

## A Comparison of the Pre-Competition and Post-Competition Anxiety Levels of Taekwondo Athletes

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**Abstract:** A total of 468 taekwondo athletes, 231 females and 237 males, in the adult category, who had participated in the 2012 Turkish Taekwondo Championship; with an average age of 20.91 years (Sd=3.66) participated in the present research for the comparison of the pre-competition and post-competition anxiety levels of taekwondo athletes. The research was conducted using the survey technique of data collection and the competitive state anxiety inventory-2 (CSAI-2) (Martens, Burton, Vealey, Bump and Smith 1982) and it was used in the present research to measure the anxiety levels of the sportspeople. The Turkish implementation of the inventory was performed by Koroç (1998). Statistically significant difference cannot be found between the inventory scores of females and males who participated in the research according to their genders ( $P>0.05$ ). Whether there was a significant difference between the inventory scores of sportspeople according to their ages was tested by one-way analysis of variance, and a statistically significant difference was found between the self-assessment scores of the taekwondo athletes measured 1 day before according to their ages ( $P<0.05$ ). A significant difference was not found between the self-assessment scores of athletes measured 1 day before according to their sports ages ( $p>0.05$ ). Consequently, it was observed that the cognitive and somatic anxiety scores of taekwondo athletes increased and their self-confidence scores decreased as the competition drew closer. After the competition, it was detected that the cognitive and somatic anxiety scores decreased and self-confidence scores increased. The anxiety levels of the taekwondo athletes increased just before the competition, but a decrease in anxiety was observed after the competition. Pre-competition and post-competition anxiety levels were found to have an effect on the success of the athletes. All in all, it was observed that the state anxiety measured by CSAI-2 showed pre-competition and post-competition changes and there was a change in anxiety cognition.

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**Key Words:** Taekwondo, Competition, State Anxiety, Cognitive Anxiety, Somatic Anxiety, Self-Confidence

### Introduction

One of the most interesting aspects of sport psychology literature is competition anxiety, which is also one of the important psychological factors in respect of sports performance, and it is accepted that anxiety has a strong influence on performance (Gould, Horn and Spreeman, 1993).

It is clearly accepted nowadays that good physical training for a sportsperson alone cannot increase the performance level. Not reaching the appropriate level of motivation leads the athlete to experience problems in locomotive coordination, difficulty in action, and to give a poor performance (Harris and Williams, 1993).

Sport scientists work hard to improve sportive performance. They search for new training principles and continue to seek ways to make provisions for athlete to reach high performance levels. All such research revealed that the perfection of the physical capacity alone was not sufficient for sport performance, and that psychological capacity was an important factor (Akarçesme, Koroç and Yılmaz, 2004).

Performance is not only a physical quality but also a psychological process. An athlete knows that if he/she loses a competition, he/she will experience an economic loss as well as a loss in fame. As a result, he/she has to display performance under the pressure of feeling anxious in each competition (Akarçesme, Koroç and Yılmaz, 2004).

Anshell (1994) defines anxiety as a multilateral internal process consisting of physiological and behavioral reactions as well as a cognitive or emotional impact of subjective fear, tension, nervousness, excitement, the perceived threat and inducement felt following the increase in activity of the sympathetic nervous system of an individual in various periods of time. Spielberg (1989) examines anxiety in their state and continuity dimensions, and defines this as a temporary fear and tension feeling experienced under certain circumstances and emphasizes that it is effective in a sports environment. Continuous anxiety is dealt with as a personality trait and characterized as a permanent emotional state.

The determination of the cognitive and somatic anxiety and self-confidence change in the

pre-competition closing timeframe which was experienced by the sportsperson in the sportive environment, and what kind of differences occur in the post-competition period, is considered to be an important subject by both researchers and practitioners.

Anxiety may affect the right decision taking skills of athlete in behaviors negatively. The more the anxiety level increases, the less the athlete makes the right decision and performs to his/her abilities. Athlete under high pressure may take some wrong actions. Extreme anxiety may cause an athlete to forget some well-known actions that have been repeated many times in training, and in addition may lead to some negative actions by causing emotional confusion.

Considering the severe anxiety and stress felt by athlete before or during the competition, uncontrollable anxiety states can negatively affect the performances of athlete and lead to failure. Therefore, knowing the anxiety levels of athlete and the causes of the anxiety is clearly very important for athlete and the trainers who will attempt to overcome it.

The purpose of the present study is to determine what kinds of changes are experienced by taekwondo athletes in their competition anxiety and cognition (cognitive anxiety, somatic anxiety and self-confidence levels) 1 day, 1 hour before and 1 hour after the competition.

#### MATERIAL AND METHODS

A total of 468 taekwondo athletes, 231 females and 237 males from the adult category, who had participated in the 2011-2012 Turkish Taekwondo Championship, with an average age of 20.91 years, (Sd=3.66) participated in the research.

#### FINDINGS

**Table 1.** An examination of the differences between the scale scores of taekwondo athletes according to their genders.

	Sex	N	Average	Std. Deviation	t	Sd	P
1 Day Before	Male	236	2.22	0.34	-2.082	465	0.038*
	Female	231	2.30	0.40			
1 Hour Before	Male	236	2.24	0.32	0.109	465	0.913
	Female	231	2.24	0.34			
1 Hour After	Male	236	2.25	0.31	-0.570	465	0.569
	Female	231	2.27	0.32			

Whether there was a significant difference between the scale scores of taekwondo athletes according to their genders was tested by t test for independent samples, and the self-assessment score ( $x=2.30$ ) of athlete measured 1 day before was found to be higher than that of sportsmen. The self-assessment score which was measured 1 day before

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In the research, the competitive state anxiety inventory-2 (CSAI-2) which was developed by Martens, Burton, Vealey, Bump and Smith (1982) was used for determining anxiety levels and a personal information form was used for collecting information from the participants. The Turkish implementation of the inventory was conducted by Koruç (1998). An anxiety inventory was developed for measuring the feelings of people 1 day, 1 hour before and 1 hour after the competition. The internal consistency of measures taken 1 day, 1 hour before, and 1 hour after the competition with the 27-items ILLNIOS Self-Assessment Inventory was used by sportspeople for defining feelings before the competitions, and this was evaluated by Cronbach's Alpha. It is a Likert type scale comprising 27 items and 1-4 points. The state of anxiety inventory is comprised by 13 positive and 14 negative questions (reverse statements). The total score values are between 27 and 108. A high score means a high anxiety level while a low score means a low anxiety level. It is stated that the Cronbach's Alpha is between 0.60-0.70 and this result is an indicator that the inventory is highly valid.

For the assessment of the data and finding calculated values, the SPSS 16.0 statistical package program was used. Data were summarized by giving average and standard deviation. T test and One-Way ANOVA tests which were matched from parametric tests according to test of normality were used. Also, Tamhane and Tukey tests from Post Hoc Multiple Comparisons tests were used according to the variance homogeneity. The error level was detected as 0.05 in the study.

became different statistically according to the genders of athlete ( $p<0.05$ ).

The self-assessment score ( $x=2.24$ ) of female taekwondo athletes which was measured 1 hour before was found to be a little higher than that of the male taekwondo athletes. However, the self-assessment score which was measured 1 hour before

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became different statistically according to the genders of the athlete ( $p>0.05$ ).

The self-assessment score ( $x=2.27$ ) of female taekwondo athletes which was measured 1 hour after was found to be relatively higher than that of the male

taekwondo athletes. However, the self-assessment score which was measured 1 hour after became statistically different according to the genders of the athlete ( $p>0.05$ ).

**Table 2.** An examination of the differences between the scale scores of taekwondo athletes according to their ages

	Age	N	Average	Std. Deviation	F	P
1 Day Before	14-18	104	2.23	0.42	3.703	0.025*
	19-25	308	2.27	0.34		
	26-37	55	2.13	0.29		
1 Hour Before	14-18	104	2.19	0.31	2.242	0.107
	19-25	308	2.27	0.32		
	26-37	55	2.21	0.38		
1 Hour After	14-18	104	2.24	2.27	1.334	0.264
	19-25	308	2.27	0.33		
	26-37	55	2.19	0.27		

Whether there was a significant difference between the scale scores of the taekwondo athletes according to their ages was tested by one-way variance analysis and the self-assessment score ( $x=2.27$ ) of athlete between 19-25 ages measured 1 day before was found to be higher in respect of the athlete at different ages. A significant statistical difference was found between the self-assessment scores of taekwondo athletes measured 1 day before, according to ages ( $p<0.05$ ). The difference found was between athlete between the ages 19-25 and athlete between the ages 26-45.

The self-assessment score ( $x=2.27$ ) of taekwondo athletes between the ages of 19-25

measured 1 hour before was found to be higher in respect of the athlete at different ages. However, a statistically significant difference was not found between the self-assessment scores which were measured 1 hour before in relation to the ages of the taekwondo athletes ( $p>0.05$ ).

The self-assessment score ( $x=2.27$ ) of taekwondo athletes between the ages 19-25 measured 1 hour after was found to be higher in respect of the athlete at different ages. However, a statistically significant difference was not found between the self-assessment scores which were measured 1 hour before in relation to the ages of the athlete ( $p>0.05$ ).

**Table 3.** An examination of the differences between the scale scores of taekwondo athletes according to sports ages

	Sports Age	N	Average	Std. Deviation	F	P
1 Day Before	1-5	98	2.24	0.34	0.063	0.939
	6-10	214	2.24	0.37		
	11-22	106	2.23	0.30		
1 Hour Before	1-5	98	2.21	0.28	1.151	0.317
	6-10	214	2.27	0.33		
	11-22	106	2.24	0.32		
1 Hour After	1-5	98	2.25	0.34	0.056	0.946
	6-10	114	2.24	0.30		
	11-22	106	2.25	0.32		

Whether there was a significant difference between the scale scores of taekwondo athletes according to sports ages was tested by one-way variance analysis and the self-assessment score ( $x=2.25$ ) of athlete between the sport ages of 6-10 measured 1 day before was found to be higher in respect of the athlete at different ages. However, a statistically significant difference was not found

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between the self-assessment scores which were measured 1 hour before according to the sport ages of taekwondo athletes ( $p>0.05$ ).

The self-assessment score ( $x=2.27$ ) of taekwondo athletes between the sport ages 6-10 measured 1 hour before was found to be higher in respect of the sportspeople at different ages. However, a statistically significant difference was not

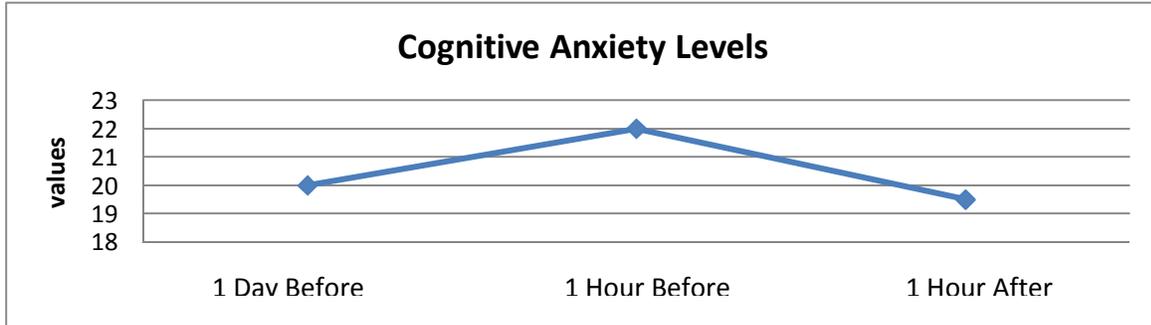
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found between the self-assessment scores which were measured 1 hour before in relation to the ages of the taekwondo athletes ( $p>0.05$ ).

The self-assessment score ( $x=2.255$ ) of taekwondo athletes between the sport ages 11-22 measured 1 hour after was found to be relatively

higher in respect of the athlete at different ages. However, a statistically significant difference was not found between the self-assessment scores which were measured 1 hour before according to the ages of the athlete ( $p>0.05$ ).

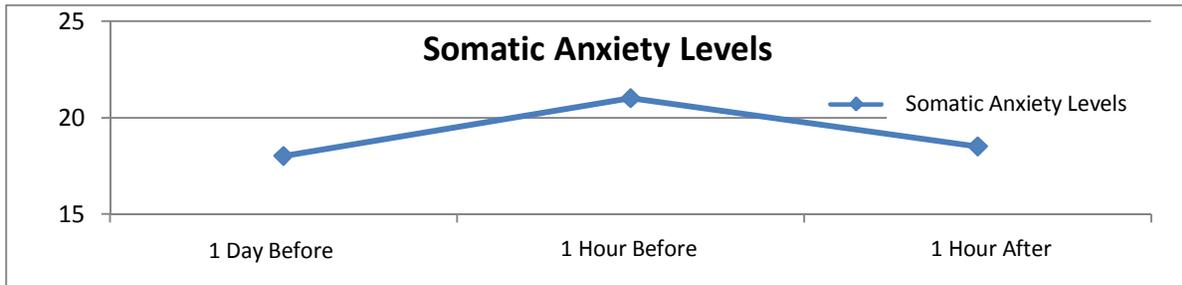
**Graph 1:** Cognitive Anxiety Values of Taekwondo Athletes in the Adult Turkish Championship Competitions



Considering the cognitive anxiety levels of the taekwondo athletes, while the levels were just above average 1 day before the competition, the levels

were seen to increase when the competition got closer, and they decreased to the lowest value 1 hour after the competition.

**Graph 2:** Somatic Anxiety Values of Taekwondo Athletes in the Adults Turkish Championship Competitions



Considering the somatic anxiety values of the taekwondo athletes, somatic anxiety, which was at the lowest point in the profile 1 day before the

competition, started to increase 1 hour before and reached the highest point in the profile. The values were seen to decrease 1 hour after the competition.

**Graph 3:** Self-Confidence Levels of Taekwondo Athletes in the Adult Turkish Championship Competitions



Considering the self-confidence values of taekwondo athletes in the Adults Turkish championship competitions, their self-confidence scores were seen to be under the average. The values started to decrease 1 day before the competition and continued to decrease until 1 hour before the competition; then they were at the highest value in the profile 1 hour after the competition.

## DISCUSSION AND CONCLUSION

The present study was conducted to compare the pre-competition and post-competition anxiety levels of female and male taekwondo athletes participating in the Turkish championship for adults.

The obtained data revealed the relationships among cognitive anxiety, somatic anxiety and self-confidence 1 day before the competition. While there was a positive relationship in the cognitive and somatic anxiety scores between the data obtained 1 hour and 1 day before the competition, a negative relationship was observed between somatic anxiety and self-confidence.

In a study, it is revealed that the pre-competition stress levels of winners of competitions increase the state of anxiety. It was concluded that athlete delivering an outstanding performance were stress tolerant people who knew how to act in stressful environments, could turn the disadvantages of stressful environments into advantages and that they resistant to stress of competition (Özbekçi, 1989).

Jones, Swain and Cale (1991) stated that the cognitive anxieties of athlete increased when the competition drew closer. The somatic anxieties of both women and male athletes were seen to decrease on the day of the competition. But the decrease in women was higher than it was fore the men.

In a study conducted with female gymnasts, it was stated that cognitive anxiety increased and self-confidence decreased 1as the competition drew nearer (Krane, 1994).

Hanton, Thomas and Maynard (2003) stated in their study that the intensity of cognitive and somatic anxiety increased and the score for self-confidence decreased in the measures made 2 hours and 30 minutes before the competition. The intensity of the cognitive anxiety showed an increase from 1 week towards 30 minutes, and the intensity of somatic anxiety showed an increase from 1 week towards 30 minutes. The intensity of self-confidence also increased from 1 week towards 2 days.

Similar results were obtained in studies conducted in Turkey. The study of Koruç, Altay and Yılmaz (2004) revealed that the cognitive and somatic anxiety scores of a young women's national team increased but the self-confidence scores decreased.

After the competition, while the cognitive and somatic anxiety scores decreased, the self-confidence scores increased.

It was stated in the present research that the anxiety levels of athlete regularly increased as the competition drew near. Accordingly, it can be said that conducting exercises for overcoming stress and anxiety to help athlete will be beneficial in increasing self-confidence and overcoming increasing anxiety.

The obtained data revealed that the cognitive and somatic anxiety scores of taekwondo athletes increased and their self-confidence decreased as the competition drew near. After the competition, it was determined that the cognitive and somatic anxiety scores were decreased and self-confidence scores were increased. Consequently, the state of anxiety which was measured by CSAI-2 showed pre-competition and post-competition changes, and there was a change in anxiety cognition.

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