

IDENTIFICATION OF FACTORS AFFECTING ANXIETY IN ELITE SPORTSMEN

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Abstract

The purpose of this study was to determine the anxiety the triathlon sportsmen of national teams experience before competitions and the factors that affect this kind of anxiety. This descriptive study was carried out with the voluntary participation of 104 sportsmen who participated in the Istanbul European Cup, Elazığ Balkan Grand Prix and Alanya World Cup in 2014. The data collection instrument was an interview questionnaire developed by the researchers, and the Cronbach alpha of the questions was 0.77. The data were analyzed with a statistical program, and independent samples t-test and ANOVA were used. According to the data, the following findings were identified: the sportsmen of the Turkish national team felt pre-competition anxiety more than the sportsmen of foreign national teams. The female sportsmen experienced the physical symptoms of anxiety more. The younger sportsmen felt more anxious about the fact that they were not going to perform well in the competition. The anxiety of making mistakes decreased with age. Those whose sporting age was lower felt more anxious for not performing well and for making mistakes.

Keywords: Anxiety, anxiety factors, elite sportsmen, triathlon

Elit Sporcuların Kaygı Durumlarını Etkileyen Faktörlerin Belirlenmesi

Özet

Bu araştırma Milli takımlar düzeyinde triatlon sporu yapan performans sporcularının müsabaka öncesi yaşadıkları kaygıyı ve bu kaygıyı etkileyen faktörleri belirlemek amacıyla yapılmıştır. Tanımlayıcı tipteki bu araştırma 2014 yılında İstanbul Avrupa Kupası, Elazığ Balkan Grand Prix ve Alanya Dünya Kupası'na katılan ve gönüllü olarak araştırmaya katılmayı kabul eden 104 sporcuyla yürütülmüştür. Veri toplama aracı olarak araştırmacılar tarafından oluşturulan anket formu kullanılmış ve soruların Cronbach alfa değeri 0.77 olarak belirlenmiştir. Veriler istatistik paket programında değerlendirilmiş, analizde bağımsız gruplarda t testi ve ANOVA kullanılmıştır. Araştırma verilerine göre yarışma öncesi Türk milli takım sporcularının yabancı milli takım sporcularına göre yarışma öncesi kaygıyı daha fazla hissettikleri, kaygının fiziksel belirtilerini bayan sporcuların daha çok yaşadığı, genç kategorisindeki sporcuların yarışmada iyi bir performans gösteremeyecekleri konusunda diğer yaş gruplarına göre daha çok endişe duydukları, sporcularda yaşın ilerlemesiyle birlikte hata yapma endişesinin azaldığı, spor yaşı az olan sporcuların yarışmada iyi bir performans gösteremeyeceklerinden ve hata yapmaktan daha çok endişe duydukları belirlenmiştir.

Anahtar kelimeler: Kaygı, kaygı düzeyi, elit sporcu, triatlon

Introduction

Anxiety is defined as a subjective sense of worry felt towards an object (Gökçe and Dündar, 2008). Experienced at times by every individual in certain periods of his/her life, anxiety is an irritating emotion of fear, often associated with physiological symptoms, threatening life or perceived as a threat. With the help of this feeling, the basic aim of which is to survive and to ensure the development of adaptive behavior, such behaviors as avoiding unknown, new or dangerous stimulus and coping are performed (Kaplan et.al.,2007). The kind of anxiety that appears when faced with a dangerous, unwanted situation is defined as state-anxiety, while the anxiety which is present even when there is no any objective reason, and/or which is disproportionately long-term and severe even when such a reason exists is called trait anxiety (Ocaktan et.al., 2002). Such physiological symptoms as increase in blood-pressure, faster heart-beats, tenser muscles, dry mouth, feelings nausea and vomit are observed in a case of anxiety. These symptoms indicate that the body is in a kind of appraisal for fighting against or escaping from a perceived threat (Öztürk and Uluşahin, 2011). This reaction, which is generally perceived as if something bad will happen in the future, and which is shown by individuals in cases in which they feel themselves unsafe, is an indicator of such emotions as worry about the future, being undetermined, chaos, fear, pessimism and dismay; thus it may lead to individual's failure in life (Deveci et.al., 2012).

One of the most important psychological factors affecting performance in sports is anxiety. Severe anxiety may cause sportsmen to forget some techniques they know for sure and apply in the trainings many times, and it may also lead to emotional conflict (Civan et.al., 2010). Furthermore, anxiety might affect sportsmen' ability to make accurate decisions. Accordingly, as the level of anxiety increases, sportsmen get away from performing their real skills (Karabulut et.al., 2013).

The anxiety caused by competitions depends on how sportsmen assess their ability. For, this kind of an assessment determines the intensity of anxiety experienced by sportsmen (Çağlar, 1999). A high level of anxiety could negatively affect the performance in and the result of the competition. It is thought that anxiety is higher especially in those doing individual sports compared to those doing team-sports (Civan et.al., 2010).

Triathlon is relatively a new branch of sports which involves the synchronous performance of three different kinds of sports one after another. It is different from athletics which is considered as the closest branch to it for its physical features. For, it also involves a main branch like swimming, and cycling. Moreover, while scoring is important in such sports as Decathlon, Pentathlon and Heptathlon, which are branches of athletics, racing against time is essential in triathlon. Another difference is that unlike these sports, triathlon is a sports which lasts from start to finish. The branches of Triathlon which are accepted in the Olympic Games are Swimming-Cycling-Running respectively. The Triathlon competitions include Sprint-short competition (Swimming 750m, Cycling 20 km, Running 5 km), Olympic (1500 m swimming, 40 km cycling, 10 km running) and Ironman competitions (3800 m swimming, 180 km cycling and 42 km 195 m running) (www.triatlon.org.tr).

This study was conducted in order to identify the triathletes' pre-competition anxiety and factors affecting this anxiety.

Materials and Methods

This descriptive study was carried out with the voluntary participation of 104 (79 foreign, 25 Turkish) sportsmen from the national teams of Turkey, Macedonia, Romania, Bulgaria, France, Australia, Egypt, Italy, Serbia, New Zealand, Hungary, Slovakia, Germany, Israel, Switzerland, Ireland and Portugal participating in such competitions as Istanbul European Cup, Elazığ Balkan Grand Prix and Alanya World Cup which were within the international activity program of the Turkish Federation of Triathlon in 2014. The data collection instrument was an interview questionnaire developed by the researchers, and the questionnaire consisted personal information questions and statements measuring anxiety. The validity and reliability of the questionnaire was conducted, and the Cronbach alpha value of it was calculated as 0.77. The questionnaire was used in Turkish for the native sportsmen, and in English for the foreign sportsmen. Such questions as age, gender, duration of doing sports, smoking and use of alcohol, and training information were addressed in order to get personal information of the sportsmen. The statements prepared to measure the pre-competition anxiety include anxiety symptoms, and they question how often sportsmen experience these symptoms. To this end, the sportsmen in this study were asked to circle one of these frequency expressions: “rarely”, “sometimes” and “often”. These expressions were scored from 1 to 3 respectively. The mean scores were calculated for each anxiety symptom, and were given with standard deviations. The data were analyzed with a statistical program, and the results were given as frequency, percentage and mean; the independent samples t-test and ANOVA techniques were also used.

Results

The age mean of the elite sportsmen in the study was identified as 19.2 ± 6.3 . The distribution of the other demographic features of the sportsmen is given in Table 1.

Table 1. Demographic Features of the Elite Triathlon Sportsmen

Features	N	%
Gender		
Female	55	52.9
Male	49	47.1
Age		
13-15 years	30	28.8
16-19 years	38	36.5
20 years and over	36	34.6
Education		
Secondary School	14	13.5
High School	69	66.4
University	21	20.1
Origin		
Turkish sportsmen	25	24.1
Foreign sportsmen	79	75.9
Total	104	100.0

52.9 % of the triathletes participated in the study is female, 36.5 % of them is within the age group of 16-19 years, 66.4 % is high-school graduate, and 75.9 % of them consists foreign sportsmen (Table 1).

Table 2. Healthy Living Habits of the Elite triathlon sportsmen

Health Habits	N	%
Smoking		
Yes	0	0.0
No	104	100.0
Alcohol Consumption		
Yes	14	16.4
No	87	83.6
Satisfactory Sleep		
Always	41	38.5
Sometimes	63	61.5
Healthy Diet		
Always	30	28.9
Sometimes	66	63.4
Never	8	7.7
Nutritional Supplements		
Yes	16	15.4
No	88	84.6
Total	104	100.0

When Table 2 is examined, it can be understood that all of the triathletes (104 sportsmen) are non-smokers; 83.6 % of them (87 sportsmen) does not use alcohol; 61.5 % (63 sportsmen) sometimes has satisfactory sleep; 63.4 % of them (66 sportsmen) reports they sometimes has a healthy and balanced diet; and 84.6 % (88 sportsmen) does not use any supplementary nutrients.

Table 3. Training Features of the Elite triathlon sportsmen

Training Features	N	%
Duration of Sporting		
1-4 years	54	51.9
5-8 years	34	32.7
9 years and over	16	15.4
Frequency of Training		
1-4 days a Week	2	1.9
5-7 days a Week	102	98.1
Duration of Training Period		
60-90 minutes	25	24.0
91-120 minutes	68	65.4
121 minutes and over	11	10.6
Total	104	100.0

51.9 % of the sportsmen states that they have been professionally doing sports for 1-4 years; nearly all of them (98.1 %) do training 5-7 times a week, 65.4 % of them does 90-120 minutes on average training for each training session (Table 3).

Table 4. The Elite triathletes' anxiety in terms of origin and gender

Anxiety Statements	Origin			Gender		
	Turkish Sportsmen Mean±SD	Foreign Sportsmen Mean±SD	P value	Female Sportsmen Mean±SD	Male Sportsmen Mean±SD	P value
I feel uneasy before a competition	1.8±0.7	1.8±0.5	0.554	1.9±0.6	1.7±0.6	0.162
I am anxious about not performing well before a competition	1.7±0.7	1.6±0.6	0.619	1.6±0.7	1.7±0.6	0.470
I worry about making mistakes during a competition	1.6±0.8	1.9±0.8	0.230	1.8±0.9	1.8±0.8	0.975
I have calmness before a competition	2.2±0.7	1.8±0.6	0.018	1.9±0.7	1.8±0.7	0.824
I have a feeling of nausea before a competition	1.8±0.8	1.9±0.7	0.657	2.1±0.6	1.7±0.7	0.005
I realize that I have a faster than normal heart-beat right before a competition	2.3±0.7	2.1±0.7	0.179	2.2±0.8	1.8±0.6	0.019
I am generally nervous before a competition	1.6±0.8	1.9±0.8	0.014	1.9±0.8	1.8±0.7	0.329
I generally get tense before a competition	2.2±0.7	1.9±0.7	0.149	2.1±0.7	1.9±0.7	0.258

When we examine the triathletes' anxiety in terms of their origin of country, it is seen that the Turkish sportsmen' mean score of the statement "I have calmness before a competition" is significantly higher ($p < 0.05$, Table 4). Another significance can be seen in the statement "I am generally nervous before a competition". The foreign sportsmen significantly state that they are more nervous before competitions ($p < 0.05$, Table 4). In terms of gender, the female sportsmen' mean scores of the statements "I have a feeling of nausea before a competition" and "I realize that I have a faster than normal heart-beat right before a competition" are significantly higher ($p < 0.05$, Table 4).

Table 5. The Elite triathletes' anxiety in terms of age groups

Anxiety Statements	Age Groups			P value
	13-15 years	16-19 years	20 years and over	
	Mean±SD	Mean±SD	Mean±SD	
I feel uneasy before a competition	1.9±0.6	1.8±0.7	1.7±0.5	0.553
I am anxious about not performing well before a competition	1.5±0.6	2.0±0.5*	1.4±0.5	0.000
I worry about making mistakes during a competition	2.0±0.8	2.2±0.8	1.3±0.4*	0.000
I have calmness before a competition	1.8±0.8	2.0±0.7	1.9±0.6	0.499
I have a feeling of nausea before a competition	1.9±0.8	1.9±0.7	1.7±0.5	0.333
I realize that I have a faster than normal heart-beat right before a competition	2.2±0.7	2.0±0.7	2.1±0.6	0.501
I am generally nervous before a competition	1.5±0.7*	2.0±0.7	2.1±0.7	0.007
I generally get tense before a competition	2.3±0.6*	1.8±0.7	1.9±0.6	0.015

On examining the triathletes' anxiety in terms of age groups, it is observed that the mean score of the statement "I am anxious about not performing well before a competition" is significantly higher in younger sportsmen ($p < 0.05$) thus they experience this anxiety more often compared to other age groups. The mean score of the statement "I worry about making mistakes during a competition" is the lowest in the age group of 20 years and over ($p < 0.05$) and this difference is significant. In the statement "I am generally nervous before a competition" the lowest mean score belongs to the age group of 13-15 years ($p < 0.05$, Table 5).

Table 6. The Elite triathletes' anxiety in terms of their duration of sporting (sporting age)

Anxiety Statements	Duration of Sporting			P value
	1-4 years	5-8 years	≥ 9 years	
	Mean±SD	Mean±SD	Mean±SD	
I feel uneasy before a competition	1.8±0.5	1.7±0.6	1.9±0.7	0.522
I am anxious about not performing well before a competition	2.1±0.6*	1.5±0.6	1.7±0.5	0.020
I worry about making mistakes during a competition	2.3±0.7*	1.7±0.7	1.7±0.8	0.010
I have calmness before a competition	1.8±0.7	1.9±0.7	2.2±0.5	0.180
I have a feeling of nausea before a competition	1.9±0.8	1.9±0.7	1.6±0.6	0.260
I realize that I have a faster than normal heart-beat right before a competition	2.3±0.6	2.1±0.6	1.4±0.5*	0.000
I am generally nervous before a competition	1.8±0.6	1.8±0.8	2.3±0.8	0.105
I generally get tense before a competition	1.9±0.6	2.1±0.7	2.0±0.8	0.858

As to the elite sportsmen' anxiety in terms of the duration of sporting, the mean score of the statement "I realize that I have a faster than normal heart-beat right before a competition" is significantly the lowest in those doing sports for 9 years and over ($p < 0.05$, Table 6). The mean scores of the sportsmen whose sporting age is 1-4 years for the statements "I am anxious about not performing well before a competition" and "I worry about making mistakes during a competition" significantly high ($p < 0.05$, Table 6).

Discussion

The mean age of the elite sportsmen participating in the study was found to be 19.2 ± 6.3 . When the other studies are analyzed it is seen that the mean age is 20.3 ± 1.6 in a study in the USA, 23 ± 5 in a study in Serbia, and 24.1 ± 5.1 in an Australian study (Galli et.al., 2014; Mazic et.al., 2015; Juliff et.al., 2015). Accordingly, the elite triathletes in our study are from a younger age-group.

The majority of the triathletes participating in this study are females (52.9%) (Table 1). In Overbye et al.'s study, the rate of the elite female sportsmen is 49.0%, in Chin et al.'s study this rate is 44.8%, and in Shanmugam and Davies's study this rate is 43.7% (Overbye et.al., 2013; Chin et.al., 2009; Shanmugam and Davies, 2015). Accordingly, it can be said that more female sportsmen participated in our study.

When the smoking habit of the elite sportsmen is analyzed, it was identified that the total of them were non-smokers (Table 2). When the other studies in this regard are analyzed, in Spanoudaki et al. (2005)'s study on Greek athletes, the rate of the smoking habit among the

athletes is 10.4 %. In Saygın et al. (2009)'s study, the 25.4 % of the professional footballers are active smokers. As a different study group, in Gündoğdu (2012)'s study which he conducted on Physical Education Teachers, the rate of the smokers is 65.1%, and in Gündoğdu and Oğuzöncül (2013)'s another study, this rate is 65.2%.

In our study the rate of alcohol using among elite sportsmen was found as 16.4 % (Table 2). In Saygın et al. (2009)'s study the rate of alcohol use in professional footballers was identified as 42.1%. In Buğdaycı et al. (2003)'s study which they conducted among Physical Education undergraduate students, this rate was identified as 45.4%.

When the dieting habits were asked, the 28.9 % of the elite sportsmen stated that they always had healthy and balanced diet (Table 2). In Güven et al. (2009)'s study, the 56.2% of the athletes said that they had three meals a day while the 50% of them told that they didn't skip their meals.

The 61.5 % of the elite sportsmen in the study replied the question "Do you sleep enough?" as "sometimes" (Table 2), in Juliff et al. (2015)'s study, the 64% of the elite sportsmen stated that they slept badly because of at least a reason causing pre-competition anxiety in the recent year.

The 15.4 % of the national team Sportsmen in the study said that they used food supplements (Table 2). When the other studies in this regard are analyzed, in Kiertscher and Dimarco (2013)'s study, it is identified that the 41% of the athletes had food supplements; in Saygın et al. (2009)'s study, the 55.8% of the professional sportsmen had food supplements regularly; in a pilot study by Mazanov et al. (2008) on high-performance sportsmen, the rate of the sportsmen using food supplement was 60.8%.

The 51.9% of the elite sportsmen in the study stated that they had been dealing with sports professionally for 1- 4 years (Table 3). In Juliff et al. (2015)'s study, the sporting-age of the elite sportsmen was 11 ± 6 years, in Gacar and Coşkuner (2010)'s study, the 31.5% of the sportsmen stated that they had been certified sportsmen for 1-3 years. In Vardar et al. (2005)'s study, the sporting-age of the sportsmen was found as 6.7 ± 3.1 .

The great majority of the sportsmen (65.4 %) said that each of the training periods lasted 91-120 minutes (Table3). In Yılmaz et al. (2014)'s study, it was found that the sportsmen did sports 9.49 ± 3.62 hours a week.

According to the data of the study, when the anxiety of the triathletes is examined (Table 4), in the statement "I am calm before the competition", the mean score of the Turkish sportsmen is significantly high. This statement is scored reversely and it means that Turkish sportsmen are rarely calm before the competition. In Bayraktar et al.'s study on referees, it was concluded that the national referees are more anxious than the international referees.

According to the data of the study, the female sportsmen' mean scores of the statements including physical symptoms of anxiety "I have a feeling of nausea before a competition" and "I realize that I have a faster than normal heart-beat right before a competition" are significantly higher than those of the male sportsmen' (Table 4). These findings show that female sportsmen experience the physical symptoms of anxiety more often. In Nacar et al. (2011)'s study, the female sportsmen' level of anxiety was found to be higher than that of the male sportsmen', though this difference was not significant. In Civan et al. (2010)'s study, it was concluded that gender did not show any significance on the level of anxiety.

As to the elite sportsmen' anxiety in terms of their age groups (Table 5), the mean score of the statement "I am anxious about not performing well before a competition" is the highest in the age group of 16-19 years. In the statement "I worry about making mistakes during a competition", the lowest mean score belongs to the age group of 20 years and over. It can be suggested that with an increase in the age there is also an increase in vocational experience, thus a worry about making mistakes is experienced less. In the statement "I am generally nervous before a competition" the lowest mean score belongs to the age group of 13-15 years. In Gacar and Coşkuner (2010)'s study, it was also found that with an increase in age there was a decrease in the level of anxiety. In Civan et al. (2010)'s study, no significant difference was found in the level of anxiety among the age groups. In Türkçapar (2012)'s study, the level of anxiety did not show any significance in terms of age groups.

As for the elite sportsmen' anxiety in terms of their sporting age, those having the least experience in sports (1-4 years) feel more anxious about not performing well and making mistakes before the competition (Table 6). In Nacar et al. (2011)'s study, the sporting age did not show any significance on anxiety.

As a conclusion, it was found that the sportsmen of the Turkish national team felt pre-competition anxiety more than the sportsmen of foreign national teams, the female sportsmen experienced the physical symptoms of anxiety more, the younger sportsmen felt more anxious about the fact that they were not going to perform well in the competition. The anxiety of making mistakes decreased with age. Those whose sporting age was lower felt more anxious for not performing well and for making mistakes.

In parallel with these findings, it can be suggested that the trainers should be aware of anxiety and negative effects it causes, and accordingly train their sportsmen; should specify the factors that lead to anxiety by considering such agents as age, gender, sporting-age of sportsmen having impacts on anxiety; and should conduct activities prepared to resolve these problems, and they should lead sportsmen in coping with anxiety.

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