Investigación de los niveles de ansiedad y compromiso objetivo en términos de algunas variables de los candidatos que toman el examen de talento especial

Investigation of anxiety levels and target commitment in terms of some variables of candidates who take the special talent exam

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Resumen
El objetivo de este estudio es examinar el estado de ansiedad de los candidatos que se presentaron al examen de talento especial y el compromiso objetivo en sus actuaciones deportivas en términos de algunas variables. Se utilizaron como herramientas de recopilación de datos la “Escala de Compromiso de Objetivos” y la “Escala de Ansiedad Estado-Rasgo de Spielberger”, en el modelo de cribado relacional. El estudio consta de 171 candidatos voluntarios. Los datos fueron analizados en el software estadístico Jamovi 1.8.2. En el estudio, se utilizan la prueba de correlación de Spearman y la prueba U de Man Whitney, y para la información personal: frecuencia, porcentaje, media aritmética y desviación estándar. De acuerdo con los resultados del análisis, se determinó que había una relación positiva y moderada entre los tiempos objetivo de los participantes y los tiempos de curso. Tambien, existe una correlación positiva y baja estadísticamente significativa entre los tiempos objetivo y la ansiedad de estado. De acuerdo con la variable de género de los participantes, se encuentra una relación estadísticamente significativa a favor de los varones. Como resultado, la diferencia entre los tiempos objetivo de los hombres en los exámenes de talento especial de educación física y deportes y los títulos que obtuvieron en la pista es menor.

Palabras clave: compromiso objetivo, examen de talento especial, ciencias del deporte, ansiedad, ansiedad de estado

Abstract
The aim of this study is to investigate the anxiety status of the candidates taking the special talent exam and the goal commitment in their sportive performances in terms of some variables. ‘Goal Commitment Scale’ and ‘Spielberger State-Trait Anxiety Scale’ are used as data collection tools in the research conducted in the correlational survey model. The study consists of 171 volunteer candidates who participated. The data obtained from the questionnaires are analysed.
in the Jamovi 1.8.2 statistical software program. In the study, Spearman correlation test and Man Whitney U test and for personal information “frequency, percentage, arithmetic mean and standard deviation” are used. According to the results of the analysis, it is determined that there is a statistically significant positive and moderate correlation between the participants' target times and the track times. There is a statistically remarkable positive and low correlation between target times and state anxiety. According to the gender variable of participants, a statistically significant relationship is found in favour of males. As a result, the difference between the target times of the males in the physical education and sports special talent exams and the degrees they achieved in the track is lower.

**Keywords:** target commitment, special talent exam, sports sciences, anxiety, state anxiety

**Introduction**

Anxiety intensity is a multidimensional construct that varies between individuals and situations and can result in a basic warning sign in humans to respond to a particular threat (Notebaert et al., 2020; WHO, 2017). In the literature, anxiety is generally handled with a distinction that goes back to Freud. Accordingly, anxiety is expressed by Spielberger in two ways: state and trait. In state anxiety, when the current situation that creates tension and anxiety in the individual disappears, negative emotions disappear as well (Moran, 2016; Yavuz, 2002). Athletes are subjective to situational concerns and constantly experience situational concerns before and during the competition (Rice et al., 2016). Trait anxiety, however, is personality-based and shows individual differences. Trait anxiety, unlike state anxiety, is not directly related to a situation.

Individuals with trait anxiety perceive many situations as a potential danger or threat (Lau, Eley & Stevenson, 2006). Anxiety manifests itself both in physical or somatic ways and in mental ways. This happens when we worry about anything, whether taking an exam, giving a speech, interviewing for a job, or taking part in the most important athletic competition ever (Harris, 1984). Exam anxiety, however, is a special situation of anxiety, and its symptoms are emotional, physical, and behavioural responses that accompany anxiety about a possible failure. Individuals with high anxiety of exams fear that their self-existence is threatened in any exam situation (Yokuş, Yokuş & Kalayçıoğlu, 2013).

For the other hand, schools of Physical Education and Sports and faculties of Sports Sciences recruit students to provide education in difference fields (coaching, teaching, management, recreation, etc.) every year. In these exams, fitness (suitability) parameters are generally used as criteria. Fitness consists of two parts: motor fitness (speed, flexibility, balance, coordination, etc.) and physical fitness (cardiovascular fitness and muscle strength,
etc.). 1, 2, 3 colleges form special talent exams by choosing the appropriate ones from these eligibility parameters (İnce, 2009). Some of the students who take the special talent exam are national athletes, some are amateur athletes, and some are candidates who have prepared in a short time and applied as the last hope (Arıkan, Gökhan & İnce, 2021). In these exams, psychological factors such as anxiety, stress, and motivation are also very important besides sportive performance such as physiological, biomechanical, and technical factors (Akandere & Bedir, 2011).

Sports psychologists are united in the need for athletes to have a certain level of anxiety for high performance (Başer, 1998). According to Hardy's Theory of Catastrophe in Sport model, performance is all about arousal and depends on cognitive anxiety. The catastrophic model states that psychological arousal is associated with Inverted U-shape performance, but the athlete shall not be anxious or shall have low cognitive-state anxiety. If cognitive anxiety is high, arousal reaches some kind of threshold, rises to optimal arousal, and quickly deteriorates performance (Kolayiş, 2002). As a result of the regulation of emotions, the rate of focus on the goals of the athletes also increases. Goal Setting Theory (GST), proposed by Locke and Latham (2019), has been the most prominent theoretical framework for goal setting interventions. GST is a motivation theory that explains the relationship between conscious goals and task performance (Locke & Latham, 2002).

In the same order of ideas, goals are the object or purpose of an action that an individual tries to achieve (Locke et al., 1981). It has been shown related to goal setting using Goal Setting Theory that it increases performance, and it has been suggested that this effect occurs with four mechanisms (Locke & Latham, 2002). First of all, setting of goal directs individuals to focus their efforts on goal-related actions and ignore irrelevant activities. Second, goal setting energizes individuals and allows them to put effort into goal pursuit. Third, goals affect persistence, so more difficult goals require more effort. Finally, pursuing goals facilitates the discovery and development of task-related strategies. Goals are also expressed as a detailed description of intentions (Orlich et al., 2010).

It is a great importance that the athletes show commitment to their goals in order to realize their wishes (Ulukan & Esenkaya, 2020). In this case, Horn (2008) emphasized in his study that setting specific goals for athletes to improve their performance is an important strategy to increase their performance. It is well known that emotions and especially anxiety are important for performance results (Uphill & Jones, 2011). There is a limited number of studies investigating the anxiety of candidates who will take the special talent exam and how it is related to their target achievement in the competition. In this context, it is aimed to examine
the anxiety levels of the candidates who took the special talent exam and the goal commitment in their sportive performances in terms of some variables.

**Method**

The model of this research, which aims to determine the correlation between the goal commitment and state anxiety of the candidates who take the special talent exam, is the “descriptive, correlational survey” model. In the correlational model, it is tried to determine whether the variables change together and how this happens if they do not change (Karasar, 2011).

The research group of the study consists of 171 volunteer candidates who participated in the special talent exam for the 2021-2022 academic year of the Faculty of Sports Sciences of Karamanoğlu Mehmetbey University. Demographic information about the candidates is given in Table 1. The “Goal Commitment Scale” and the “Spielberger State-Trait Anxiety Scale” are used as data collection tools in the study. The data are collected from the candidates on a voluntary basis by following the mask, distance, and cleaning rules before taking the aptitude test.

**Instrument #1: Goal commitment scale**

In order to set the goal commitment levels of the participants, the Goal Commitment scale developed by Hollenbeck, Williams, and Klein (1989) as 9 items, re-adapted as 5 items by Klein and others (1999) is used. The single-dimension scale is Likert-type and consists of five items (1=strongly disagree, 5=strongly agree). The internal consistency coefficient of the scale is found to be .74 (Klein et al., 2001). The adaptation studies of the scale into Turkish are carried out by Şenel and Yıldız (2016). KMO Test value is found as .77, Bartlett Sphericity test value as 341.357 (p<.000). Researchers stated in their studies that the goal commitment scale is convenient for Turkish people. In the adaptation study, it is determined that the KMO test is .596 and the Bartlett Sphericity p<0.00. In our study, Cronbach’s alpha coefficient is calculated as .43.

**Instrument# 2: Spielberger state-trait anxiety scale**

The Spielberger State-Trait Anxiety Scale developed by Spielberger, Gorsuch and Lushene (1970) is used in the validity study of the WSKÖ's similar scales (Öner & Le Compte, 1985). In the self-evaluation style, the scale, which consists of two sub-dimensions, state anxiety, and trait anxiety, consists of 40 questions. Values higher than the sum of the items in the state sub-
dimension indicate that the individual's momentary anxiety level is high, and low values indicate that the instantaneous anxiety level is low. Similar to the state anxiety level, high values obtained from the sum of the items of the trait anxiety subscale indicate that the individual's continuous anxiety level in daily life is quite high, and low values indicate that the individual has a low trait anxiety level. The Turkish adaptation of the state-trait anxiety scale is done by Öner and Le Compte (1985). In the adaptation study, it is stated that the Cronbach's alpha coefficients of the state-trait anxiety scale ranged from .83 to .92. In our study, Cronbach’s alpha coefficient is calculated as .87.

**Data analysis**

In the research, “frequency (n), percentage (%), arithmetic mean (x̄) and standard deviation (Sd)” are used for personal information. In order to examine the normality distribution of the data, it is determined that "the skewness and kurtosis coefficients of the data are not between +1.5 and -1.5" by looking at the skewness and kurtosis coefficients of the data. This situation is interpreted as the scores obtained from the study do not show normal distribution (Tabachnick & Fidell, 2013)”. From this point of view, non-parametric Spearman's correlation test and Man Whitney U test are used in relational surveys. Statistical significance level is taken as p<0.05.

**Ethical criteria**

The necessary permission to begin the research is obtained from the Scientific Research and Publication Ethics Committee of Karamanoğlu Mehmetbey University Rectorate on 09.09.2021 (Document no: 08-2021/139).

**Results**

**Table 1**

*Participants’ target, track time, and point averages*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Target Time</th>
<th>Track Time</th>
<th>Track Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(x̄±ss)</td>
<td>(x̄±ss)</td>
<td>(x̄±ss)</td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>51.7±8.81</td>
<td>77.4±15.5</td>
<td>58.9±22.5</td>
</tr>
<tr>
<td>Male</td>
<td>67</td>
<td>42.7±5.83</td>
<td>60.7±10.6</td>
<td>62.7±23.4</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>48.1±8.91</td>
<td>70.9±16.0</td>
<td>60.4±22.9</td>
</tr>
</tbody>
</table>

The target time mean scores of the participants are (51.7±8.81) for female and (42.7±5.83) for males. The average time points for the track are (77.4±15.5) in female and in
males (60.7±10.6). The average points for the track are (58.9±22.5) in female and in males (62.7±23.4).

**Table 2**

*Mean scores of participants' state anxiety and goal commitment scales*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SS</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Anxiety</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>40.06</td>
<td>8.41</td>
<td>22</td>
<td>58</td>
</tr>
<tr>
<td>Male</td>
<td>67</td>
<td>38.5</td>
<td>9.66</td>
<td>22</td>
<td>61</td>
</tr>
<tr>
<td><strong>Target Commitment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>13.5</td>
<td>2.45</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Male</td>
<td>67</td>
<td>13.8</td>
<td>2.27</td>
<td>8</td>
<td>25</td>
</tr>
</tbody>
</table>

When Table 2 is examined, the state anxiety level is at the values of (40.06±8.41) for female and (38.5±9.66) for male. The mean values of the participants' goal commitment are in the mean values of (13.5±2.45) for female and of (13.8±2.27) for male.

**Table 3**

*Track time, track score and state anxiety spearman correlation test results according to the target times of the participants*

<table>
<thead>
<tr>
<th></th>
<th>Track Time</th>
<th>Track Score</th>
<th>State Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Time</strong></td>
<td>R</td>
<td>-0.192</td>
<td>0.225</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.000***</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

\* = \( p < .05 \), \** = \( p < .01 \), \*** = \( p < .001 \)

When Table 3 is examined, there is a statistically remarkable positive and moderate correlation between the participants' target times and track times (\( r=0.44, p<0.00 \)). There is a statistically significant, negative, and low correlation between the participants' target times and track scores (\( r=-0.44, p<0.01 \)). There is a statistically significant positive and low correlation between the participants' target times and their state anxiety (\( r=0.22, p<0.00 \)).
Table 4
Participants’ Mann Whitney U Test results by gender

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>(\bar{x})</th>
<th>SS</th>
<th>Med.</th>
<th>Effect Size</th>
<th>U</th>
<th>p</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Time</td>
<td>1.Female</td>
<td>104</td>
<td>51.7</td>
<td>8.81</td>
<td>50.0</td>
<td>0.71</td>
<td>978</td>
<td>0.00**</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>67</td>
<td>42.7</td>
<td>5.83</td>
<td>42.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Track Time</td>
<td>1.Female</td>
<td>104</td>
<td>77.4</td>
<td>15.5</td>
<td>74.0</td>
<td>0.62</td>
<td>1321</td>
<td>0.00**</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>67</td>
<td>60.7</td>
<td>10.6</td>
<td>58.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**= p < .01

According to Table 4, the mean time for male (42.7±5.83) according to the gender variable is statistically significant in favour of male compared to the mean time for female (51.7±8.81) (p<.01). Among the participants, the averages of the male's track times (60.7±10.6) are statistically significant in favour of male (p<.01) compared to the female’s averages of the track time (77.4±15.5).

Discussion

The following results are obtained in the study conducted to investigate the correlation between the state anxiety levels of the candidates who took the special talent exam and their goal commitment. The state anxiety level is at the values of (40.06±8.41) for female and of (38.5±9.66) for male. Many scientific studies have been performed on the anxiety level of both the candidates and their families, who are preparing for the exam and entering the university (İnce, Zülkadiroğlu & Budak, 2004; Korhan, Engin & Güloğlu, 2021; Köse, Yılmaz & Göktaş, 2018; Meşe & Özerk, 2019).

Most studies indicate that studies examined are on test anxiety and aptitude test. In the study conducted by Gürpınar (2016) on the candidates who participated in the music teaching exams, it is determined that the musical skills and test anxiety scores are moderate. It is found that there is a low-level negative correlation between test anxiety and self-confidence, and a moderately positive relationship between self-confidence and musical skills. When the anxiety levels of the candidates taking the music education special talent exam are examined, it is found that female have higher average values than male (Güdek, 2009). It is seen that the state anxiety level averages of the teacher candidates (physical education, painting, and music) who take students with a special talent exam are (44.75 ± 8.51), and the highest average of all three
departments are in the physical education department (52.00 ± 13.82) (Çelen & Eskicioğlu, 2015).

Again, in the study examining the anxiety levels of the candidates taking the special talent exam, it is concluded that female candidates experienced higher anxiety than male candidates (Aykora & Olgaç, 2018). When Hacıcaferoğlu, Hacıcaferoğlu and Seçer (2015) examined the anxiety levels of folk-dance athletes before the competition, they found that there is a significant difference in favour of female athletes. In this study on the competition performances of taekwondo players, it is seen that the state anxiety level of male had higher average values than female (Karabulut & Mavi-Var, 2019). Lök, İnce and Lök (2008) found statistical significance in favour of males regarding the gender variable of the candidates taking the physical education and sports special talent exam. When the anxiety status of the candidates taking the aptitude test at the School of Physical Education and Sports is examined, no significant difference is found between the gender distributions (Songün, 2015).

In the study of Gül and Soyguden (2014), in which the state anxiety levels of the students taking the physical education and sports school special talent exam are examined, no significant difference is observed between the gender distributions, while the average values of (53.33±8.70) for male and of (51.59±9.22) for female are obtained. When the studies are examined, it is indicated that while there is no significant difference regarding gender variable, the average score values are in favour of female. This situation is thought to be due to an upbringing in which female in male-dominated societies seem more reserved and participation in sports is unnaturally masculine. It has been determined that the average values of the participants' goal commitment are in the mean values of (13.5±2.45) for female and of (13.8±2.27) for male.

In the study performed by Özdemir and others (2018) on orienteering athletes, it is determined that the average goal commitment is higher in female athletes. In the study of Ulukan and Esenkaya (2020) on university super league wrestling team students, it is determined that goal commitment is averagely (2.73±.66) in female and (3.17±.74) in male, and there is no significant difference between them. In similar studies, no statistically significant difference is found in the total scores of participants' goal commitment regarding gender (Altay, Baştuğ & Arian, 2018; Öntürk, 2018; Salim, 2018). While there is no significant difference regarding gender variables, it is indicated that the mean score values are in favour of male. Considering the gender inequality, this situation is thought to be due to the fact that male are in a more advantageous position at the point of reaching the determined target.
There is a statistically remarkable positive and moderate correlation between the participants' target times and track times. There is a statistically remarkable negative and low correlation between the participants' target times and their track scores. There is a statistically significant positive and low correlation between the participants' target times and their state anxiety. By his part, Feta (2019) determined a remarkable difference between the total score of test anxiety according to the target status of the students. In the study examining the correlation between the anxiety levels of the candidates taking the physical education and sports special talent exam and their exam performance, it is found that as the anxiety levels of the candidates who took the exam increased. Similar studies show that the value of achievement goals in predicting sports performance (Lochbaum & Gottardy, 2015; Stoeber & Crombie, 2010). In this regard, it can be said that there is a correlation between the time they aim, how individuals interpret situations and difficulties and how they react to them, and their time at the track and state anxiety.

Participants' target time points averages are (51.7±8.81) in female and (42.7±5.83) in male, while their track time averages are (77.4±15.5) for female and (60.7±10.6) for male. It is set that the average score of the track is at the values of (58.9±22.5) for female and (62.7±23.4) for male. In this case, less difference is found between the time of the track and the time they set a target in the special talent test tracks for male compared to female. Statistically significant results are determined in favour of male in terms of target time and track time according to gender. It is seen that goal setting in sports is effective on performance (Healy, Tincknell-Smith, & Ntoumanis, 2018). Considering the gender, genetic and hormonal differences, it is thought that male perform better in special talent exam tracks. However, social barriers to sports, responsibilities within the family, and being more emotional may have affected their performance in the exam. Besides, the fact that the exam is in the process of the Covid-19 epidemic may have negatively affected female's physical activity compared to male.

The results and academic achievements of the candidates taking the special talent exam are not included as criteria. The determination of the participants’ states of situational anxiety and goal commitment is based on the results of the scales. The scales are completed before taking the exam. Also, the examination criteria and measurement techniques of the universities that take students through the special talent exam vary according to the universities. In terms of directing future research on this issue, the physiological parameters of the candidates (heart rate, body temperature, etc.) can be looked at. Individual and team sport variables can provide insight into how candidates manage anxiety. In addition, the personality types that affect...
anxiety are based on the geographical location where the person lives we think that it may affect factors such as region, human relations. The ability to effectively regulate the anxieties of aptitude test candidates is critical to performing at the point of reaching the goal they have set. In this context, it is suggested that it should also be associated with different fields.

**Conclusion**

As a result, there is a statistically significant positive correlation between the target times of all participants and the track times. There is a statistically significant negative correlation between the participants’ target times and their track scores. There is a statistically significant positive correlation between the participants’ target time and their situational anxiety. Accordingly, the target periods determined by male’s in physical education and sports special ability exams and the periods obtained on the track are closer to reality the degrees obtained by female’s.

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