

# The effect of irrational beliefs on the perceived stress level of university students engaged in team sports

Aygül Çağlayan Tunç\* and Mehmet Günay

Faculty of Sports Sciences, Aydın University, İstanbul, Turkey.

Faculty of Sports Sciences, Gazi University, Ankara, Turkey.

---

## ABSTRACT

The aim of the study is to investigate the effects of irrational beliefs on perceived stress level in students dealing with team sports. A total of 354 athletes comprising 145 females and 209 males, studying at Gazi and Selcuk University, Faculty of Sport Sciences participated in the study. Students dealing with team sports in various branches were selected by simple random sampling method. The research was designed according to the relational screening model. The analysis of the data was done with the computer-aided SPSS 22 program. Skewness and kurtosis values showed normal distribution. Independent sample t-test was used for paired comparisons, ANOVA test was used for more than two comparisons, and Pearson correlation test was used for correlation analysis. The significance level  $\alpha = 0.05$  was used for all tests. From the findings obtained from the research, 59% of the participants were male, 41% were female, and 88.1% were between the ages of 18-23. According to gender; there was no significant difference in the mean scale scores. According to the age variable; the average score of irrational beliefs of the participants aged 18-23 was significantly higher than the mean scores of the athletes older than 23 years ( $p < 0.05$ ). There was no significant difference in perceived stress scale total score and subscale mean scores. There was a statistically significant, low level and positive relationship between irrational beliefs and perceived stress scale. In conclusion, perceived stress level increased with increase in irrational beliefs ( $p < 0.01$ ).

**Keywords:** Team athletes, irrational belief, perceived stress, students.

---

\*Corresponding author. E-mail: aygulcaglayan@hotmail.com.

---

## INTRODUCTION

One of the aims of education and training is to enable students to develop desired behaviors. In students that engage in team sports, it is possible to prevent irrational beliefs through the training provided by the instructors.

Well-known elite athletes around the world consider themselves to be people's biggest rival. It is a prerequisite for athletic success that athletes learn to beat themselves first. For this reason, athletes should notice the thoughts that hinder performance and replace these negative thoughts with positive thoughts (Biçer, 1998).

Students who engage in team sports have the strength of group unity, according to students who engage in individual sports. Male and female students have different characteristics in terms of physical and sportive performance. Despite this, they can react similarly to stress. These responses determine people's attitudes.

Attitudes generally affect the individual's feelings, thoughts and behaviors (Ünlü, 2011). Attitude is the motivation of people to events and psychological situations. It is the permanent organization of emotional processes in the mind (Ünlü, 2013). Team athletes can share stress, success and failure with group members and be psychologically stronger. Therefore, they have less irrational beliefs. In order to achieve success in the competitive environment, being able to cope with perceived stress by putting aside irrational thoughts, as well as going through a good training process and being talented, are important factors that will affect the result (Civan et al., 2010). In addition to sports activities, the high academic success of students who continue their education will also have a positive effect on their sportive success. In humans this takes place in the life cycle with

the behaviors learned during the lifetime (Burgaz and Bozkuş, 2019). It is possible for athletes to be successful if the psychological and anatomical structure is suitable for the given field of sports (Kaynar and Bilici, 2019).

Both people and students have a tendency to be evaluated with irrational beliefs. But some individuals have more tendencies. The underlying causes of all psychological problems are distorted and untrue thoughts (Ellis et al., 2009). Irrational beliefs are disaster scenarios in the mind of the individual, including mind reading, spending time on things that are or will not happen, generalizing situations, and classifying themselves or other people based on their behavior. While in these thoughts, they do not take into account other characteristics of people (Türkçapar, 2011). Individuals with irrational beliefs tend to overestimate the facts. Their ideas are stable and closed to debate (Ortaçkale, 2008). Athletes should use their problem solving skills both in the competition environment and in their daily living (Demirhan, 2020).

Rational beliefs, on the other hand, are logical beliefs that are compatible with reality, and can be flexible. They are true beliefs that will contribute to the psychological health of people and help achieve goals (Ellis, 2000). Irrational beliefs can cause intense perception of destruction, emotional problems and stress in individuals (Çivitçi, 2009). Stress is the pressure put on people by the negative demands and inhibitions coming from the environment. Although it may seem like a negative situation in individuals, moderate stress can be a driving force in individuals' success. As the level of perceived stress increases in athletes, it becomes uncontrollable and can cause mental confusion, decision-making difficulties, and inability to demonstrate their abilities (Gümüş, 2002).

According to Fox (1999), sports also have spiritual benefits such as protection from unreasonable thoughts and coping with stress. In a study with 5061 people, the emotional stress of athletes was measured and the results suggested that doing sports reduces stress. It can be said that exercises performed, especially in open areas, are effective in reducing perceived stress (Steptoe and Butler, 1996).

This study aims to investigate the irrational beliefs of team athletes and their relationship with perceived stress in terms of some variables. There are no previous studies in literature that investigated these two issues together in this sample group. Therefore it is expected that this research will contribute to sports psychology and literature.

## **METHODOLOGY**

### **Research model**

The research was designed according to the relational

screening model (Cohen, 2007).

### **Participant (subject) characteristics**

Students attending Gazi and Selcuk University Faculty of Sport Sciences in the 2018-2019 academic year participated in the study. People engaged in team sports in various branches (basketball, handball, football, and volleyball) were included in the study. A total of 354 people, 145 women and 209 men, were recruited for the study.

### **Criteria for participation**

This included, being a team player playing in active matches, being a student of sports science faculty, and participating in the research as a volunteer.

### **Data collection tools**

#### ***Irrational belief scale***

In collecting the data, the Irrational Belief Scale developed by Türküm (2003), the Perceived Stress Scale adapted to Turkish by Eskin et al. (2013), and a personal information form were used. The analysis of the data was done with the computer-aided SPSS 22 program. It is designed to measure the irrational beliefs of people. There are 15 items in the scale. It is a five-point Likert type: Completely Appropriate (5), Highly Appropriate (4), Undecided (3), Somewhat Appropriate (2), and Not Suitable (1). Items in the scale are scored flat. The lowest score that can be obtained is 15 and the highest score is 75. A high score from the scale means that the level of irrational belief is high. The internal consistency coefficient for the entire scale is 0.75. In this study, the internal consistency coefficient for the scale was 0.78.

#### ***Perceived stress scale***

Cohen et al. (1983) developed the Perceived Stress Scale (ASÖ). They conducted the validity and reliability study of the scale (Eskin et al., 2013) and adapted it to Turkish. The scale consists of 14 items. It has been developed to measure how stressful people perceive certain situations in their lives. Scale items never change between (0) and very often (4). It is a 5-point Likert type. 7 of the items are scored in reverse and contain positive statements. Scale scores range from 0-56. The internal consistency coefficient for the entire scale is 0.84. In this study, the internal consistency coefficient for the scale was 0.76.

### Personal information form

This was prepared by the researcher. Independent variables (gender, age), which are thought to be effective in the research, were created in order to gather information about students that engaged in team sports at the Faculty of sports sciences.

### Statistics and data analysis

The analysis of the data was done in a computer environment with SPSS 22 program. First, normal distribution values related to the type of tests to be used were analyzed. Skewness and kurtosis values showed normal distribution. Independent sample t-test was used in binary comparisons and ANOVA test was used in more than two comparisons. Pearson correlation test was used for correlation analysis. The significance level for all tests was  $\alpha = 0.05$ .

## RESULTS

The irrational beliefs and perceived stress levels of the team athletes were examined in terms of gender and age. From the analysis of the socio-demographic characteristics of the participants, 59% were male and 41% were female, with the majority (88.1%) between the ages of 18-23 (Table 1). While the average of irrational beliefs scale of the participants was 55.53, the total perceived stress average score was 32.68. While the perceived stress scale inadequate self-efficacy perception sub-dimension mean was 16.71, the stress /

discomfort perception sub-dimension mean was 15.97 (Table 2).

It is seen that the scales of the irrational beliefs scale and perceived stress total score and sub-dimension mean scores of the participants did not differ significantly according to gender (Table 3).

According to age, the mean scores of the stress perceived and the subscale mean scores did not differ significantly. When the irrational beliefs scale mean scores were analyzed, there was a significant difference according to age. The irrational belief score averages of participants between the ages of 18-23 was higher than the score of participants aged 23 and over (Table 4).

When the relationship between irrational beliefs scale and perceived stress scale score was evaluated, there was a statistically significant and low level and positive relationship between irrational beliefs and perceived stress scale. Increase in irrational beliefs caused increase in perceived stresses (Table 5).

**Table 1.** Socio-demographic characteristics of the participants.

Variable	n	%
Gender		
Female	145	41
Male	209	59
Age		
18-23	312	88.1
23 and up	42	11.9
Total	354	100

**Table 2.** The participants' irrational belief and perceived stress average scores.

Variable	$\bar{X}$	ss	min	max
Irrational beliefs	55.53	8.73	22	75
Insufficient self-efficacy perception	16.71	4.03	3	27
Stress / discomfort perception	15.97	4.04	4	27
Perceived stress total	32.68	6.86	10	54

**Table 3.** Irrational belief and perceived stress scores by gender.

Variable	Gender	n	$\bar{X}$	ss	t	p
Irrational beliefs	Female	145	55.28	9.08	-.443	.658
	Male	209	55.70	8.49		
Insufficient-self-efficacy perception	Female	145	16.79	4.09	.293	.770
	Male	209	16.66	4.00		
Stress / discomfort perception	Female	145	16.46	4.10	1.936	.054
	Male	209	15.62	3.96		

**Table 3.** Continues.

Perceived stress total	Female	145	33.26	7.20	1.308	.192
	Male	209	33.29	6.60		

**Table 4.** Irrational belief and perceived stress scores by age.

Variable	Age	n	$\bar{X}$	ss	t	p
Irrational beliefs	18-23	312	56.05	8.83	3.056	.002*
	23 and up	42	51.71	6.95		
Insufficient-self-efficacy perception	18-23	312	16.64	4.21	-1.415	.161
	23 and up	42	17.26	2.36		
Stress / discomfort perception	18-23	312	15.91	4.23	-1.072	.286
	23 and up	42	16.35	2.13		
Perceived stress total	18-23	312	32.56	7.14	-1.387	.169
	23 and up	42	33.61	4.17		

\*p < 0.05.

**Table 5.** Examining the relationship between irrational belief and perceived stress scores.

Variable		Perceived stress
Irrational beliefs	r	0.255
	p	0.000**

\*\*p < 0.01.

## DISCUSSION

In this section, irrational beliefs and perceived stress levels of team athletes, whose education and training continued, were examined in terms of gender and age variables. The findings are discussed in the light of the literature. No statistically significant difference was found in the average scores of the athletes according to gender, irrational beliefs, perceived stress total score, and sub-dimensions.

Similar to our study, Hammermeister and Burton (2004), in their study with men and women dealing with endurance sports, reported that both genders struggled with perceived stress in the same way and that there was no significant difference in terms of gender. Yurtal (1999) in his research with 560 university students, examined the irrational beliefs of students according to gender and various variables and could not find a significant difference in terms of gender. Ekşi (2012) researched approval addiction, which is an indication of irrational belief among university students, and did not find a significant difference in terms of gender.

Göller (2010) concluded that gender is not a distinctive

factor related to irrational beliefs. Özbekçi (1989) reported that athletes who engaged in athletics from individual sports feel more intense than the team athletes who play basketball and volleyball. Üstün and Bayar (2015) stated that there is no relationship between the gender variable and stress in their research with students of the Education Faculty. Unlike our study, Alpertonga et al. (2016) conducted a research with students of physical education department and they found a significant difference between students' gender and stress levels. Batıgün and Kayış (2014) found a statistically significant difference between gender and stress in their studies. This difference may be due to uncontrolled psychological factors or physical activity, sports intensity, severity and variety in the sample groups participating in the research.

A statistically significant difference was found in the scale mean scores of athletes according to the age variable. While there was no significant difference in the perceived stress level, there was a statistically significant difference in the irrational beliefs scale mean scores. The irrational beliefs of participants aged 23 and under were found to be higher than those aged 23 and above. Analyzing the literature, similar and different results were observed on the subject. Urfa and Aşçı (2018) compared the irrational beliefs of adolescents who do sports and do not do sports; The irrational beliefs of athletes were significantly higher than those who did not do sports. In our study, young people between the ages of 18-23 partially coincided with adolescence or late adolescence. Therefore, it is similar with our results. Unlike our study, Ekşi (2012) did not find any meaningful results in terms of age in his research on university students on irrational

beliefs. Goyen and Anshel (1998) reported that adult athletes were more successful in controlling perceived stress than adolescents. In our findings, there was no significant and significant difference in perceived stress among athletes engaged in team sports. In some studies, it is seen that perceived stress is higher in athletes engaged in individual sports. For example, Yoo (2001), in his study, reported that young athletes dealing with individualsports applied more strategies to deal with perceived stress. Park (2000), in his study of Korean athletes, reported that athletes who deal with individual sports perceived stress more than those interested in team sports and made more efforts to deal with it. These results support our findings.

It can be said that the athletes engaged in team sports are in an advantageous situation in terms of perceived stress level. The fact that the mistakes made during the competition are not the responsibility of an individual, and the happiness and sadness of winning and losing together, may suggest that the group members reduce the stress perceived by the athletes. It may be thought that the reasons such as the development of irrational beliefs of the athletes, especially the intense competition, being watched by the audience, the desire of the youth to be popular, the desire to be successful against the environment, family and peers can be disrupted. Athletes' awareness of this situation and trying to substitute logical thoughts for irrational thoughts will benefit them in every way.

When the relationship between irrational beliefs scale and perceived stress scale score is evaluated, it is seen that there is a statistically significant and low level and positive relationship between irrational beliefs and perceived stress scale. Increasing irrational beliefs increases the perceived stress level.

## Conclusion

The researches have shown that, mental processes affect perceived stress in the sports environment, irrational beliefs and sporting success. Dealing with team sports helps control the level of stress perceived by team spirit, but does not prevent developing irrational beliefs. While age is a determining factor in developing irrational beliefs, it is concluded that gender is not a distinctive feature in terms of stress and irrational beliefs. Also, as irrational beliefs increase, perceived stress also increases. Therefore, there is a need for various studies on this subject. Studies with different methods and sample groups and variables will contribute to the literature both in terms of sportsman performance and sports psychology.

## REFERENCES

Alpertonga, H., Ünsar, A., and Koldere Akın, Y. (2016). Beden eğitimi

- ve spor yüksekokulu öğrencilerinin kaygı ve stres düzeylerinin belirlenmesine yönelik bir alan araştırması. Sosyal Ekonomik Araştırmalar Dergisi, 16(32): 71-83.
- Batigün, A. D., and Kayış, A. A. (2014). Üniversite öğrencilerinde stres faktörleri: Kişilerarası ilişki tarzları ve problem çözme becerileri açısından bir değerlendirme. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi (H. U. Journal of Education), 29(2): 69-80.
- Biçer, T. (1998). Doruk Performans. Beyaz Yayınları. İstanbul.
- Burgaz, U. S., and Bozkuş, T. (2019). Eğitimde Oyunun Yeri. Uluslararası Güncel Eğitim Araştırmaları Dergisi (UGEAD), Aralık, 5(2): 123-131.
- Civan, A., Arı, R., Görücü, A., and Özdemir, M. (2010). Bireysel ve takım sporlarının müsabaka öncesi ve sonrası durumluk ve sürekli kaygı düzeylerinin karşılaştırılması. Uluslararası İnsan Bilimleri Dergisi, 7(1): 194-206.
- Cohen, L., Manion, L., and Morrison, K. (2007). Research methods in education (6th Edition). New York: Routledge, 21-27.
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health Social Behavior, 24: 385-396.
- Çivitci, A. (2009). İlk ergenlikte mantık dışı inançlar ve yaşam doyumu arasındaki ilişkiler. Eurasian Journal of Educational Research, 37: 91-109.
- Demirhan, B. (2020). Kırgızistan'da Tokuz Korgol Oyununun Yaş Faktörüne Göre Popülaritesi. Uluslararası Güncel Eğitim Araştırmaları Dergisi, 6(1): 80-88. Retrieved from <https://dergipark.org.tr/tr/pub/intjces/issue/55238/699423>.
- Ekşi, F. (2012). Kişilerarası ilişkiler: Psikolojik danışmanlık ve halkla ilişkiler öğrencilerinin karşılaştırılması. Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 11(2): 79-94.
- Ellis, A. (2000). Rational emotive behaviour therapy. (Ed: R. Nelson-Jones). Six key approaches to counselling and therapy. London: Continuum. 181-227.
- Ellis, A., David, D., and Lynn, S. J., (2009). Rational and irrational beliefs: A historical and conceptual perspective. 3-22. In: D David, SJ Lynn, A Ellis (Ed), rational and irrational beliefs: Research, theory and clinical practice. Oxford University Press.
- Eskin, M., Harlak, H., Demirkıran, F., and Dereboy, Ç. (2013). Algılanan stres ölçeğinin Türkçeye uyarlanması: Güvenirlilik ve geçerlilik analizi. New/Yeni Symposium Journal, 51(3): 132-140.
- Fox, K. R. (1999). The influence of physical activity on mental wellbeing. Public Health Nutrition, 2: 411-418.
- Goyen, M. J., and Anshel, M. H. (1998). Sources of acute competitive stress and use of coping strategies as a function of age and gender. Journal of Applied Developmental Psychology, 19: 469-486.
- Göller, L. (2010). Ergenlerin akılcı olmayan inançları ile depresyon-umutsuzluk düzeyleri ve algıladıkları akademik başarılar arasındaki ilişkiler. Yayınlanmış Yüksek Lisans Tezi. Atatürk Üniversitesi. Erzurum.
- Hammermeister, J., and Burton, D. (2004). Gender differences in coping with endurance sports: Are men from Mars and women from Venus. Journal of Applied Sport Psychology, 27: 148-164.
- Kaynar, Ö., and Bilici, M. F. (2019). Examination of talent selection methods in different sports branches. Journal of Education and Training Studies, 6(12): 44-48.
- Ortaçkale, Y. (2008). Akılcı davranış eğitimi. Doktora Tezi. Çukurova Üniversitesi Sosyal Bilimler Enstitüsü. İstanbul.
- Özbekçi, F. (1989). Farklı spor dallarında yaşanan müsabaka stres düzeylerinin araştırılması. Yayınlanmamış Yüksek Lisans Tezi. M.Ü. Sosyal Bilimler Enstitüsü. İstanbul.
- Park, J. K. (2000). Coping strategies used by Korean national athletes. The Sport Psychologist, 14: 63-80.
- Stephoe, A., and Butler, N. (1996). Sports participation and emotional wellbeing in adolescents. Lancet, 347: 1789-1792.
- Türkçapar, M. H. (2011). Bilişsel Terapi. HYP Yayın, Ankara.
- Türküm, A. S. (2003). Akılcı olmayan inanç ölçeğinin geliştirilmesi ve kısaltılması. Türk Psikolojik Danışma ve Rehberlik Dergisi, 19(2): 41-47.
- Urfa, O., and Aşçı, F. H. (2018). Spor yapan ve yapmayan ergenlerin akıldışı inançlarının karşılaştırılması. Atatürk Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi, Haziran, 20(2): 41-52.
- Ünlü, H. (2011). Beden Eğitimi Öğretmenliği Mesleğine Yönelik Tutum Ölçeği (BEÖYTÖ) geliştirilmesi. Kuram ve Uygulamada Eğitim

Bilimleri, 11(4): 2005-2020.

**Ünlü, H. (2013).** Do prospective physical education teachers really want to be physical education teachers? Croatian Journal of Education, 15: 211-230.

**Üstün, A., and Bayar A. (2015).** Üniversite öğrencilerinin depresyon, anksiyete ve stres düzeylerinin çeşitli değişkenlere göre incelenmesi. Eğitim ve Öğretim Araştırmaları Dergisi, 4(1): 384-390.

**Yoo, J. (2001).** Coping profile of Korean competitive athletes. International Journal of Sport Psychology, 32: 290-303.

**Yurtal, F. D. (1999).** Üniversite öğrencilerinin akılcı olmayan inançlarının bazı değişkenlere göre incelenmesi. Yayınlanmış Doktora tezi. Gazi Üniversitesi, Ankara.

---

**Citation:** Tunç, A. C., and Mehmet Günay, M. (2020). The effect of irrational beliefs on the perceived stress level of university students engaged in team sports. African Educational Research Journal, 8(2): S43-S48.

---