Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

TRANSLATION AND FACTOR STRUCTURE OF URDU VERSION OF SPORTS ANXIETY SCALE-2 (SAS-2): A GENDER BASED STUDY AMONG ADOLESECENTS

BUSHRA AKRAM*
PhD, Associate Professor, Department of Psychology, University of Gujrat, Pakistan.
*Corresponding Author Email: bushra.akram@uog.edu.pk

RUKHSANA BASHIR
PhD, Assistant Professor, Institute of Special Education, Punjab University Lahore, Pakistan.

WANIA HABIB
BS, Psychology Department, University of Gujrat, Pakistan.

HOOR-UL-AIN
MD Student, Samarkand State Medical University, Uzbekistan.

Abstract

Objectives- The main objectives of the study are to translate and explore the factor structure of Sports Anxiety Scale (SAS-2) as well as to compare the multidimensional sports anxiety of participants on the basis of their gender. **Method**-This research is consisted of two studies. In the first study SAS-2 was translated in Urdu language. In the second study Exploratory Factor Analysis was run on a data set collected from 437 athlete adolescents whereas for Confirmatory Factor Analysis 525 participants were selected conveniently. **Results-** Urdu version reached up to acceptable levels of internal consistency (α=0.92) cross language validation and factorial validity. EFA showed 3-factor structure named as Somatic, Worry and Concentration Disruption and further this structure was confirmed by CFA showing good model fit $\chi 2$ (96) = 293.81, $p < .001$, NFI = .92, CFI = .98, GFI = .95, RMSEA = .05). Girls athlete exhibited higher levels of Somatic, worry and Concentration-Disruption Anxiety as compared to their boys counterparts. **Conclusion**- The results showed that Urdu translated version of SAS-2 for Pakistani adolescents is a reliable and valid measure however the scale needs further validation.

Keywords: Urdu Translation SAS-2, Adolescents, Sports Anxiety, Factor Strructure.

INTRODUCTION

Sports refers to a series of individual or group based tasks/activities performed with a specific target to achieve.[1] Sport participation encourages good physical and mental health. Existing research has shown that competitive sports assist individuals to establish and improve their social identities while also preserving their welfare and well-being.[2,3] Sport participation also has a variety of additional health, behavioral, and developmental benefits. Better socializing and self-esteem, less depression risk, improved prosocial behavior, and fewer internalizing difficulties are some of the benefits.[4] Athletes can develop their physical skills through physical training, but they may not reach their full physical potential if they are unable to control their negative emotions while competing. Among some of the important determinants of sport participation and enjoyment is sports anxiety[5]. All athletes, whether professional or amateur, highly experienced or barely

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

seasoned, endure anxiety before a competition. An athlete's heart may race, their hands may get sweaty, or their knees may become weak. Anxiety is a complex distressing experience characterized by a combination of physiological, psychological, and cognitive indicators. It refers to an emotional reaction to stimuli or circumstance that is seen as potentially threatening[3.6]. No other psychological trait can be said to be as much damaging to performance as anxiety. Anxiety has received a lot of attention in sport psychology, and numerous studies have shown that anxiety has a significant impact on athletic performance [7].

Sport's anxiety is considered one of the essential psychological factor to be studied in sport's context. Despite the fact that anxiety is an unpleasant feeling, its impact on athletic performance might be beneficial, negative, or none at all, depending on the athlete and the activity. However, the excessive and uncontrolled worry and fear lead towards adverse consequences. Due to the risky character of the competition, hard tasks and activities cause worry and anxiety in athletes [8,9]. Anxiety is frequently viewed in the sporting world as a typical reaction to a circumstance in which an athlete's abilities are being assessed [3]. High anxiety athletes are more likely to experience unfavorable consequences, including sports-related injuries or disorders, stiffed motor activity, aggressive conduct, sleeplessness, low confidence, and even giving up sports altogether. The researches showed that factors like athlete skill level [7], competitive experience, gender type of sports in terms of team and individual sport, mental toughness, self-Confidence and self-esteem affect the sports anxiety[8,9, 10]. Student-sport players may also be more vulnerable to anxiety and depression[10, 11]. Peer pressures, independence, the need to satisfy family, friends, and trainers, high expectations with a strong dedication to excelling and winning in competitive and strenuous intercollegiate sports, time management for academic obligations, physical injuries, body weight are just a few of the stress factors that can affect athletes at the university level. Recent studies reported a negative association between the levels of sports participation and anxiety problems in the general population. Athletes with higher levels of fear of failure also had higher levels of anxiety. Further negative association between intrinsic regulation and competitive anxiety has been also found Goal orientation and motivation were also proposed as potential predictors of competitive anxiety.[11, 12] Players with higher degrees of competitive anxiety and perfectionism in golf also reported to have more attention disturbances, according to. Recent studies reported evidence indicating the influence of competitive anxiety on players or athelete performance [13,14]. The higher the amount of competitive anxiety, the lower the level of gameplay interest such as enjoyment, and engagement [14].

Moreover gender has been found to be associated with competitive anxiety A study conducted in Punjab province of Pakistan found the relationship between sport's anxiety and performance. A total of 110 athletes were included in the study (68 males, 42 females). Findings revealed a substantial negative association between sports anxiety and athletic performance among athletes. It was also reported that female athletes had a higher level of sports anxiety and have a higher subjective performance than male athletes [15].Similarly Overall, female athletes reported higher anxiety scores compared

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

with male athletes A recent meta-analysis found that female gender, younger age and lower athletic experience were associated with higher competitive anxiety in athletes[16,25.]

It has been also clear from the literature that anxiety has both cognitive and somatic aspects. The mental component (cognitive anxiety) includes: worry, negativity, self-doubt low self esteem, confidence [3, 17]. while the indicators that exist in somatic anxiety are: Muscle tension, racing heart, trembling and others It is found that the somatic and cognitive anxiety increase before playing any game. Somatic anxiety decreases as the game progresses, but cognitive anxiety probably fluctuates based on how the game is going [3,17,18].

Since its creation, the SAS has been helpful to researchers studying a range of events of sports. The Sport Anxiety Scale is a famous, sport-specific, multidimensional trait anxiety measure. update the version of scale to SAS-2[3,17,18]. It has been developed by the research group of Washington University in 2006 to measure the sports anxiety among athletes. SAS-2 is the updated version of the original sports anxiety scale[18]. In SAS-2 the content and and length of items was adapted for making it suitable for the children, and the results supported its psychometric properties for both of adults and children. SAS-2 is based on multidimensional theory of anxiety that primarily describe two types of anxieties which are somatic and cognitive anxiety. The authors reported the internal consistency of full scale .92. On the other side the alpha reliability Coefficients for the three Subscales, somatic .83, worry .84, and concentration disruption subscale was. 83..84 and .75 repectively. SAS-2 has been found to be best measure for the assessment of sports anxiety among adolescent and child athletes[17,18]. Moreover SAS-2 Spanish, Korean and Urdu version for university students have demonstrated good psychometric properties and supported the original 3-factor model of SAS-2. [17,,18,19,20,21]

Sports are extremely important for the healthy mind and body of an individual. Sports are essential for staying active and healthy. Sports are being incorporated in the curriculum of all school, college and university level students to make them more creative and physically stronger. Students who play sports face various issue and challenges such as anxiety, fear of failure, difficulty in emotional regulation, sport's burnout, pressure handling, lack of self-esteem, self-efficacy and motivation. All these factors and many more significantly impact the performance of a sports person. Despite of such an important topic only a few studies have been conducted in Pakistan[22]. The findings of the present research are very useful for the young players, their coaches and other personales invoving in sports.

In the present study SAS-2[18] is translated in Urdu Language and its factorial validity been established for the Pakistani adolescents (13 -18 years old) with the permission of original authors.

Objectives of the study

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

1- To translate and explore the factor structure of Urdu version of SAS-2

2- To compare the levels of sports anxiety of the participants on the basis of their gender.

METHOD

Study 1

Step 1-Translation of SAS-2

To begin the process of translation, permission was granted by the author of the original scale. For this purpose forward and backward translation method was used. In this process three experts with fluency in English and Urdu languages, including a language teacher without prior knowledge of the subject, a sports psychologist, and a psychiatrist with knowledge of anxiety and assessment scales for signs and symptoms, independently translated the original scale into Urdu. The three initial drafts of translations were then combined to resolve differences and choose words that were thought to be most appropriate for adolescents in the Pakistani context by a panel of experts.

The synthesis version was then back-translated by the panel of four expert members. Of which two experts were fluent in source and tragetted Languge as well as the other two members were from the fields of psychology and physical education. These members had extensive experience in psychometry and sports psychology. The panel analyzed and established the scale's conceptual and cultural equivalency.

Step II-Cross Language Validation

For cross langauge validation the sample of N=40 senior students of psychology program were devide in two groups of 20 partcipants each. On each group the 2 sets of the scale were administered twice. In first trial Urdu to English scale was administered on group 1 and English to Urdu scale was applied on group 2. In second trial English to Urdu scale was given to group 1 and Urdu to English scale was administered on group 2. Data was entered in SPSS and correlation coeefiecient was obtained which showed good cross language validation. Thus the results indicated that the translated version is well coorelated with the original English version of the scale. (Table 1)

Step III- Pilot Study

After establishing the cross language validation the Urdu scale was pilot tested on conveniently recruited athlete adolescents (N=30) with age range of 13 to 18 years. The purpose of the pilot study was to estimate the internal consistency of the Urdu version of SAS-2 which turned to be 0.86 for total scale. Moreover the filed notes were also taken to locate the difficulties in understanding of the items in urdu language. As the result of these field notes two words were modified.

Study -2

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

In study 2 following procedure was carried out.

Sample

The sample of the study was recruited from private and government schools located in Punjab Pakistan. Convenient sampling technique was used to recruit the Exploratory Factor Analysis N (437; Boys=250, Girls=187) and for Confirmatory Factor Analysis (525; Boys=305, Girls=220) of sport participating adolescents from different schools situated in Lahore, Gujranwala and Gujrat districts. The age range of the participants was 13 to 18 years (M=16.45 SD= 1.84).

Instruments

The data was collected by using Urdu version of SAS-2 which has been translated in Study- 1. also including the demographic form. The following instruments were used in the study:

A) Demographic form

It consisted of personal as well as sport related information about the participants that was necessary for the purpose of research study. The information on the demographic form was recorded in respect of age, gender, grade, family system and residential area of the participants (Table 2).

B) Sports Anxiety Scale-2

SAS-2 [18] Urdu version was administerd in the present study in order to measure sports anxiety. The scale has 3 subsclae named as Worry (Item no 3,5,8,9,11), Somatic Trait Anxiety (2,6,10,12,14) and Concentration Disruption (1,4,7,13, 15) each consists of 5 items thus make 15 items in total. SAS-2 is a 4-point likert scale ranging from 1, “strongly agree” to 4, “strongly disagree”. A composite anxiety score can be obtained by summing up the scores on 15 items. However the total score on each subscale can also be obtained. SAS-2 has been translated in the present study in Urdu to asses the sports anxiety of adolescents. In the study 2 Internal consistency of Urdu translated version of total SAS-2 was 0.92, while for the sub-scales it was 0.82 for somatic, 0.85 for worry and 0.79 for concentration disruption sub-scale.

Ethical Considerations

Research ethics and all applicable rights were taken into consideration during the study's conduct. The SAS-2 scale was used in this research after obtaining the permission from original author. Before data collection the permission was taken from the heads of institutions and participants. They were briefed with the purpose of the research. Participants had the full right to discontinue at any time and withdraw from the study if they had any issue. They were assured of confedentianality of their responses as well as it was conveyed that the information they provided would only be utilized for research study.

RESULTS

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

Table 1: Cross Language Validation of Scales

Sports Anxiety Scale-2	R	Sig
English to Urdu	0.89	.000
Urdu to English	0.86	.000

Note: Table 1 shows good cross language validity of the scale.

Table 2: Descritive Statistics of the participants for EFA N (437) and for CFA (525)

Demographics	Categories	f(%) for EFA	f(%) for CFA
Gender			
	Boys	250(57%)	305(58%)
	Girls	187 (43%)	220(42%)
Residential Area			
	Urban	335(77%)	364(83%)
	Rural	102(23%)	161(17%)
Family System			
	Nuclear	95(22%)	150(28%)
	Joint	342(78%)	375(72%)
Grade			
	8th	130(30)	158(31%)
	9th	180(42%)	200(39%)
	10th	127(28%)	167(30%)
Age			
	13-15 years	162(37%)	180(35%)
	16-18 years	275(63%)	345(65%)

Table 3: Exploratory Fcator Analysis showing Factor loading of 15 items of SAS-2 (N=437)

Sr.no	Item no	Factor loadings on 3 Fcators		
		1	2	3
1	03	.779	.156	.156
2	05	.763	.107	.167
3	08	.819	.193	.081
4	09	.645	.290	.092
5	11	.645	.290	-.092
6	02	.018	.469	.389
7	06	.271	.697	.183
8	10	.157	.702	-.131
9	12	.240	.801	.096
10	14	.234	.716	.084
11	01	-.039	.120	.790
12	04	.214	.152	.470
13	07	.274	.263	.374
14	13	.346	.288	.590
15	15	.379	.097	.560
Eigenvalue		3.99	2.75	1.85

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

% of variance	26.64	19.45	14.00
Cumulative %	26.64	46.09	60.09

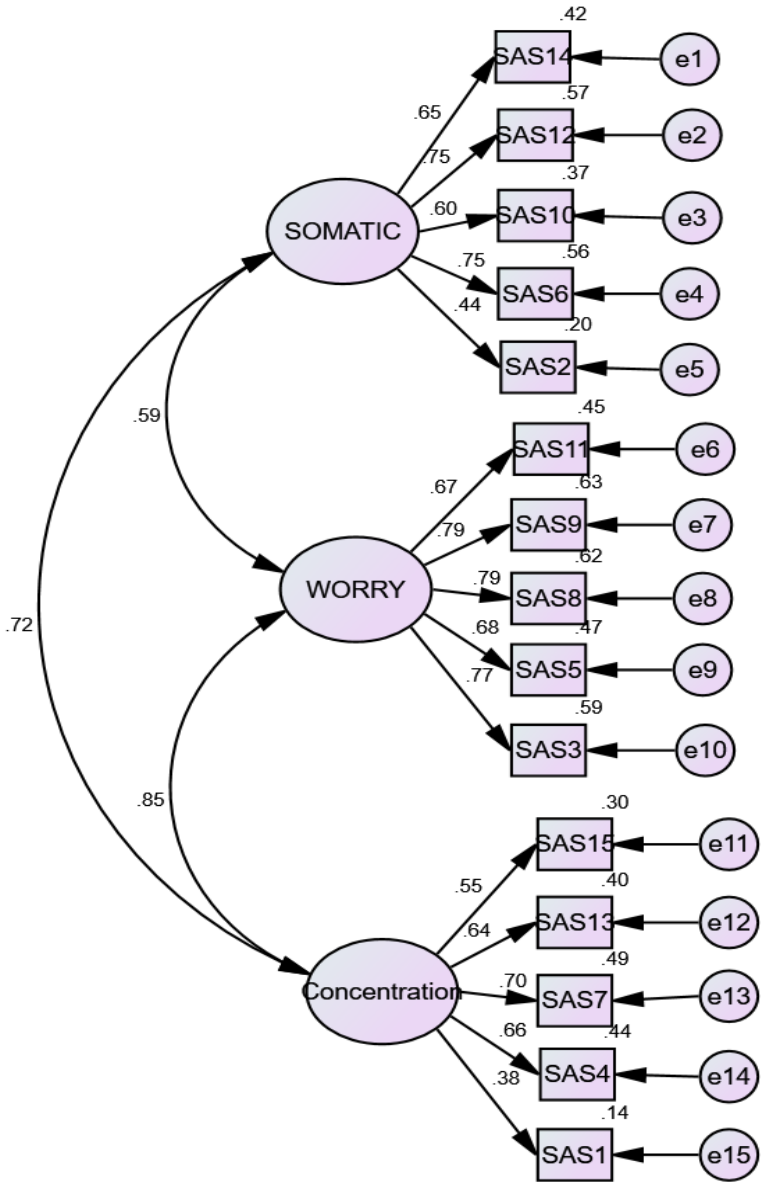

Figure 1: Cofirmatory Factor Analysis of SAS-2 Urdu Version

Table 4: Comparison of Boys and Girls students on Subscales and Total Scale

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

	Boys		Girls				95% C.I.		Cohen's d
Variables	**M**	**SD**	**M**	**SD**	**t-value**	**P-value**	**LL**	**UL**	
Somatic	7.59	2.58	8.75	2.69	-2.17	.020	-1.24	-.06	-.04
Worry	6.90	2.33	8.77	3.09	-2.15	.021	-1.24	-.05	-.06
ConDis	7.12	2.17	8.97	2.79	-2.57	.010	-19.04	-4.30	-.07
Total	24.26	6.94	28.78	8.96	-3.11	.000	-11.24	-2.12	0.56

Note. ConDis= Concentration Disruption, Total= Composite Score on Urdu-SAS-2, C.I. = confidence interval, LL= lower limit, UL= upper limit. M=Mean, SD=Standard Deviation

Results in Table 4 showed that girls scored higher on Somatic, Worry, Concentration Disruption and Total Scale. Further there are significant mean score differences between boys and girls on the three subscales and total scale.

DISCUSSION

The first objective of the current study was to translate SAS-2 and explore its factor structure for the adolescents athlete belong to Pakistan. In order to attain this objective, first of all tool was translated by adopting the forward and backward translated method. To increase the likelihood of using terms more understandable to the general public the panel tried to avoid technical and specialized medical terms. Researchers attempted to assemble a team of translators with a variety of academic and professional backgrounds because translating SAS-2 for the target population required academic training and experience in languages, psychometry and sports. The panel of experts was composed of bilingual professionals with training in psychometry and understanding of the construct being measured by the instrument. The recommendations of panel were carefully examined so that the consensus could be developed in the process of translation of the Urdu version of SAS-2. As Pakistan is a country with a variety of regional characteristics, the panel took care not to include the words that might make comprehension challenges to the adolescents in order to expand the use of the scale to the future researches on sports anxiety in Pakistan. The values of correlation coeffients between the original and Urdu scale established good cross language validation. The results of pilot study also showed good internal consistency of the translated scale. Moreover the findings of pilot study indicated that adolescents athletes faced no difficulty in understanding the Urdu version of the SAS-2.

In Study 2 the translated version was administered on the separate samples of adolescent athletes in order to explore the factor structure through EFA and CFA. In Exploratory Fcator Structure the Principle component analysis with Oblique rotation was used for data reduction. The sample adequacy was checked by using Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy and Bartlett's test of Sphericity. The value of KMO is .91 which was greater than 0.5 so we can say that the data is adequate. Further the values of Bartlett's test of Sphericity was significant at $p < .001$. It means that the data or sample is adequate and can be accepted for the further analysis. Results of EFA indicated a clear 3-factor model. Three factors with initial Eigen values (exceeding .1) 3.99, 2.75 and 1.85

Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

respectively explaining 60.09% of the cumulative variance were emerged. Further, rotated Item loading values added more clarity to the 3-factor model[18,19,20,21]. The values in item loading table ranged from 0.3 to 0.81 however only 3 items showed loading value less than 0.5. Moreover the item loading table and other results of EFA confirmed the factor structure of SAS-2. The 15 items loaded on the 3-factors named as Somatic, Worry and Concentartion Disruption same as have been loaded in the original factor structure. On Somatic subscale items no 2,6,10, 12 and 14 and on Worry subscale item no 3, 5, 8, 9 and 11 were loaded. While, item no 1, 4, 7, 13 and 15 made the subscale Concentration Disruption.

On the other hand, data from 525 particpants was collected by administering Urdu version of SAS-2 and entered into SPSS IBM version 26. Confirmatory Analysis was run on this data by using AMOS version 26. The result showed clear three factor model with the same item loadings on each factor confirming the 3-factor model presented by original SAS-2 by authors. The model fit indexes were $\chi 2$ (96) = 293.81, $p < .001$, NFI = .92, CFI = .98, GFI = .95, RMSEA = .05. The value of RMESA is .05 which shows that the model is good fit. If RMSEA of 0.08 to 0.10 gives a medium fit and that a value of less than 0.08 indicates good fit [24]. If the value of GFI, CFI and IFI is greater than .90 then the model is adequately fit[25]. In this case the values of CFI, GFI and IFI is greater than .90 so the model is good fit. CFA loadings are ranged from 0.55 to 0.79 on 13 items which are very good. Only 2 items showed the loading values of 0.38 and 0.44 which are acceptable. Therefore the model was retained which supported the theoretical and statictics factor structure model of the original scale[18]. Further the results are consistant with other studies reporting the psychometric properties of SAS-2 in other regions of the world[18,19,20,21].

Moreover, the Urdu version of SAS-2 for adolescents also showed good internal consistency on total scale and three subscales. It has been described above in Study 2 under heading of instrument. The scale has demonstrated good test-retest reliability (Table 1).

In order to meet the second objective of the study independent sample *t*-test was administered to compare mean scores of participants on basis of their gender. The mean scores were compared on three subscales and on Total Scale. Results showed that significant difference was not found in both groups of gender in academic stress. In addition significant differences were found in the mean scores of both groups of gender at Somatic (t = -2.17, p< .05); Worry (t = -2.15, p< .05) and at Concentration Disruption (t = -2.57, p< .05). Findings revealed that that girls scored higher on Somatic, Worry, Concentration Disruption and Total Scale. The results are in line with the findings reported by the prior researches.[16,17,25]

CONCLUSION

ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

SAS-2 has been translated in Urdu for the athlete adolescents of Pakistan. The results showed that translated version is a reliable and valid tool to measure multidimensional anxiety among the Pakistani adolescents.

Recommendation

The future studies evaluating the psychometric properties of the Urdu version of SAS-2 for adolescents are strongly receommended.

Funding This research received no external funding.

Conflict of Interest The authors claim no conflict of interest.

References

1) Khan, K. M., Thompson, A. M., Blair, S. N., Sallis, J. F., Powell, K. E., Bull, F. C., and Bauman, A. E. (2012). Sport and exercise as contributors to the health of nations. Lancet (London, England), 380(9836), 59–64.

2) Eime, R., Young, J., Harvey, J., Charity, M., and Payne, W. (2013b). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. Int. J. Behav. Nutr. Phys. Act. 10:98.

3) Smith, R. E., and Smoll, F. L. (1990). Sport performance anxiety: handbook of social and evaluation anxiety. New York, 417-454.

4) Moeijes, J., van Busschbach, J. T., Bosscher, R. J., and Twisk, J. W. R. (2018). Sports participation and psychosocial health: a longitudinal observational study in children. BMC Public Health 18:702.

5) Weinberg, R. and Gould, D (2011) Foundations of Sport and Exercise Psychology. (5th Edition). Human Kinetics: Leeds.

6) Reigal, R. E., Vázquez-Diz, J. A., Morillo-Baro, J. P., Hernández-Mendo, A., and Morales-Sánchez, V. (2019). Psychological Profile, Competitive Anxiety, Moods and Self-Efficacy in Beach Handball Players. International Journal of Environmental Research and Public Health, 17(1), 241.

7) Cox, R. H. (2010). Sport Psychology, concepts and applications. New York: McGraw-Hill.

8) Zeng, H. Z. (2003). The differences between anxiety and self-confidence between team and individual sports college varsity athletes. International Sports Journal, 7, 28-34.

9) Peng, F., and Zhang, L. W. (2021). The Relationship of Competitive Cognitive Anxiety and Motor Performance: Testing the Moderating Effects of Goal Orientations and Self-Efficacy Among Chinese Collegiate Basketball Players. Frontiers in Psychology, 12.

10) Perry, J. (2020). Dealing with stress as a college athlete. *Athlete Network*.

11) Ahmad, S., and Safdar, F. (2020). Goal Orientation, Motivation, and Competitive Anxiety in Players of Domestic Cricket in Pakistan. Pakistan Journal of Psychological Research, 35(1), 87–105.

12) Kang, H., and Jang, S. (2018). Effects of competition anxiety on self-confidence in soccer players: Modulation effects of home and away games. Journal of Men's Health, 14, 62-68.

13) Lee, T. I., Wang, M. Y., Huang, B. R., Hsu, C. Y., and Chien, C. Y. (2022). Effects of Psychological Capital and Sport Anxiety on Sport Performance in Collegiate Judo Athletes. American Journal of Health Behavior, 46(2), 197–208.

ISSN: 1673-064X
E-Publication: Online Open Access
Vol: 67 Issue 02 | 2024
DOI: 10.5281/zenodo.10691371

14) Wang, C. M., Hong, J. C., Ye, J. H., and Ye, J. N. (2022). The relationship among gameplay self-efficacy, competition anxiety, and the performance of eSports players. Entertainment Computing, 42, 100489.

15) Bukhari, F. K., Fahd, S., Tahira, R., and Yaseen, M. (2021). Impact of Sports Anxiety on Sports Performance of Players. Pakistan Journal of Humanities and Social Sciences, 9(3).

16) Rice, S. M., Gwyther, K., Santesteban-Echarri, O., Baron, D., Gorczynski, P., Gouttebarge, V., Reardon, C. L., Hitchcock, M. E., Hainline, B., and Purcell, R. (2019). Determinants of anxiety in elite athletes: a systematic review and meta-analysis. British Journal of Sports Medicine, 53(11), 722–730.

17) Tahir, A., & Ghayas, S. (2022). Urdu Translation And Validation Of Sports Anxiety Scale For Pakistani University Students. *Webology*, *19*(2).

18) Smith, R.E., Smoll, F.L., Cumming, S.P., and Grossbard, J.R. (2006). Measurement of multidimensional sport performance anxiety in children and adults: The Sport Anxiety Scale-2. Journal of Sport and Exercise Psychology, 28, 479-501.

19) Silva-Rocha, V. V., & Osório, F. D. L. (2017). Cross-cultural adaptation of the Sport Anxiety Scale-2 (SAS-2) for the Brazilian context. *Trends in psychiatry and psychotherapy*, *39*, 202-206.

20) Ramis Laloux, Y., Viladrich Segués, M. C., Sousa, C. D. P. D., & Jannes, C. (2015). Exploring the factorial structure of the Sport Anxiety Scale-2: Invariance across language, gender, age and type of sport. *Psicothema*..

21) Cho, S., Choi, H., Eklund, R. C., & Paek, I. (2018). Validation and reliability of the Korean Version of the Sport Anxiety Scale-2. *Journal of human kinetics*, *61*, 217.

22) Fayyaz, M. U., Amjad, A., and Anjum, A. F. (2018). Relationship between emotional intelligence and performance among cricketers in Pakistan. Journal of Applied Environmental and Biological Sciences, 8(4), 33-41.

23) MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, *1*(2), 130.

24) Hoyle, R. H. (Ed.). (1995). *Structural equation modeling: Concepts, issues, and applications*. Sage.

25) Cotterill, S. T., Clarkson, B. G., & Fransen, K. (2020). Gender differences in the perceived impact that athlete leaders have on team member emotional states. Journal of Sports Sciences, 38(10), 1181–1185.