce this gap in the field of research in sports psychology in Pakistan, translation of a suitable measure of sports anxiety is an initial effort. This study has larger implication in sports settings. It can contribute in understanding of sports anxiety in Pakistani adults and children. The scale is reliable to predict scores in pre-competition state anxiety and proves are also present regarding the sensitivity to interventions of anxiety-depletion directed at sport coaches who train the athletes. In order to accomplish the objectives of this study, four phases were followed i.e., phase 1 designed to translate the scale, phase II intended to CFA for purpose of psychometric properties, phase III intended to check cross validation of language, and phase IV worked on divergent and convergent validity of SAS-2. The present study was intended for the translation of the performance anxiety scale. This section would cover the above-mentioned phases.

**Phase 1: Sports Anxiety Scale-2 (SAS-2) Translation**

Translation of SAS-2 was done after receiving permission from the original authors of the scale. Following procedure was used for the translation of the scale.

**Forward Translation**

Two professional translators who were native speakers of target language (Urdu), proficient in source language (English), familiar with both cultures, and proficient in the tool translation procedure were approached for the translation of SAS-2. They were asked to develop a technically equivalent translation of SAS-2. They produced two independent forward translations.

**Evaluation of Translations by Research Committee**

Committee approach was conducted to reconcile the items of forward translation. Three experts were present in committee: two from the field of psychology and one from linguistics. In this, every item was evaluated according to their context and best translation was selected from the translated versions. A reconciled version was developed on the basis of wording, grammar, conveying the best meaning, and consensus of the experts.

**Backward Translation**

In second step backward translation of reconciled version of instrument was produced by two professionals who were native speakers of the source language and fluent in target language.

**Evaluation of Translations by Research Committee**

After backward translation, three experts in the field of psychology were approached to critically evaluate the back translations of the scale. After their feedback, a consensus was developed regarding the accuracy and technical equivalence of the translated SAS-2.
Phase II: Confirmatory Factor Analysis of Urdu Version Of SAS-2

Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) were used to analyze reliability, correlations, factorial validity, and item-total correlations.

Sample

Sample of 200 sports students (men=100, women=100) of the age range 18-26 years (M=21.52 years, SD=1.58) were recruited from the sports base students studying in Pakistani Universities through purposive sampling. The frequency and percentages of the demographics showed that most of the men (57 %) and women (58%) participants were having the age range of 21-23 years. Most of the women (51%) studied in Master’s Program whereas most of the men (66%) were enrolled in BS (Hons) program. Most of the men (69%) and women (70%) were playing specific sports from 2-6 years. Moreover, most of the men (64%) and women (62%) had participated in sports up to national level. Most of the men (56 %) and women (64%) participated in 1 to 3 sports events every year. Most of the men (83%) and women (78%) did practice for 1 to 3 hours. Most of the men (73%) and women (80%) spent 1 to 3 hours for studies.

Procedure

Permissions were sought from the authorities of various universities of Punjab. After receiving their permission, approval for data collection was taken from the Heads of Department of Sport Science/ Physical Education as well. Through participant information sheet, the participants were delivered with basic information about the research and their rights as participants of the study such as confidentiality and right to withdraw. Written consent for voluntary participation was received from each participant. Self-administered questionnaires were included. At the time of administration, researcher remained present to resolve all the queries of the participants and could guide and explain them if they had any problem. After the questionnaires were filled, the researcher thanked the participants for their cooperation.

Confirmatory Factor Analysis

For the confirmation of feature structure and model of measurement (SAS-2), CFA was done. In the current study several criteria and indices were checked for the explanation of best model fit (CFI, GFI, and RMSEA). The Figure 1 and Table 1 show the results of model fit indices and factor loadings of CFA for translated SAS-2. On the basis of the initial criteria for model fit i.e., item loading > .35, the original model with three feature structure (Somatic, Worry, &Concentration Disruption) was inspected through CFA and the three-factor structure showed a good fit to the data with chi square 208.8(df = 87), CFI =.88, GFI = .88, and RMSEA = .08. The model being finalized contains three factors with 5 items in each subscale i.e., Somatic, Worry, &Concentration Disruption. The loadings of the factors on the items have a range of .44 to .81. Results indicate that the three-factor structure of SAS-2 is the best feature structure.

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Chi square</th>
<th>df</th>
<th>CFI</th>
<th>RMSEA</th>
<th>GFI</th>
<th>TLI</th>
<th>RMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>208.8</td>
<td>87</td>
<td>.91</td>
<td>.08</td>
<td>.88</td>
<td>.90</td>
<td>.05</td>
</tr>
</tbody>
</table>

Table 1 Model fit indices of CFA for Sport Anxiety scale (N = 200)
**Figure 1** Measurement of Urdu Translated Sports Anxiety Scale-2 Model.
Phase III: Psychometric Properties and Cross Language Validity

Cross language validation of the Urdu translated sort of Sport Anxiety scale was done in the third phase. A comparison of translated Urdu type with original English version of scale was carried out. In this way the quality of Urdu translated version is assessed to find out its empirical correspondence with original version of the scale.

Sample

Sample comprised of 20 participants. There were two groups of participants in test and retest phase, and both of the groups comprised of 10, 10 participants. Participants’ education level was in between undergraduate and postgraduate. The participants that were taken belong to different socioeconomic status.

Procedure

In this phase, validity of translated versions of scales were examined. For this purpose, scales were administered twice to the groups consisted of 10, 10 participants in English-Urdu and Urdu-English respectively. In two trials, scales were administrated on sample unit. In a first trial, first unit was given English version and second unit was given Urdu version scale respectively. In second trial, first group was given Urdu version and second group was given English version respectively. To check equivalence or discrepancy between English and Urdu version, this procedure was done. To control and overcome the effects of learning that may arise due to translated and original version testing, distribution was made. By the test and retest correlation, empirical equivalence was determined. Correlation matrix in between test and retest administration of Sport Anxiety Scale-2 showed In Table 3. All test and retest phases are correlated significantly with each other and coefficients of these ranged from .84 to .91. It is indicated by overall results that Urdu and English version empirically equivalent.

Table 2 Descriptive statistics and Psychometric Properties of Study Variables (N = 200)

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS-2</td>
<td>15</td>
<td>29.81</td>
<td>9.94</td>
<td>0.92</td>
</tr>
<tr>
<td>Somatic</td>
<td>5</td>
<td>9.23</td>
<td>3.67</td>
<td>0.8</td>
</tr>
<tr>
<td>Worry</td>
<td>5</td>
<td>10.55</td>
<td>3.95</td>
<td>0.8</td>
</tr>
<tr>
<td>Concentration</td>
<td>5</td>
<td>9.99</td>
<td>3.44</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Table 3 Correlation between English and Urdu versions of Sport Anxiety Scale-2 (N = 20)

<table>
<thead>
<tr>
<th></th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>English to Urdu</td>
<td>.91***</td>
</tr>
<tr>
<td>Urdu to English</td>
<td>.84**</td>
</tr>
</tbody>
</table>

Note. ***p < .001. **p < .01.

Phase IV: Convergent and Discriminant Validation of Urdu Translated Sport Anxiety Scale-2
In this phase, convergent and discriminate validity of SAS-2 were assessed. It was hypothesized that extraversion would be negatively correlated with SAS-2 and positively with burnout scales. Convergent validity was assessed with burnout and divergent with extraversion.

Sample
Sample of 200 sports students (men=100, women=100) of the age range 18-26 years (M=21.52 years, SD=1.575) were recruited, from the sports base students of two public universities of Lahore, through purposive sampling.

Instruments
Sport Anxiety Scale. (SAS-2). It was developed in the present study.
Extraversion (Big five inventory; John & Srivatsa, 1999). This is the subscale of Big Five Inventory. It has 8 items which have a rating on Likert scale of five points from disagree strongly =1 to agree strongly =5. Five factors being measured by Extraversion were: Assertiveness, Gregariousness, Excitement-seeking, Activity, Warmth, and Positive emotions. BFI has a validity of 0.75 (John & Srivatsa, 1999). Its reliability is 0.3. In the present study Urdu translated version of extraversion of BFI (Dawood, Samuel, & Ehsan, 2011) was used after taking permission from the authors.
Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). It was employed to measure burnout in athletes. It has three, 5-item subscales measuring: emotional and phenomenal exhaustion, a reduced sense of accomplishment, and sport reduction. It has Likert scale of five-points. It has acceptable Cronbach alpha reliability of total ABQ is 0.9 for the Urdu translated version of the tool is used and it was translated by present researchers with the permission of original author.

Results

Table 4 Intercorrelation among Study Variables (N = 200)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS-2</td>
<td>-</td>
<td>-.29***</td>
<td>.623***</td>
</tr>
<tr>
<td>Extraversion</td>
<td>-</td>
<td>-</td>
<td>-.16*</td>
</tr>
<tr>
<td>ABQ</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. SAS-2 = Sport Anxiety Scale-2; ABQ = Athlete Burnout Questionnaire. ***p < .001. *p < .05.

Discussion
The purpose of scale translation was to develop an easily approachable measurement scale for the anxiety of the athletes to unveil their issues through their easily understandable language. The scale is translated in Urdu by doing forward and backward translation. Confirmatory factor analysis is done on the data to confirm the factor structure of the translated version. According to CFA result based upon the criteria which was initially given for model to fit was that item loading > .35 the original model with three factor structure (Somatic, Worry, & Concentration Disruption)
was observe through confirmatory factor analysis and the three-factor structure showed a chi square of good fit with the value of 208.8(df = 87), CFI = .88, GFI = .88, and RMSEA = .08. The model being finalized contains three factors with 5 items in each subscale i.e., Somatic, Worry, &Concentration Disruption. The factor loadings of the items ranged from .44 to .81. Results indicate that the three-factor structure of SAS-2 is the best factor structure. The reliability and the alpha reliability of the sub-scales of Urdu translated version of SAS-2 was high. The reliability of the sub scale of translated version indicated that its reliability is .8 which is highly reliable. The Correlation Matrix between Urdu and English versions were .84 to .91 which indicated both versions were empirically equivalent. The convergent and divergent validity were confirmed which shows that sport anxiety scale positively correlated with Athlete Burnout Scale and negatively correlated with extraversion sub scale of Big five inventory as convergent and divergent validity respectively. All of above information shows that this scale is highly reliable and translated version of this fully supported to the past researches.

This scale not only measures the somatic and cognitive aspects of anxiety but it is also used for the assessment of the effectiveness of interventions which were being designed for the reduction of anxiety on the basis of individual differences. The translated version of SAS-2 can diminish the difficulties of language understanding for Pakistani athletes as Urdu is better understood by Pakistani nation as compared to English. There is also a possibility that for Pakistani sports person, English language may become a barrier to the assessment and psychological support.

Limitations and Suggestions
There is a need for additional research comparing athletic populations i.e., belonging from various sports and age groups. Sample study was the main limitation in this study. The sample size of the study was not very large.

References


