Demographic Differences in Sport Anxiety among Universities Student Athletes in the Republic of Yemen

Faiza Mohammed Ateek Al-Ansi^{1,2}, Tajul Arifin Bin Muhamad¹, Norlena Binti Salamuddin¹, Farah Dawina Hassan¹

¹Faculty of Educational Studies, University Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia ²University of Sana'a, Republic of Yemen

Abstract: The main objective of this study was to examine the differences of sport anxiety among university student athletes in the Republic of Yemen based on demographic variables. The sample consisted of 397 student athletes (278 males and 119 females). Sport Anxiety Scale SAS was used to evaluate sport anxiety. The result by analysis by independent t-test revealed that there was a slight difference between male and female student athletes. In terms of worry (t (271.65) = .987, $\rho > .05$, $\eta 2 = 0.002$), the mean for males was M = 2.26, S.D = 0.65 while the mean for females was M = 2.20, S.D = 0.52. For concentration disruption (t (395) = -.028, $\rho > .05$, $\eta 2 = 0.000$), the mean for females was M=1.99, S.D=0.85 and the mean for females was M=1.99, S.D = 0.84. For somatic anxiety (t (395) = $3.04 \rho > .05 \eta 2 = 0.00$), the mean for males was M = 2.12, S.D = .67 and the mean for females was M = 2.14, S.D = .63. Furthermore, for total sport anxiety SAS (t (269.6) = $.178 \rho > .05$, $\eta 2 = .001$) the the mean for male students was analysed as M=2.14, S.D=0.60 while the mean for female students was recorded as M=2.12, S.D=0.49. However, the results indicated that there are no significant difference based on location, age categories, and years of studies among university student athletes. **Keywords:** Anxiety, Student Athletes, Demographic Variables

I. Introduction

Sport anxiety is not a new phenomenon and it dates back to ancient times. Spielberger and Gorsuch also emphasized the fact that anxiety is as old as the history of mankind [1]. According to Spielberger & Rickman, anxiety is an unpleasant emotional state or reaction, quite distinct from other emotions such as anger, nervousness or grief, brought about by a unique combination of experiential qualities and bodily changes [2]. The need to study anxiety was subsequently recognized when anxiety disorders were established as one of the main categories of abnormal behavior. Life in the twentieth century is regarded by some psychologists as the age of anxiety [2]. Events over the last few decades have shown that human beings are becoming more anxious than before about their future, social life, and jobs [3, 4]. Lader and Marks revealed that between 2% to 4% of the general population suffers from symptoms or contribute significantly to the etiology of 20 to 25% of all psychiatric disorders of one kind of anxiety or another [5]. Twenge also confirmed that a modern life produces higher levels of anxiety [6]. Sport anxiety is the uncertainty about how to cope or overcome stress. It occurs when athletes sense lack of ability to cope with stress or that the stress is overwhelming [7]. However, there is a clear distinction between stress and anxiety. Stress is produced as a result of requests to an individual that place demands on that individual to engage in some form of competition [8], while anxiety is an unwanted, negative, emotional feeling or reflex that is characterized by feelings of apprehension, intense preoccupation and disturbance, and is often combined with bodily arousals [9].

According to Worchel & Goethals, the symptoms of anxiety are increasing heartbeat, anger, trembling, fear, perspiration rate, and being mentally unbalanced, each of which is directly linked to somatic anxiety [7]. Anxiety may have a positive or negative effect, such as pressure, motivation, fear, and rejoicing. In addition, sport anxiety is considered to be a sign that an athlete has entered a state of fatigue. It is characterized by physiological signs which appear when the athletes doubt their capability to handle different situations of anxiety [10]. There are two common types of anxiety, namely cognitive and somatic anxiety. Cognitive anxiety is the mental component of anxiety which is caused by negative anticipations about development or negative self-evaluation [11]. Some scholars, e.g. Hardy and Parfitt, have referred to cognitive anxiety as the fear of anticipated consequences of failure [12]. Another type of anxiety, which is the physiological component of anxiety, is known as somatic anxiety. It is caused directly by bodily activities or arousals. In other words, the autonomic system is the component that inverts the perceptions of psychological worry into a physiological response of the body [11]. One of the main challenges in the field of sports is anxiety, which has a significant influence on the performance of athletes. As Atarody et al. explained, anxiety is a negative emotional state with feelings of anger, sadness and stress [13]. It is also associated with physical activity or arousal. In sport anxiety, the athlete fears that there may be a problem. In this way, athletes feel nervous even before a competition and the activity will lead to failure [14]. According to Al-Khasawneh, the performance of a student athlete

(female) is negatively affected by the existence of anxiety and fear about learning and performing certain motor skills [15]. This is more obvious among older student athletes who have had no previous experience. In addition, Al-Atrash recommended that it might be helpful to deploy a plan for psychological training when participants undergo the main skills, defensive plans and the like in an overall football training schedule owing to the substantial role played by such a plan in developing performance [16]. This study will specifically provide information to compare the differences among Yemeni student athletes based on different variables, namely gender, location (North and South Yemen), age categories, and years of study. The current study used the Sport Anxiety Scale (SAS), developed by Smith et al. [17].

II. Research Method

Material & methods

This study employed a descriptive research technique using quantitative correlation methods for the data analysis.

Sampling

The respondents were randomly chosen and divided according to location from the northern universities comprised 206 student athletes (121 males and 85 females), while the respondents from the southern universities comprised 191 student athletes (157 males, and 34 females). In the south, especially in Hadramout University, there was no females who practiced sports. While 215 participants were aged between 18 to 23 years, 107 participants were aged 27 years and above, 75 of them were in the age category of 24 to 26 years.

Instruments

The instruments for data collection in this study Sport Anxiety Scale (SAS) that was developed by Smith et al. [17]. The SAS is a 21-item, multi-dimensional scale for measuring trait anxiety in competition, namely, cognitive anxiety (worry and concentration disruption) and somatic anxiety in sport situations. The worry factor consists of 7 items and the concentration disruption factor consists of 5 items. The somatic aspect consists of 9 items, while the Sport Anxiety Scale has a total of 21 items [17]. The reliability of this scale has been shown by several studies, indicated a good reliability for this scale. A reliability of less than 0.6 is considered to be poor, while an alpha value in the range of 0.6 to 0.8 is an acceptable indication of internal consistency, and a value of more than 0.8 is regarded as excellent [18]. In this study the Cronbach's alpha value of 0.71 for the factor of worry was acceptable, for concentration disruption was excellent 0.82; for somatic anxiety was good 0.78, for total sport anxiety was excellent 0.88.

Data Analysis

The data were coded and converted into electronic form, and were analysed using a computer software program, SPSS (Statistical Package for Social Science) version 20. Statistical analysis was carried out using descriptive statistics, independent t-test and one way ANOVA were used to compare the diffrenceces among universities student athletes.

III. Finding

The result of the independent t-test analysis showed that there was a slight difference based on the independent factor of gender between male and female student athletes in terms of the dependent variable of worry (t (271.65) = .987, $\rho > .05$, $\eta 2 = 0.002$). The mean for males was M =2.26, S.D = 0.65, while the mean for females was M =2.20, S.D = 0.52, also, the output showed that there was no significant difference based on the independent factor of gender between male and female student athletes in terms of the dependent variable of concentration disruption (t (395) = -.028, $\rho > .05$, $\eta 2 = 0.000$), where the mean for males was M = 1.99, S.D = 0.85) and the mean for females was M=1.99, S.D =0.84. The results of an independent variable of somatic anxiety (t (395) = 3.04 $\rho > .05 \eta 2 = 0.00$) for the female student athletes, where the mean for the males was M = 2.12, SD= 0.67), and the mean for the females was M = 2.14, SD = 0.63. Similarly, the independent t-test indicated that there was a slight difference based on the independent factor of gender among student athletes in terms of the total. For sport anxiety SAS (t (269.6) = .178 $\rho > .05$, $\eta 2 = 0.001$) the mean for the male student athletes was M=2.12, S.D=0.49). Tables 1 showed the findings for all the variables.

Variables	Gender	М	S.D	t	Decision	ρ	η2
Worry	Male	2.26	0.65			0.002	0.002
	Female	2.20	0.52	0.987	Reject		Very Small
CON. DIS.	Male Female	1.99 1.99	0.85	-0.028	Accept	0.533	0.000 No Ratio
Somatic	Male Female	2.12 2.14	0.67 0.63	0.304	Reject	0.017	0.000 No Ratio
SAS	Male Female	2.14 2.12	0.60 0.49	0.178	Reject	0.021	0.001 Very Small

 Table 1. Independent t-test for Differences of Sport Anxiety SAS based on gender

N. Male, 278, Female, 119 N, 397

For location in sport anxiety the finding by the independent t-test showed that there was no significant differences based on the independent factor of location among student athletes in terms of the dependent variable of worry (t (365= -.911, ρ >.05, η 2 = 0.002), where the mean for student athletes from the south was M = 2.21, S.D = 0.54, and the mean for student athletes from the north was M=2.27, S.D =0.68. There was no significant difference based on the independent factor of location among student athletes in terms of the dependent variable of concentration disruption (t (395= .618, ρ >.05, η 2 = 0.001). The mean for the student athletes from the south was M = 2.01, S.D = 0.86, while the mean for the student athletes from the north was M=1.96, S.D = 0.83. The independent t-test in terms of the dependent variable of somatic anxiety indicated that there was no significant difference among the student athletes based on the independent t-test in terms of the student athletes from the south was M = 2.18, S.D = 0.64 and the mean for the student athletes from the north was M = 2.08, S.D = 0.67. Likwese, the independent t-test showed that there was no significant difference among the student athletes based on the independent factor of location in terms of total sport anxiety in SAS (t(395= 641, ρ >.05, η 2 = 0.002), where the mean for the student athletes from the north was M = 2.11, S.D = 0.61. Tables 2 showed the findings for all the variables.

						(
Variables	Location	М	S.D.	ρ	Decision	η2
Worry	South	2.21	0.54	0.363	Accept _{H06}	0.002
	North	2.27	0.68			Very Small
Con. Dis.	South	2.01	0.86	0.537	Accept _{H06}	0.001
	North	1.96	0.83			Very Small
Somatic	South	2.18	0.64	0.126	Accept _{H06}	0.001
	North	2.08	0.67			Very Small
SAS	South	2.15	0.54	0.522	Accept H06	0.002
	North	2.11	0.61			Very Small

Table 2. Independent t-test for Differences of Sport Anxiety SAS based on Location (North South)

N. South 206 North 191 N. total 397

In addion, for age category the result by one way ANOVA indicated that there was no significant differences among student athletes based on age categories (F (2, 394) = .235, $\rho > .05$, $\eta 2 = .001$) in terms of worry; (F (2, 394) = .538, ρ > .05 and η 2 = .002). The mean for the first age group of 18-23 years was N=215, M=2.26, SD=0.587, the mean for the second age group of 24 - 26 years was N=75, M=2.24, SD=0.732, and the mean for the third age of > 27 years was N=107, M=2.21, SD=0.569. In terms of concentration disruption, the one-way ANOVA showed that there is no significant difference among student athletes based on age categories (F (2, 394) = .661, $\rho > .05$, $\eta 2 = .001$). The mean for the first age group was N=215, M=2.01, S.D=0.795, the mean for the second age group was N=75, M=1.90, S.D=0.921, and the mean for the third age group was N=107, M=2.00, S.D=0.888. In terms of somatic anxiety, the results by ANOVA indicated that there was no significant difference among the student athletes based on age categories (F (2, 394) = .268, $\rho > .05 \eta 2 = .001$). The mean for the first age group was N=215, M=2.14, S.D=0.651), for the second age group was N=75, M=2.18, S.D=0.678, and for the third age group was N=107, M=2.07, S.D=.653). In total sport anxiety the results of the one-way ANOVA indicated that there was no significant differences among the student athletes based on age categories (F (2, 394) = .268, $\rho > .05 \eta 2 = 0.001$). The mean for the first age group between 18-23 years was N=215, M=2.15, SD=0.555, for the second age group between 24-26 years was N=75, M=2.13, SD=0.667, and for the third age of > 27 years was N=107, M=2.10, SD=0.534. Tables 3 & 4 showed the findings for all the variables.

		, 2112 Duseu on 11ge Curegonies					
Variable	Sum of Squares	df	Mean Square	F	ρ	Decision	η2
***	Squares	-	Square				
Worry							
Between Groups	0.176	2	0.088	0.235	0.791	Accept	0.001
Within Groups	147.735	394	0.375				Very
Total	147.911	396					Small
Con. Dis.							
Between Groups	0.770	2	0.385	0.538	0.584		0.002
Within Groups	281.677	394	0.715			Accept	Very
Total	282.447	396					Small
Somatic							
Between Groups	0.569	2	0.285	0.661	0.517		0.001
Within Groups	169.756	394	0.431			Accept	Very
Total	170.325	396					Small
SAS							
Between Groups	0.176	2	0.088	0.268	0.765		0.001
Within Groups	129.256	394	0.328	1		Accept	Very
Total	129.432	396		1			Small

Table 4.	Mean and	l Standard De	eviation of	f Com	petition	Subscale	Based	on Age	e Categories

	Age		Worry	Con. Dis.	Somatic	SAS
First	< 23	М	2.26	2.01	2.14	2.15
Group		S.D	0.587	0.795	0.651	0.555
		Ν	215			
Second	24-26	М	2.24	1.90	2.18	2.13
Group		S.D	0.732	0.921	0.678	0.667
		Ν	75			
Third	>27	М	2.21	2.00	2.07	2.10
Group		S.D	0.569	0.888	0.653	0.534
		Ν	107			

N. total 397

Furthermore, one way ANOVA revealed that there was no significant difference among student athletes based on years of study in terms of worry (F (3, 393) = .826, $\rho > .05$, $\eta 2 = .006$). The mean for the first year was N= 116, M=2.20, SD=0.588, for the second year was N=99, M=2.32, SD=0.582, for the third year was N=75, M=2.24, SD=0.732, and for the fourth year was N=107, M=2.21, SD=0.569. Similarly, the results indicated that there was no significant difference in terms of concentration disruption (F(3, 393) = .613, $\rho > .05$, $\eta 2 = .004$). The mean for the first year was N= 116, M=1.97, S.D=0.804, for the second year was N=99, M=2.07, S.D=0.785, for the third year was N=75, M=1.90, S.D=0.921, and for the fourth year was N=107, M=2.00, S.D=0.888. In terms of somatic anxiety ANOVA indecated that there is no significant differences among student athletes (F(3, 393) = .766, $\rho > .05$, $\eta 2 = .005$). The mean for the first year was N= 116, M=2.10, SD=0.659, for the second year was N=99, M=2.19, SD=0.640, for the third year was N=75, M=2.18, SD=0.678, and for the fourth year was N=107, M=2.07, SD=0.563, for the second year was so significant difference in terms of total sport anxiety in SAS (F(3, 393) = .766, $\rho > .05$, $\eta 2 = .004$). The mean for the first year was N=75, M=2.13, SD=0.667, and for the fourth year was so so significant difference in terms of total sport anxiety in SAS (F(3, 393) = .766, $\rho > .05$, $\eta 2 = .004$). The mean for the first year was N=75, M=2.13, SD=0.667, and for the fourth year was N=99, M=2.10, SD=0.534. Tables 5 & 6 showed the findings for all the variables.

Table 5. Analysis of Variance of Sport Anxiety SAS Based on Years of Study

Variable	Sum of Squares	df	Mean Square F		F	ρ	Decision	η2
Worry								
Between Groups	0.927	3	0.309	0.8	26	0.480		0.006
Within Groups	146.984	393	0.374				Accept	Very Small
Total	147.911	396						
Con. Dis.								
Between Groups	.927	3	0.309	0.6	13	0.607		0.004
Within Groups	146.984	393	0.374				Accept	Very Small
Total	147.911	396						
Somatic								
Between Groups	1.042	3	0.347	0.8	06	0.491	Accept	0.005
								Very Small
Within Groups	169.283	393	0.431					
Total	170.325	396						
SAS								
Between Groups	.753	3	0.251	0.7	66	0.513	Accept	0.004
Within Groups	128.679	393	0.327	1				Very Small
Total	129.432	396						

Student Athletes Based on Years of Study									
Age		Worry	Con. Dis.	Somatic	SAS				
First Year	М	2.20	1.97	2.10	2.10				
	S.D	0.588	0.804	0.659	0.563				
	Ν	116							
Second Year	М	2.32	2.07	2.19	2.20				
	S.D	0.582	0.785	0.640	0.544				
	Ν	99							
	М	2.24	1.90	2.18	2.13				
Third Year	S.D	0.732	0.921	0.678	0.667				
	Ν	75							
	М	2.21	2.00	2.07	2.10				
Fourth Year	S.D	0.569	0.888	0.653	0.534				
	Ν	107							

 Table 6. Mean and Standard Deviation of Sport Anxiety SAS Subscale among University's

 Student Athletes Based on Years of Study

IV. Discussion and conclusion

The main objective of this study was to examine the differences of sport anxiety among universities student athletes based on demographic variables gender, location (North and South) age categories, and years of study in the Yemen. Sport anxiety scale SAS was used to measure sport anxiety. The result by independent t-test indicated that there was a slight difference in the mean scores of male and female student athletes in terms of worry, while there was no significant difference between the male and female student athletes in terms of concentration disruption. Also, the independent t-test indicated that there was a slight difference in terms of somatic anxiety among student athletes for females, and a slight difference in total sport anxiety for males [19]. Furthermore, in Egypt, the results of a study carried out by Allawy [20] showed that male athletes had significantly lower pre-competition anxiety than female athletes both in terms of cognitive and somatic anxiety, where female and male athletes participating in swimming and gymnastics had significantly higher cognitive and somatic pre-competition anxiety than athletes participating in volleyball, table tennis and basketball.

The results of a study by [21] showed that there was a significant difference in cognitive anxiety, somatic anxiety and self-confidence among male or female elite athletes and male or female sub non elite athletes. The male sub-elite athletes had higher mean scores in terms of cognitive anxiety and somatic anxiety compared to the male elite athletes, who had cognitive anxiety and somatic anxiety. Besides, the male elite athletes had higher mean scores for cognitive anxiety and somatic anxiety compared to the female sub-elite athletes had higher mean scores for cognitive anxiety and somatic anxiety compared to the female elite athletes, who only had cognitive anxiety and somatic anxiety. Meanwhile, the female elite athletes showed higher self-confidence than the female sub-elite athletes.

For Location the results of the independent t-test indicated that the student athletes had the same mean score for sport anxiety based on location. It can be concluded that the null hypotheses can be accepted as there were no significant differences in the mean scores for worry, concentration disruption, somatic anxiety and total sport anxiety among university student athletes in the north and the south. The finding was consistent with that of a previous study by Azimkhani et al. who examined the relationship between mental skills and competition anxiety among young and adult skiers. The findings showed that there were no significant differences in mental skills and competitive anxiety between male and female athletes. With regard to sport anxiety SAS subscale, the results by one way ANOVA indicated that student athletes have same mean score in sport anxiety based on age categories [22].

The results of the one-way ANOVA indicated that the student athletes had the same mean scores for sport anxiety based on age categories. It can be concluded that there were no significant differences in terms of worry, concentration disruption, somatic anxiety and total sport anxiety. Whilst Azimkhani et al. findings showed that there was a significant difference between competitive anxiety means among young and adult athletes [22]. Hammermeister & Burton indicated that age has a significant effect on stress [23]. The results by the one-way ANOVA indicated that there were no significant differences among the student athletes based on years of study in terms of worry, concentration disruption, somatic anxiety and total sport anxiety [23].

V. Conclusion

The aim of this study was to compare the sport anxiety among universities student athletes in Yemen based on demographic variables gender, location (north and south) age categories, and years of study.

The results of the t-test suggested that the male student athletes scored slightly higher than their female counterparts in terms of worry. In addition, the t-test indicated that there was no significant difference between males and females in terms of concentration disruption, while there was a significant difference in terms of somatic anxiety for the females and total sport anxiety for the males.

The findings showed that there were no significant differences in the mean scores for worry, concentration

disruption, somatic anxiety and total sport anxiety among university student athletes based on location (North and South Yemen).

Moreover, for the age categories the results of the one-way ANOVA indicated that there were no significant differences in terms of worry, concentration disruption, somatic anxiety and total sport anxiety across all three age categories among the Yemeni student athletes.

For years of study the results using the one-way ANOVA series revealed that there were no significant differences across the years of study of the student athletes in terms of worry, concentration disruption, somatic anxiety and total sport anxiety.

Acknowledgements

The authors acknowledge the support from National University of Malaysia UKM and Sana'a University, Republic of Yemen.

References

- [1]. C.D. Spielberger and Gorsuch R.L., Mediatting processes in verbal conditioning. , in Final report to the National Institutes of Health. US. Public Health Service on Grants M H 722. MH 7446. and HD 47, (1985).
- [2]. C.D. Spielberger and Rickman L.R., Anxiety: Psychological and Clinical Perspectives. In N. Sartorius. V. Andereoli. C.Cassano. L. Eisenberg. P. Kielkolt. P. Pancheri. and G. Racagni (Eds.). Washingtoni Hemisphere / Taylor and Francis. 69-83. 1991.
- [3]. T.S. Sloan, Damaged life: The crisis of the modern psyche. (Psychology Press 1996).
- [4]. B.C. Rosen, Winners and losers of the information revolution: Psychosocial change and its discontents. (Greenwood Publishing Group 1998).
- [5]. M. Lader and Marks I., Clinical anxiety. (Butterworth-Heinemann 2013).
- [6]. J.M. Twenge, The age of anxiety? The birth cohort change in anxiety and neuroticism, 1952–1993. Journal of personality and social psychology. 79, 2000, 1007.
- [7]. S. Worchel and Goethals G.R., Adjustment: Pathways to personal growth. (Prentice-Hall, Inc 1989).
- [8]. G. Jones, A cognitive perspective on the processes underlying the relationship between stress and performance in sport. Stress and performance in sport. 1990, 17-42.
- [9]. S. Nolen-Hoeksema, Abnormal Psychology (New York: McGraw-Hill education 2014).
- [10]. L. Hardy, Jones J.G., and Gould D., Understanding psychological preparation for sport: Theory and practice of elite performers. (John Wiley & Sons Inc 1996).
- [11]. L.L. Craft, et al., The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis. Journal of Sport and Exercise Psychology. 25, 2003, 44-65.
- [12]. L. Hardy and Parfitt G., A catastrophe model of anxiety and performance. British journal of psychology. 82, 1991, 163-178.
- [13]. Atarody E, et al., The Relationship between Anxiety and Performance Anxiety Coaches Football Players. GONABAD City. . University of Gonabad., 2011.
- [14]. J. Dacen, Test performance strategies among college going athletes: Differences across type of sport and gender. International Journal of Behavioral Social and Movement Sciences. 1, 2012, 4.
- [15]. G. Al-Khasawneh, Estimate the Levels of Anxiety of Female Students in Physical Education College at Yarmouk University in Gymnastics Courses. An-Najah University Journal for Research. 21, 2007, 1097-1112.
- [16]. M. Al-Atrash, The Impact a Suggested Plan of Psychological Skills on Developing Performance of Football Players. An-Najah University Journal for Research. 22, 2008, 1625-1652.
- [17]. R.E. Smith, Smoll F.L., and Schutz R.W., Measurement and correlates of sport-specific cognitive and somatic trait anxiety: The Sport Anxiety Scale. Anxiety research. 2, 1990, 263-280.
- [18]. J.F. Hair, et al., Multivariate data analysis. (NJ: Prentice Hall. 2010).
- [19]. F.E. Abrahamsen, Roberts G.C., and Pensgaard A.M., Achievement goals and gender effects on multidimensional anxiety in national elite sport. Psychology of Sport and Exercise. 9, 2008, 449-464.
- [20]. M.H. Allawy, Anxiety among egyptian athletes as measured by the 'arabic precompetitive state anxiety inventory'. Acta Kinesiologica. 7, 2013, 70-72.
- [21]. T.M. Jing, Omar A., and Hamid D.T.A., 3D immersive environment as a psychological training tool to enhance self-confidence and reduce competitive anxiety for Malaysian volleyball athletes. Movement, Health & Exercise. 4, 2015.
- [22]. A. Azimkhani, GÜRSOY R., and Torbati H.R.T., Analyzing the relationship between mental skills and competition anxiety among young and adult skiers. International Journal of Sport Studies. 5, 2015, 860-867.
- [23]. J. Hammermeister and Burton D., Gender Differences in Coping with Endurance Sport Stress: Are Men From Mars And Women From Venus? Journal of Sport Behavior. 27, 2004.