

Translation and Validation of Athletic Coping Skills Inventory on Pakistani Women Sport Players

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Abstract

Background. Sport players during competition face different types of stressors. The coping ability of sport players towards stress is considered one of the major factors in determining the level of function or performance in any performance (Lopes Dos Santos et al., 2020). The objective was to translate and validate the Athletic Coping Skills Inventory on women sport players in Pakistan. The lack of English language skills held by sport players has been highlighted quite often which raised the need for translation of measuring tools.

Method. This study had two phases. In the first phase, the scale was translated according to guidelines provided by Gudmundsson (2009). In the second step, data collection, from 302 women sport players, was done by using the snowball purposive sampling technique. Women sport players playing at international, national, university, club, and college levels with at least one year of experience were included in this study.

Results. The factor structure confirmed 26 items of the scale with seven subscales. Results confirmed an adequate model fit indices as Root Mean Square Error of Approximation = .04, Comparative Fit Index = .92, Tucker-Lewis Index = .90, and Incremental Fit Index = .92. The results indicated the Cronbach's alpha reliability of .86.

Conclusion. Thus, it was concluded that the Athletic Coping Skills Inventory is a reliable scale for measuring the coping skills of sport players in Pakistan. It may prove helpful in designing interventions in various fields related to sport for athletes. Moreover, it will help the inclusion of such athletes in research who lack command of the English language.

Keywords. Urdu translation, validation, Pakistan, women athletes



Introduction

Sport players during competition face different types of stressors. It may include stress due to psychological demands, lacking confidence, fear, stress induced by the coach, injury, or due to any other on-field issue (Cosma et al., 2020; Dale, 2000; Gould et al., 1993; Holt & Hogg, 2002; Nicholls et al., 2005). The coping ability of sport player towards stress is considered one of the major factors in determining the level of function or performance in any sport performance (Lazarus, 2000). That is why the concept of coping holds importance in the literature related to the field of sport psychology. Sport players of all ages or any sport type face stress during the performance and to excel in performance and to have a satisfying experience they need strategies to cope. According to Lazarus and Folkman, (1984), coping is defined as “continuous change in behavior and cognitions efforts, which are carried out to manage specific internal and external demands, which exceed the limited resources of individuals”. Sport players have a variety of coping skills which are displayed in case of stressful situations. Higher-order coping skills have been identified by the researchers which are situation and intention-based (Crocker et al., 1998). According to Nicholls and Polman (2007) emotion and solution-focused coping strategies are widely used. Both works differently, one works for altering the situation, and the other works for dealing with emotional issues linked to a situation (Carver et al., 1989; Lazarus, 2000; Lazarus & Folkman, 1984). Other skills include various positive and negative strategies. Avoidance coping which is both psychological and behavioral is an effort to divert attention from the stress-causing situation (Krohne, 1993). According to Roth and Cohen (1986) in the approach of coping strategies, individuals confront the source and try to reduce it by effort. Cox and Ferguson (1991) stated that in appraisal-focused coping individuals reevaluate the scenario and restructure it to minimize its importance. Lack of coping skills to deal with stress, results in withdrawal from sport (Klint & Weiss, 1986; Smith, 1986) spoiled performance (Lazarus, 2000), and inability to pursue the profession of sport (Holt & Dunn, 2004).

Goyen and Anshel (1998) explained that emotion-focused and solution-focused coping

strategies have been used by sport players irrespective of gender. However significant differences have been found in the type of coping strategies which are used by them. Problem-focused coping strategies have been preferred by men sports players for responding to stresses like criticism, injury, and pain. However, for responding to such stressors, emotion-focused coping strategies have been preferred by women sport players (Anshel et al., 1998; Madden et al., 1989). These findings that women sport players prefer emotion-focused coping techniques and men sport players prefer solution-focused coping strategies, were also confirmed by Yoo (2001). Moreover, transcendental coping techniques have also been used by women. It was reported by Hammermeister and Burton (2004) that uncomfortable and stressful situations are identically appraised by both genders, but their coping strategies are different. Men were reported as using techniques of suppression and association whereas Women were reported as using techniques of dissociation, positive reinterpretation, venting out of emotions, and more use of social support. This notion that women demand support from the social circle for coping with stressors has been confirmed by other studies (Campen & Roberts, 2001; Crocker & Graham, 1995; Kolt et al., 1995; Philippe et al., 2004). However, a study conducted by Anshel and Delany (2001) has reported that there are similarities, among both genders in the use of wishful thinking patterns and social support as coping. Crocker and Graham (1995) and (Kolt et al., 1995) found no differences in both genders in using problem-focused strategies as a coping technique. Moreover, the findings showed that emotion-focused coping techniques are more preferred by women sport players than men sport players.

The studies conducted by Pensgaard et al. (1999) and Bebetos and Antoniou (2003) found no significant difference in coping based on gender when players are exposed to stressful situations in sport. The effectiveness of coping strategies in the field of sport refers to the level of alleviating negative feelings and emotions that are the result of stress. The alleviation of stress is considered a successful effect of the specific coping strategy. Depending on the situations and levels of control sport players have on the ongoing situation, it was suggested that when players have self-control then problem-focused

will be useful whereas when players have little self-control then the coping technique of emotion-focused will be more effective. It is also known as the goodness of fit model (Folkman, 1992).

The prevailing assumption about sport players of Pakistan, that they lack English language skills, compelled the translation of measuring tools into the Urdu language. Dar (2013) stated that sport stars of Pakistan lack proficiency in the English language. So, to overcome the language barrier and to get reliable data, the Athletic Coping Skills Inventory was translated into the Urdu language after getting confirmation of the unavailability of this scale in Urdu and getting permission from the Author.

The Athletic Coping Skills Inventory was translated in this study to measure the coping styles of women sport players. There are many scales available to measure the coping styles of individuals like The COPE (Carver et al., 1989), Coping Strategies Questionnaire (Tobin et al., 1989), Coping Response Inventory (Rosenstiel & Keefe, 1983), and Ways of Coping Questionnaire (Folkman & Lazarus, 1988), but this measure was preferred as it is designed specifically for athletes and it has been used with the sample of sport persons in many types of research and has been translated into many other languages (Miranda et al., 2018; Ozcan & Gunay, 2017; Sanz et al., 2011; Vičar et al., 2021) which built its credibility for using it as having acceptable reliability and validity.

Women sport players were specifically considered for validation of the translated version because Muñiz et al. (2014) believe that separate measures for men and women are necessary since the majority of economic, demographic, and social differences reflect gender-based behavioral differences. Moreover, it is believed that the already existing theories may not be generalized to Pakistan (Qurban et al., 2018) due to its religious and cultural differences from Western countries.

Objectives

The following were the objectives of this study:

1. To translate the English version of the Athletic Coping Skills Inventory into the Urdu language
2. To validate the Urdu version of the Athletic Coping Skills Inventory

Method

To achieve the above-mentioned objectives, the study was conducted in two phases. Phase 1 constitutes a translation of the instrument and in phase 2, validation of the instrument was done.

Phase 1 - Translation of Athletic Coping Skills Inventory from English to the Urdu Language

Athletic Coping Skills Inventory - 28(ACSI) was developed by Smith et al., (1995). It has 28 items in total and seven subscales, each having four items. The subscales are coping with adversity, peaking under pressure, goal setting/mental preparation, concentration, freedom from worry, confidence, achievement motivation, and coachability. It has four response options (i.e.) almost never (1), sometimes (2), often (3), and almost always (4). It has 6 reverse coded items (i.e.); item numbers 3, 7, 10, 12, 19, and 23. A low score indicates fewer coping skills whereas a high score indicates more coping skills in sport players.

Translation procedure. Guidelines provided by Gudmundsson (2009) were followed for the translation of ACSI. First of all, permission from the author was taken for translation.

Forward translation. MPhil/ MS qualified bilingual experts and independent translators (n=3) were requested to translate this scale into the Urdu language. They belonged to the Psychology field. They were requested to translate in easy-to-understand and clear language with linguistic equivalences.

Committee approach. The committee approach was conducted with three bilingual experts. A booklet of translations along with the original, the English version, was emailed to them. The online committee meeting was held. They were requested to review each item and instruction from three translations for selecting or constructing the most appropriate Urdu version of the scale.

Backward translation. Then the forwarded translated scale was again translated into the English language. Again, three MPhil/ MS qualified bilingual experts and independent translators were requested to

translate this scale into the English language. They were requested to translate the scale by considering the semantic equivalence.

Committee approach. An again online committee meeting was conducted with the three bilingual experts. Then similarities and differences between the original English version of ACSI and those translations were evaluated. Most of the statements were given the same meaning and had the same words. However, statements showing discrepancies were then considered in the Urdu version and then the wording of those statements was provided by experts. Then meanings of those words were asked by a few fellow researchers to get to know whether the word had the same meanings and comprehension according to others or not. And then translation in the Urdu language was finalized and after that, the backward translation was emailed to the author.

After the finalization of the Urdu translation of the Athletic Coping Skills Inventory, the instrument was given to ten bilingual experts to recheck the relevance and semantic structure of all Urdu items. After their approval, the translated version was field-tested for comprehensibility, and data was collected for validation purposes.

Phase 2: Validation of Athletic Coping Skills Inventory Urdu version

In the second phase validation of Urdu, the Athletic Coping Skills Inventory was achieved by establishing the construct validity through item-total correlation and Confirmatory Factor Analysis.

Sample

Three hundred and two women sports players playing at international, national, university, club, and college levels with at least one year of experience were included in this study. Everitt (1975) suggested the ratio of at least 10 participants for 1 item (i.e. 10:1) is enough for validation purposes. The sample of 302 was hence adequate. The sample of the study was collected through snowball and purposive sampling as the sample has specific criteria.

Procedure

Data was collected by using both online Google forms and physical visits to sports academies in Lahore and Islamabad. Permission was taken from authorities before meeting the sport players. Questionnaires were also distributed to relevant persons (coaches and sport management staff) when meeting the women sport player was not feasible or allowed. The written consent form was provided to participants and they were informed that they are allowed to withdraw from the study at any time. They were ensured in the consent form that their privacy and confidentiality would be ensured. Their names or names linked with their email addresses with which Google Forms will be filled were not required and they were informed that the data collected will only be used for research purposes. Clear instructions were mentioned in Google Forms for a better understanding of the sample. The email address of the principal researcher was mentioned on the consent form for contact in case of any problem.

Results

Establishing construct validity (CFA) of ACSI

Item total correlation and corrected item correlation

Construct validity was established on the sample of 302 women sport players in Pakistan.

Table 1

Item total correlation and corrected item-total correlation of Athletic Coping Skills Inventory- Urdu (N=302).

Item no.	Item total correlation	Corrected item-total correlation	Item no.	Item total correlation	Corrected item-total correlation
1	.47	.41	15	.54	.47
2	.53	.47	16	.65	.60
3	.35	.27	17	.62	.56
4	.53	.47	18	.37	.29
5	.58	.52	19	-.05	-.13
6	.37	.29	20	.35	.28
7	-.21	-.29	21	.54	.48
8	.48	.42	22	.54	.48
9	.58	.53	23	.09	.01
10	.46	.39	24	.49	.42
11	.32	.24	25	.41	.34
12	.44	.37	26	.60	.55
13	.41	.34	27	.58	.53
14	.48	.41	28	.50	.44

Table 1 shows the item-total correlation of the initial form of scale. Most of the item has an item-total correlation above 0.30 which is acceptable (Cristobal et al., 2007; Ramos-Jiménez et al., 2018). Table 1 also shows that the corrected item-total correlation of most of the items was above .23 which is an acceptable range according to Bujang et al., 2012). Three items (i.e., 7, 19, and 23; bolded in table) had an unacceptable item-total correlation and low corrected item-total correlation but after qualitative analysis, they were retained and none was deleted initially as the scale is already a standardized scale with good reliabilities. The decision of item deletion was left for confirmatory factor analysis.

Table 2*Factor Loading of Confirmatory Factor Analysis for Athletic Coping Skills Inventory- Urdu (N=302).*

Item #	λ	Item #	λ	Item #	λ	Item #	λ
1	.44	8	.70	15	.49	22	.62
2	.56	9	.67	16	.65	23	.28
3	.53	10	.62	17	.63	24	.45
4	.60	11	.30	18	.49	25	.39
5	.57	12	1.04	19	-	26	.61
6	.46	13	.38	20	.47	27	.60
7	-	14	.47	21	.54	28	.45

Table 2 shows factor loading on each item, obtained through confirmatory factor analysis.

Table 3*Confirmatory Factor Analysis (Indices of model fit) for Athletic Coping Skills Inventory-Urdu (N=302)*

Model	$\chi^2(df)$	CFI	IFI	TLI	RMSEA	$\Delta\chi^2(df)$
M 1	597.72 (278)	.82	.83	.79	.06	
M 2	397.67 (256)	.92	.92	.90	.04	200.04 (22)

Note. M1= Default model of CFA for Athletic Coping Skills Inventory, M2= model after adding error covariance, CFI= Comparative Fit Index, IFI= Incremental Fit Index, TLI= Tucker-Lewis Index, RMSEA= Root Mean Square Error of Approximation, χ^2 = Chi-Square.

Table 3 shows the good model fit indices for the Athletic Coping Skills Inventory for the sample size of 302 for this study. The default model 1 shows a poor fit. Then covariance was added and the model was revised. The model is considered acceptable if the Normal Fit Index is greater than .90 (Byrne, 1994) or .90 (Schumacker & Lomax, 2004), the Goodness of Fit Index should be greater than .90 (Byrne, 1994) and Comparative Fit Index should be greater than .93 (Byrne, 1994) whereas the RMSEA value should be less than .08 (Browne & Cudeck, 1993) or .05 (Steiger, 1990). The value of the relative chi-square should be less than 2 or 3 (Kline, 2014; Ullman, 2001). The figure represents the final model achieved after adding covariance.

Table 4*Psychometric Properties and Alpha Reliabilities of Research Instrument (N=302)*

Variables	N	k	M	SD	α	Range		Skew	Kurt
						Potential	Actual		
ACSI	293	26	75.01	11.46	.86	26-104	50-104	.12	-.75
Adver	300	4	11.35	2.59	.63	4-16	4-16	-.19	-.36
Coach	299	4	12.29	2.68	.64	4-16	5-16	-.15	-1.16
Con	299	4	11.35	2.41	.54	4-16	4-16	-.25	-.29
Achiev	300	4	12.38	2.56	.66	4-16	6-16	-.30	-.90
Prep	299	4	11.26	2.36	.56	4-16	4-16	-.25	-.16
Peak	302	4	10.99	2.60	.62	4-16	4-16	-.12	-.32
Worry	300	2	5.33	1.51	.45	2-8	2-8	-.19	-.57

Note: ACSI= Athletic Coping Skills Inventory, Adver= Coping With Adversity, Coach= Coachability, Con= Concentration, Achiev= Confidence and Achievement Motivation, Prep=Goal Setting/Mental Preparation, Peak= Peaking Under Pressure, Worry= Freedom From Worry, *K*= number of items, *M*= mean, *SD*= Standard Deviation, α = Cronbach alpha coefficient, Skew= Skewness, Kurt= Kurtosis.

The alpha reliability of the instrument was in an acceptable range (Taber, 2017). Freedom from worry scale had a low-reliability value but it was due to a smaller number of items. Previous research has shown that a smaller number of items can affect the reliability of scale (Eisinga et al., 2013).

Discussion

The coping of sport players holds value as an important construct in sport psychology. Unfortunately, in Pakistan, a comprehensive scale to measure the coping skills of athletes was not available in the local language. The available translated scale related to coping is for the general population and general life events. Therefore, the current study aimed to translate ACSI into the national language of Pakistan for a better understanding of the sport community who can understand and comprehend the Urdu language. This scale was selected for translation and validation as it covered different domains of the sport profession with well-established reliabilities and can be self-administered.

ACSI was constructed and validated by Smith et al. (1995) on a diverse sample of men and women athletes belonging to different sport categories. As this scale has been translated and validated in a different language, it shows that this measuring

tool is representative of the coping skills of athletes. The current study, aiming at the translation of this scale, was conducted so this scale can be applied to sport players who lack English language skills. The translation method by Gudmundsson (2009) was used. This study revealed acceptable reliability and compatibility of the translated versions. As the scale had a good record of established reliabilities and translations, factor structure was ensured through Confirmatory Factor Analysis, and model fit was obtained. Factor loadings and reliabilities of all subscales were found acceptable except the subscale of Worry. Reliability of the subscale Worry was found at .45 with Cronbach's alpha if-item-deleted showing that deleting item 7 can increase the reliability of this subscale to .58. However as initial CFA showed no factor loadings on this subscale so the analysis was conducted again. Two items of this subscale have been problematic in another study (Ozcan & Gunay, 2017) too. So following the instructions provided by Stevens (2012), as the sample was above 300

participants scale modification is considered acceptable. It was then decided to delete items one by one independently, and conduct analysis. The reliability of this subscale with the remaining 3 items (i.e.), 12, 19, and 23 dropped to .58. Then independent CFA was run without item 7 and retaining items. Confirmatory factor analysis on this subscale after dropping item 7, showed low factor loading on the remaining item 19 and high factor loading on item 12 of this subscale. By deleting item 12, one item showed factor loading of .01 which is unacceptable, and reliability was dropped to .36. By deleting item 7 and item 12, factor loading on 4 items of the overall scale was unacceptable. By deleting items 19 and 23 independently, no factor loading on this subscale was reported. Then items 7 and 19 were deleted as item-total correlation and the corrected item-total correlation showed negative values in both of these items. With this analysis, only 1 item showed high factor loading but it was decided to retain that item after qualitative examination as the statements were difficult to comprehend. According to Clark and Watson (2016) in the case of several items having largely standardized factor loadings e.g., more than 0.9, show that they are similar, contributing no new information but in the case of the provided analysis, the factor loading of only 1 item is high. In the validation study of the original scale, the subscale Worry had low factor loadings. The same subscale had two of its items removed in the Turkish version. The overall results match the results of previous studies.

Limitations

The sample size of the study was small i.e., only 302 participants and only women sport players, which doubts the generalizability, especially for men sport players. Due to the nature of the profession and as data was collected all over Pakistan, data was collected through Google Forms too; however, still, some of the sport players were unable to respond and submit the questionnaire when contacted especially those who lacked technology skills and from remote areas.

Future Implications

The translation and validation of this scale are beneficial for designing interventions in various fields

related to sport on athletes. Moreover, it will help the inclusion of athletes in research who lack English language skills and those who become hesitant in responding to long questionnaires. Validation of this scale is also useful for exploring important aspects like personality and performance etc. concerning coping which in return can be beneficial for selectors and trainers. For improved factor structure, it can be applied to a more generalized sample comprising athletes from both genders and different provinces of Pakistan.

Conclusion

The translation and validation were conducted in two phases. Three hundred and two women sport players from all over Pakistan participated in this research. The achieved objective reflects that the athletic coping skills of those sport players who are proficient in Urdu can be assessed conveniently. Thus, it was concluded that the Athletic Coping Skills Inventory is a reliable scale for measuring the coping skills of sport players in Pakistan.

Declaration

Conflict of Interest. The authors did not have any personal or financial interests that could potentially influence the outcome or interpretation of their study. This ensures the integrity and objectivity of their study.

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Ethical Approval. Permission was acquired from institutional ethical board to conduct research.

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