THE COMPARISON OF ANXIETY LEVEL BETWEEN MALE AND FEMALE ATHLETES IN AMATEUR TEAMS

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Abstract[*]

Aim. This study was carried out in order to determine whether there is a difference between the level of anxiety in male and female athletes in amateur teams.

Method. For this study, 50 male and 50 female athletes aged 18-25 years from amateur football and volleyball teams in Kahramanmaraş were selected respectively. We used 40-question – State-Trait Anxiety Inventories (STAI) with face to face method.

Results. As a result of the study we observed no statistically significant difference in state and trait anxiety levels between two genders. They had similar state and trait anxiety level.

Conculusions. As a result of the study carried out at rested state, we can say that gender has no effect on state and trait anxiety levels in amateur sports. We believe thatfurther studies with a larger scale group are needed to determine the effect of gender on state and trait anxiety levels better.

Keywords: State-Trait Anxiety, amateur teams athletes

Introduction

There are several factors affecting performance of an athlete. Because, performance is not only a physical qualification but it is also regarded as a psychological process (Engür, 2002; Civan, Özdemir, Taş, et al., 2012).As one of the factors affecting this process (Humara, 1999; Aşçı, Kin, 1998; Civan, Arı, Görücü, et al., 2010, Karabulut, Atasoy, Kazım, et al., 2013; Özerkan, 2013) anxiety is one of the fundamental feelings of humans and it emerges duringdistressful situations(Öner, Le Compte, 1985; Humara, 1999). For instance, the anxiety experienced before or during competitionemerges as physiological hyperalertness and tension (Engür, 2002). It also has an impact on performance since it affects such psychological factors as self-confidence,motivation,coordination and decision making (Nacar, Açak, Karahüseyinoğlu, 2011). Having a significant effect on athletes and their performance, anxiety is divided into two groups (Öner, Le Compte, 1985). While state anxiety is defined as the expression of complex emotive reactions that an individual gives to the stress caused by environmental conditions and threatening situations (Kuru, 2000), trait anxiety can be defined as the state of uneasiness, distress, pessimism, over sensitivenessand giving intensive emotive reactions free from environmental conditions (Öner, Le Compte, 1985).Trait anxiety shows itself as the perception of stress-causing situation as dangerous and as a result of increase in the intensity of situational emotive reactions, it becomes constant(Arslanoğlu, Tekin,

Arslanoğlu, et al., 2010). It is believed that experiencing state anxiety has a facilitating effect on peak performance ofthe athletes who has low level of trait anxiety but it has an adverse effect on athletic performance of those who have high level of trait anxiety (Humara, 1999). The effect of anxiety on athletic performance varies depending on type of sports events, gender and experience (Humara, 1999). For example, in a study in which the relationship between anxiety,success, athletic competence and athletic experience was investigated, a significant inverse relationshipwas found between anxiety scores and success in female handballer, which means as anxiety level increases, the success of athlete decreases.Similarly, a significant inverse relationship was found between competition anxiety and athletic competence and according to this, the athletes who lack self-confidence and think their athletic skills are not sufficient were seen to have high level of anxiety (Aşçı, Gökmen, 1995). In another study in which the relationship between anxiety state of the candidates who would enter special talent exam for school of physical education and sports and several factors, it was found that such factors as being male, 19 or lower, entering the exam for the first time and thinking their exam preparation performance was not sufficient increased anxiety level (Lök, İnce, Lök, 2008).
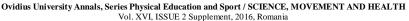
Because of the effects of anxiety on athletes and their performance, the anxiety-related studies have gained significance. While somatic and cognitive anxiety of male athletes were significantly affected

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by the opponent skills and winning perception ; those of female athletes were found to be more related with focusing on doing the best and preparation level to the competition(Humara, 1999). The difference detected between male and female athletes in literature have made further studies more important. That is why we aimed to study whether there is a difference between the anxiety levels of male and female athletes in amateur teams.

Methods
Subject Selection

For this study, 50 male and 50 female athletes aged 18-25 years from amateur football and volleyball teams in Kahramanmaraş were selected respectively. As data collection tool we used State-Trait Anxiety Inventories (STAI) with face to face method.

Evaluation ofthe Survey

State-Trait Anxiety Inventory (STAI) is a Likert-type response scale which comprises 40 items, and distinguishes between a person's state and trait anxiety levels. It was developed by Spielberger and his friends in 1970 and then adapted to Turkish society by Öner and Le Compte in 1985. STAI, which was translated to Turkish following its validity and reliability studies in 1975,comprises of two separate scales; A-State and A-trait scales, each of which comprises 20 items and are scored on 4-point forced-choice, ranging from *not at all* to *almost always* . Scores range from 20 to 80, with higher scores suggesting greater levels of anxiety (Spielberger, Gorsuch, Lushene, 1970).

Results

The reliability and validity studies in Turkey were made by N.Öner in 1977(Öner, Le Compte, 1985). Both scales include direct and reverse-worded items. Direct-worded items represent the presence of anxiety in a statement such as "I feel worried." Reverse-worded items represent the absence of anxiety in a statement such as, "I feel secure". Reverse-worded statements are the items 1,2,5,8,10,11,15,16,19, and 20in A-State scaleand 21,26,27,30,33,36 and 39 inA-trait scale. After the weighed scores of Direct-worded and Reverse-worded statements are calculated separately, the total weighed score of Reverse-worded statements is subtracted from that of Direct-worded statements. Then, a constant value is added to this result. This constant value is 50 for A-State scale and 35 for A-trait scale. The final score is the anxiety score of a person. A-State scale is a quite precise tool to evaluatesuddenly changing emotive reactions. The second part of the inventory is A-trait scale comprising 20 items. It aims to measure the continuity of probable anxiety that a person tend to have. Scores range from 20 to 80, with higher scores suggesting greater levels of anxiety.

Data Analysis

In order to evaluate the data obtained from the study, we used SPSS 13.0 packaged software. As descriptive statistics, minimum, maximum, average, standard deviation, median and 25-75 % values were given. Data distribution was studied by Kolmogorov-Smirnov Test of Normality. We used Independent T- test and Mann-Whitney U-test for the comparison of normally and abnormally distributed groups respectively. As significance level we used $\alpha=0.05$.

Table 1. Comparison of characteristic features and state and trait anxiety of male and female athletes.

Variable	Gender	n	Min-Max	Median (25-75%) X±SD	Z	P
Sport background (Year)	Female	50	5-18	10(8-12)	- 1.965	0.049*
	Male	50	6-16	12(10-14)		
Age (Year)	Female	50	18-25	20(19-21)	- 0.940	0.350
	Male	50	18-25	20(20-22)		
Height (cm)	Female	50	160-179	167.74±4.49	- 7.070	0.001***
	Male	50	165-185	174.34±4.83		
Weight (kg)	Female	50	45-69	56.04±5.64	- 9.586	0.001***
	Male	50	58-80	97.08±5.88		
BMI (Kg / height^2)	Female	50	16.14-23.42	19.90±1.69	- 6.640	0.001***
	Male	50	18.31-25.47	22.06±1.56		
Trait-Anxiety	Female	50	28-68	44.88±8.70	1.158	0.250
	Male	50	26-63	42.84±8.91		
State-Anxiety	Female	50	31-61	44.50±6.81	1.117	0.267
	Male	50	29-58	43.04±6.24		

*P<0.05 ***p<0.001 BMI: Body mass index

We found significant difference between Sport-starting age (p<0.05), height, weight and BMI (p<0.001) of male footballers and female volleyball players. No statistically significant difference was found between State-anxiety and Trait-anxiety levels (p>0.05).

Discussion

This study was carried out to determine whether gender has an effect on the anxiety level of the athletes in amateur teams. While the age range of the athletes was 18-25; sporting age were 5-18 and 6-16 in females and males respectively. We found no statistically significant difference between State and Trait anxiety level of male and female athletes. In another study similar to ours, they also found no significant difference between state and trait anxiety scores of the athletes before and during the competition (Civan, Arı, Görücü, et al., 2010). In another study carried out to determine the anxiety level of undergraduate international taekwondo athletes before competition and study it depending on several factors, it was concluded that gender had no significant effect on anxiety level of the athletes (Bingöl, Çoban, Bingöl, et al., 2012). Moreover, in a study made to determine the state and trait attributes of rock climbers in terms of skills level and gender, it was found that gender had no significant effect on the state and trait attributes (Feher, Meyers, Skelly, 1998). Also, in a study carried out to measure the effect of competitive trait anxiety on young athletes taking part in team sports in terms of several factors, no significant difference was observed between the genders in terms of competitive trait anxiety level (Smith, 1983). In another similar study aiming to observe psychological effects of exercise on college students in terms of gender, no significant difference was observed in trait anxiety levels between male and female athletes (Aşçı, 2009).

Furthermore, there are several studies stating that both male and female athletes perceive competitive stress in the same way. Therefore, no significant difference is observed between their competitive trait anxiety level (Smith, 1983). For example, in the study concluding that both male and female endurance athletes tended to express competitive stress similarly while their stress management preferences varied greatly, gender had no important influence on anxiety level and perceived threat types, as we concluded in our study. However, it was found that they had different perceptions about the control of perceived threats and different profiles about how to compete with stressors (Hammermeister, Burton, 2004).

Although there are several studies supporting our results in literature, there are also some studies having come to different conclusions from those of

ours. For instance, in a study searching the relation between traumatophobia and gender, age and level of professionalism in Italian gymnasts, the researchers found that male gymnasts had lower anxiety level with respect to female ones (Cartoni, Minganti, Zelli,2005). Similarly, in a study in which the effect of achievement goals and gender on multidimensional anxiety in elite international athletes was studied, female athletes were observed to have more performance anxiety, concentration impairment and physical anxiety than the male ones. (Abrahamsen, Roberts, Pensgaard, 2008). In another study which was made to investigateoptimism, pessimism and precompetition anxiety in college students, predicted pre-competition anxiety level in females was observed to be significantly higher than that of in males (Wilson, Raglin, Pritchard, 2002). There are many studies stating that females have higher anxiety level in our country as well. For example,in the study aimed to determine the relation between competition anxiety and performance in male and female college basketballers, female athletes were observed to have higher anxiety scores compared to the male athletes (Özerkan, 2013). In another studyaiming todetermine the state and trait anxiety levels of the athletes taking part in intercollegiate premier basketball league competitions,asignificant difference was observed between the genders in terms of state anxiety levels and this difference was caused by females' having higher anxiety scores than male athletes (Dönmez, 2013). In another study searching the anxiety level of Physical Education teachers in Batman in terms of several factors, it was concluded that female teachers had relatively higher trait anxiety scores with respect to the male teachers (Taşgın, Tekin, Altınok, 2007). According to another study whose aim was to determinethe anxiety and physical perception of female footballers and the relation between these two concepts, the average anxiety level of female athletes was higher than the average score in literature. However, this difference was explained by the fact that it was nearly the end of the league and the players had some wonder about their position in the score table (Aşçı, Kin, 1998).

Although there are several studies which state that female athletes relatively have more anxiety, anxiety parameter is affected by such factors as the age, type of exercise or sport, date of competition and self-confidence (Çağlar, 2014; Aşçı, Gökmen, 1995; Terzioğlu, 2013; Lök, İnce, Lök, 2008; Jones, Swain, Cale, 1991; Bartholomew, Linder, 1998). Just because of this, there are several studies in which male athletes were observed to have high anxiety level. For instance, in a study carried out to compare the state and trait anxiety level and determine the effects of different factors on the

state and trait anxiety level in male soccer players aged 13-15, it was observed that they had high anxiety level (Karabulut, Atasoy, Kazım, et al., 2013). Likewise, in a study carried out on only male athletes, changes in pre-competition state and trait anxiety level of male players in U-20 and U-16 national handball teams were studied and it was concluded that while the trait anxiety level of U-20 players decreased as competition time approached, the state anxiety level of U-16 players increased as competition time approached (Çağlar, 2014). In another study in which the state and trait anxiety levels of folk dancers from Erzincan were studied, gender was observed to have a significant effect on pre-competition stateanxiety level because male dancers had higher scores compared to female ones.However, no significant difference wasobserved in post-competition state and trait anxiety levels between the groups (Terzioğlu, 2013). Another similar study related to the pre-competition anxiety level of folk dancers founded similar results and stated that male dancers had significantly higher precompetition state anxiety scores, which means gender has an effect on anxiety level (Hacıcaferoğlu, Hacıcaferoğlu, Seçer, 2015).

In a study which was made to determine the effect of gender difference on the things that emerges before pre-competition temporary patterning, anxiety and self-confidence, males didn't have any change in their cognitive anxiety level towards competition time while female athletes had a gradual increase in their cognitive anxiety level as competition time approached.As for somatic anxiety level,only the increases that took place on competition day showed the same patterning in both male and female athletes (Jones, Swain, Cale, 1991).

In another study in which state anxiety level following resistance exercise was investigated in terms of gender and exercise intensity, 2 different applications were performed.After the first application, female athletes reported no increase in their anxiety level but male athletes reported that there was an increase in their anxiety level following mild or heavy exercises but decrease following gentle exercises.In order to verify the effect of exercise intensity on anxiety level, the application was performed once more and this time both male and female athletes reported an increase in their anxiety level following heavy exercises but decrease following gentle exercises (Bortholomew, Linder, 1998).

As we see from the above mentioned studies, there are several studies which resulted in high level of anxiety in both male and female athletes.However, these results were affected from such different factors as personality and age of the

athletes,approaching competition time and type of exercise.In our study, the athletes were interviewed in rested state, not just before or after a competition.The age ranges of both the male and female athletes were the same.In spite of difference in their branch of sports, both groups competed in amateur clubs.All these factors are thought to have affected the final outcome that there is no significant difference between males and females in terms of anxiety.

Conculusions

As a conclusion, we caninfer that gender has no significant effect on state and trait anxiety level in amateur athletes when they are in rested state. In order to determine the effect of gender on state and trait anxiety level better, it is necessary that a larger sample group should be studied in different periods of time.

Acknowledgments

References

Abrahamsen FE, Roberts GC, Pensgaard AM, 2008, Achievement goals and gender effects on multidimensional anxiety in national elite sport. Psychology of Sport and Exercise, 9(4), 449-464.

Arslanoğlu E, Tekin M, Arslanoğlu C, Özmutlu İ, 2010, Voleybol hakemlerinin çeşitli değişkenlere göre kaygı ve temel psikolojik ihtiyaç düzeylerinin incelenmesi. Uluslararası İnsan Bilimleri Dergisi, 7(2), 985-995 (in Turkey).

Aşçı FH, 2009, Sex differences in psychological effects of exercise. International Journal of Psychology, 44(4), 313-320.

Aşçı FH, Gökmen H, 1995, Bayan hentbolcularda yarışma kaygısı, başarı, spor deneyimi ve atletik yeterlilik ilişkisi. Spor Bilimleri Dergisi: Hacettepe Üniversitesi, 6(2), 38-47(in Turkey).

Aşçı FH, Kin A, 1998, Bayan futbolcularda kaygı ve kendini fiziksel algılama düzeyi. Spor Bilimleri Dergisi: Hacettepe Üniversitesi, 9(3), 03-10 (in Turkey).

Bartholomew J,B, Linder D,E, 1998, State anxiety following resistance exercise: The role of gender and exercise intensity. Journal of Behavioral Medicine, 21(2), 205-219.

Bingöl H, Çoban B, Bingöl Ş, Gündoğdu C, 2012, Üniversitelerde öğrenim gören taekwondo milli takım sporcularının maç öncesi kaygı düzeylerinin belirlenmesi. Selçuk Üniversitesi. Beden Eğitimi ve Spor Bilimleri Dergisi, 14(1), 121-125 (in Turkey).

Cartoni AC, Minganti C, Zelli A, 2005, Gender, age, and professional-level differences in the psychological correlates of fear of injury in İtalian gymnasts. Journal of Sport Behavior, 28(1).

Civan A, Arı R, Görücü A, Özdemir M, 2010, Bireysel ve takım sporcularının müsabaka öncesi ve sonrası durumluk ve sürekli kaygı düzeylerinin karşılaştırılması. Uluslararası İnsan Bilimleri Dergisi, 7(1), 193-206 (in Turkey).

Civan A, Özdemir İ, Taş İ, Çelik A, 2012, Bedensel engelli ve engelli olmayan tenis sporcularının durumluk ve sürekli kaygı düzeylerinin karşılaştırılması. Selçuk Üniversitesi Beden Eğitimi ve Spor Bilim Dergisi,14(1), 83-87 (in Turkey).

Çağlar E, 2014, Genç ve Yıldız Hentbol Milli Takımında Bulunan Erkek Sporcuların Kaygı Düzeylerinin Zaman İçindeki Değişimleri. CBÜ Beden Eğitimi ve Spor Bilimleri Dergisi, 3(3) (in Turkey).

Dönmez KH, 2013, Samsun ilinde yapılan üniversitelerarası basketbol müsabakalarına katılan sporcuların durumluk kaygı ve sürekli kaygı düzeylerinin incelenmesi.The Journal of Academic Social Science Studies.6:5 ss. 243-248 (in Turkey).

Engür M, 2002, Elit sporcularda başarı motivasyonun, durumluk kaygı düzeyleri üzerine etkisi (Doctoral dissertation, Ege Üniversitesi) (in Turkey).

Feher P, Meyers MC, Skelly WA, 1998, Psychological profile of rock climbers: state and trait attributes. Journal of Sport Behavior, 21(2), 167.

Hacıcaferoğlu S, Hacıcaferoğlu B, Seçer M, 2015 Halk oyunları branşına katılan sporcuların yarışma öncesi kaygı düzeylerinin bazı değişkenler açısından incelenmesi. International Journal of Science Culture and Sport (IntJSCS), 3(4), 288-297.

Hammermeister J, Burton D, 2004, Gender differences in coping with endurance sport stress: Are men from Mars and women from Venus?.Journal of Sport Behavior, 27(2), 148.

Humara M, 1999, The relationship between anxiety and performance: A cognitive-behavioral perspective. Athletic Insight, 1(2), 1-14.

Jones G, Swain A, Cale A, 1991, Gender Differences in Precompetition Temporal Patterning and Antecedents of Anxiety and Self-Confidence. Journal of Sport Exercise Psychology, 13 (1).

Karabulut EO, Atasoy M, Kazım KAYA, Karabulut A, 2013, 13-15 yaş arası erkek futbolcuların durumluk ve sürekli kaygı düzeylerinin farklı değişkenler bakımından incelenmesi. Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 14(1) ss, 243-253 (in Turkey).

Kuru E, 2000, Sporda psikoloji. Gazi Üniversitesi İletişim Fakültesi Basımevi:s.82-83, Ankara (in Turkey).

Lök S, İnce A, Lök N, 2008, Beden eğitimi spor yüksekokulu özel yetenek sınavına girecek adayların kaygı durumlarının bazı değişkenler açısından incelenmesi. Beden Eğitimi ve Spor Bilimleri Dergisi, 2(2). ss. 121-130 (in Turkey).

Nacar E, Açak M, Karahüseyinoğlu MF, 2011, Hentbolcuların sürekli kaygı düzeylerinin bazı değişkenler açısından araştırılması. NWSA: Sports Sciences, 6(1), 1-12.

Öner N, Le Compte A, 1985, (Süreksiz) Durumluk-Sürekli Kaygı Envanteri Elkitabı. İstanbul: Boğaziçi üniversitesi Yayınları: 153–163(in Turkey).

Özerkan KN, 2013, Üniversiteli basketbolcularda yarışma öncesi kaygı düzeyi ile performans arasındaki ilişki. Spor Bilimleri Dergisi, 3.(in Turkey).

Smith T, 1983, Competition trait anxiety in youth sport: differences according to age, sex, race and playing status. Perceptual and motor skills, 57(3f), 1235-1238.

Spielberger CD, Gorsuch R,L, & Lushene R,E, 1970, Manualfor the State-Trait Anxiety Inventory(Self-evaluation questionnaire). Palo Alto, CA:Consulting Psychologists Press.

Taşğın Ö, Tekin M, Altınok E, 2007, Beden eğitimi öğretmenlerinin çeşitli değişkenler açısından kaygı düzeylerinin incelenmesi (batman il örneği). Journal of Physical Education and Sport Sciences, 9(4) ss. 12-20 (in Turkey).

Terzioğlu EA, 2013, Halk oyunları oynayanların durumluk ve sürekli kaygı düzeyleri (Erzincan yöresi örneği). Erzincan Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 6(2), 361-370 (in Turkey).

Wilson GS, Raglin JS, Pritchard ME, 2002, Optimism, pessimism, and precompetition anxiety in college athletes. Personality and Individual Differences, 32(5), 893-902.