

PEDAGOGY

The Relationship Between Trait Anxiety and Superstitious Behaviors: A Study on Female Soccer Players

Abdullah Arısoy, Gül Bahar Bayıroğlu, and Vesile Şahiner Güler

Abstract

The aim of this study is to determine the relationship between trait anxiety and superstitious belief tendency levels of female soccer players. The study was conducted with 161 soccer players selected by a simple random method among 272 active soccer players playing in nine teams competing in the first group of the Women's 1st League of the Turkish Football Federation. The study utilized the Trait Anxiety Scale, the Superstitious Belief and Behavior Scale in Sports, and a Personal Information Form as instruments for data collection. Data analysis was performed using the IBM SPSS statistical software. Employing a survey model within the framework of quantitative research methods, the research aimed to gather and analyze data systematically. Frequency distributions, arithmetic averages, standard deviations, skewness, and kurtosis values were analyzed to evaluate the data obtained. Pearson product-moment correlation analysis (r) was applied to determine the relationship between the scores obtained from the scales in the study. As a result, a low positive correlation was found between trait anxiety levels and superstitious behavior levels of female soccer players. It is thought that this situation may be due to the inability of athletes to

Abdullah Arısoy, Faculty of Sports Sciences, Süleyman Demirel University; Gül Bahar Bayıroğlu, Faculty of Sports Sciences, Süleyman Demirel University and Vesile Şahiner Güler, Department of Physical Education and Sports, Institute of Health Sciences, Erciyes University. Please send author correspondence to abdullaharisoy@gmail.com

manage their anxiety states that arise as a result of their fear of losing or their ambition to succeed, and that they turn to superstitious behaviors that exist in all beliefs from past to present and are widely used in sports fields as well as in daily life.

Introduction

Anxiety is generally defined as a feeling of tension arising from the feeling that bad things may happen to an individual (Berutu & Mutiawati, 2023; Muir-Cochrane et al., 2017; Öncül, 2000; Sieber et al., 2013), as well as the feeling that an individual experiences in the face of a possibility of danger from the outside world or a situation that is thought to be in danger (Alisinanoğlu & Ulutaş, 2003; Chorpita & Barlow, 1998; Tahılar et al., 2017). According to Spielberg (1972), anxiety is defined as the unpleasant emotional and observable reactions to stressful situations, such as sadness, perception, and tension. Similarly, anxiety is a reflection of complex emotions as an individual's response to both internal and external stimuli. This includes not only the situations that individuals face in their current life circumstances, but also uncertainties about the future. However, the individual's perception, life experience, and environmental factors play an important role in the emergence of anxiety. Anxiety is an emotion that should be evaluated in both positive and negative aspects. The negative aspect is that anxiety negatively affects individuals' mental health and makes their thoughts pessimistic.

On the other hand, the positive aspect of anxiety is that it contributes to the personality and character development of individuals by improving their ability to cope with challenging situations and improving their mental resilience. In this context, the positive aspect of anxiety is that it increases individuals' ability to struggle (Manav, 2011). In this context, anxiety can have profound effects on the psychological and physiological state of individuals and negatively affect their daily functioning. In summary, anxiety is a condition that affects an individual's mental health and can have serious consequences if left untreated; therefore, it is of great importance to develop appropriate strategies for the management and treatment of anxiety. This is an issue that should be taken into consideration not only for individuals but also for the general health of society.

While anxiety is of considerable importance in our daily lives, it is also of vital importance in the lives of athletes. In the world of sports, anxiety emerges as an important factor shaping the performance of individuals and becomes especially evident before the competition. Given the high levels of anxiety and stress that athletes often face before and after competitions, uncontrolled anxiety can adversely impact their performance and lead to suboptimal outcomes (Bali, 2015; Başaran et al., 2009; Pepe, 2020; Yılmaz et al., 2021). It is also thought that athletes' anxiety of not being able to show the desired performances may cause them to react to their anxiety with superstitious beliefs or behaviors by repeating the attitudes and behaviors they remembered in their previous successful performances. In other words, one of the reasons why athletes exhibit superstitious behaviors may be their anxiety and concerns about events.

Superstition or superstitious behavior is a concept in which we attribute some things to supernatural powers in the face of negativities in the world, or we attribute the necessity of divine control that we cannot explain in a reasonable way. In other words, superstition generally evokes some negative, religious, or mystical concepts (Kurudirek, 2018; Schippers & Van Lange, 2006; Skinner, 1992). Superstitious behaviors are characterized as atypical, repetitive, and rigid actions that individuals believe may have a beneficial impact on outcomes. However, it is important to note that there is no actual causal relationship between these behaviors and the results of events (Dömötör et al., 2016; Womack, 1992). Budak (2005) defined superstition in his psychology dictionary as "the belief that the course of natural events can be changed by supernatural or magical forces such as prayer, magic, carrying objects believed to bring good luck, writing amulets, and summoning spirits." Burger and Lynn (2005) define superstitious behavior as people's efforts to transform some uncontrollable forces into controllable forces and state that it is an effort to take uncontrollable forces under our control with a certain probability.

Superstitious beliefs have been found to reduce perceived stress. Similarly, it has been stated that superstitious belief orientation increases significantly with the increase in anxiety level in athletes (İnce, 2021; Işık et al., 2015). These findings reveal the role of superstitious beliefs in the anxiety management of athletes and pave the

way for their evaluation as a potential strategy to reduce the effects of anxiety. In sports, some soccer players want to enter the field first, some want to join the field last, and some want to touch the grass as soon as they enter the field. Again, some players like to wear the same cleats, the same socks, or even the same underwear for a long tournament or league period. Such superstitious behaviors can be diverse, including lucky objects, team rituals, and prayers according to religious beliefs performed before or during the match. Countless examples can be defined as superstitious behaviors in sports. In light of these findings, it is seen that superstition and superstitious behaviors have an important effect on the anxiety management of athletes. Especially athletes who are under high stress often resort to such rituals. Superstitious behaviors, such as lucky objects or team rituals, play an important role in balancing athletes' anxiety levels and increasing their performance. In this context, superstitious behaviors can be considered not only as a means of psychological relaxation but also as an important method used by athletes in coping with anxiety. Therefore, anxiety and superstition in sport emerge as important issues in increasing the mental endurance of athletes and ensuring the continuity of success.

In the literature review, studies examining the anxiety (Arısoy et al., 2020; Beisecker et al., 2024; Faizan et al., 2024; Polat et al., 2010; Reardon et al., 2024; Sanfilippo et al., 2024; Yoka et al., 2022) and superstition (Chuang et al., 2024; Işık et al., 2015; Kurudirek, 2018; Schippers & Van Lange, 2006; Todd & Brown, 2003) of various individuals engaged in sports were found. However, there is no study examining the anxiety levels and superstitious behaviors of female soccer players. This study is important in terms of providing new information to the literature. In this context, the aim of the study is to determine the relationship between anxiety levels and superstitious belief behaviors in female soccer players.

Method

Research Ethics

Within the scope of the study, an approval was obtained from Süleyman Demirel University Health Sciences Ethics Committee with the decision dated 01.08.2024 and numbered 78/40.

Research Model

In the study, descriptive and correlational survey methods were used to determine the degree and/or change between or together with two or more descriptive variables to reveal the current situation (Karasar, 2004). The relational survey model is conducted to determine whether the existing variables change together and if a change is detected and in which direction this change lies. (Büyüköztürk et al., 2018). The descriptive survey model describes the situation or event in the research directly as it is (Kaya et al., 2012).

Population and Sample

The Women's 1st League of the Turkish Football Federation consists of two groups, organized according to geographical conditions. The first group had nine teams, and the second group had eight teams. 161 soccer players selected by a simple random sampling method (Çıngı, 1994) from 272 active soccer players playing in nine teams competing in the first group of Women's 1st League of the Turkish Football Federation voluntarily participated in the research. The simple random sampling method allows each individual in the research group to be selected equally. The sample group considered to take part in the study is randomly selected from a list (Çepni, 2010).

Data Collection Tools

Personal information form, trait anxiety scale, and superstitious behavior scale were used as data collection tools in the study.

Personal Information Form

The personal information form includes four questions to obtain information about the age, education level, sports age, and national team status of the amateur soccer players participating in the study.

When Table 1 is examined, it has been determined that according to age groups, 42.9% are 18-20 years old, 40.4% are 21-24 years old, 16.7% are 25 years and above; according to educational level, 42.9% of them have secondary school, 10.6% have associate, 46.5% have undergraduate degree; according to the age of sports, 34.2% of them are 1-5, 29.8% are 6-10 years, 36% are 11 years and above and

Table 1
Demographic Characteristics of Participants

	Variables	n	%
Age (years)	18-20	69	42.9
	21-24	65	40.4
	25 and above	27	16.7
Education Level	Secondary education	69	42.9
	Associate Degree	17	10.6
	Bachelor's Degree	75	46.5
Sports Age (years)	1-5	55	34.2
	6-10	48	29.8
	11 and above	58	36.0
National Team Background	Yes	49	30.4
	No	112	69.6

according to national team background, 30.4% of them are national and 69.6% of them are not national.

Spielberg Anxiety Inventory

The State-Trait Anxiety Inventory (STAI), comprising the State Anxiety Scale (Form TX-1) and the Trait Anxiety Scale (Form TX-2), was developed by Spielberger et al. (1964) and adapted into Turkish by Öner and Le Compte (1983). This inventory consists of 40 items structured as a 4-point Likert-type scale. It is divided into two sections: the 20-item “State Anxiety Form,” which assesses current feelings, and the 20-item “Trait Anxiety Form,” which evaluates feelings experienced over the preceding week. In this study, the Continuous Anxiety Scale was utilized. The State Anxiety Form captures immediate emotional states, whereas the Trait Anxiety Form reflects longer-term anxiety experiences (Doğru & Arslan, 2008). The Continuous Anxiety Scale includes seven reversed items (items 1, 6, 7, 10, 13, 16, and 19). To calculate the continuous anxiety score, negative item scores are subtracted from positive item scores, followed by the addition of a constant value of 35. This yields a score that ranges from 20 to 80, with higher scores indicating elevated levels of anxiety. In the applications conducted, the average score typically falls between 36 and 41. Anxiety scores are categorized as follows: 20–35 indicates low anxiety, 36–42 denotes moderate anxiety, 43–60 reflects high anxiety, and 61–80 signifies severe anxiety (Dalkıran, 2012; Üngören, 2007). The scale exhibits Alpha reliability coefficients ranging from .83 to .87, test-retest reliability scores between .71 and .86, and item reliability has been found to be .34 (Öner & Le Compte, 1983).

Superstitious Behavior Scale

Barut (2008) conducted the Turkish adaptation of the scale developed by Buhramn et al. (1982) to assess superstitious behaviors among athletes, reporting a test-retest correlation coefficient of 0.95. This inventory comprises 37 items structured as a 5-point Likert-type scale and is organized into seven distinct categories. These categories include superstitious behaviors related to clothing and appearance, objects perceived as lucky, pre-game rituals, in-game behaviors, and team-related superstitions and prayers. Respondents, specifically football players, were instructed to evaluate the effectiveness of the behaviors described in the questions concerning their sports experiences using the following scale: (1) Not effective, (2) Less effective, (3) Occasionally effective, (4) Effective, and (5) Very effective. The evaluation of the scale is based on these 5-point Likert-type value ranges, with interpretations as follows: 1-1.8 signifies very low superstition, 1.81-2.6 indicates low superstition, 2.61-3.4 denotes medium superstition, 3.41-4.2 represents high superstition, and 4.21-5 reflects very high superstition averages.

Data Collection

After the necessary explanations about the questionnaire were made to the athletes participating in the study, the questionnaire was applied face-to-face by the researchers.

Data Analysis

The Kolmogorov-Smirnov test was used to evaluate the normality of the obtained data. In accordance with statistical procedures, the results of distortion and pressure distributions are presented in Table 2.

Upon examination of the Kolmogorov-Smirnov test results, it was found that the distribution of participants' trait anxiety scores was normal ($p > 0.05$). However, significant deviations from normality were observed in the superstitious behavior subcategories and total scores ($p < 0.05$), as illustrated in Table 2. According to George and Mallery (2016), skewness and kurtosis values are ideally regarded as acceptable within the range of ± 1 , while Demir et al. (2016) indicated that values within ± 2 can also be considered indicative of normality. Based on these criteria, it was concluded that the

Table 2

The Skewness-Kurtosis and Kolmogorov-Smirnov Test Results of the Soccer Players' Scale Scores

Scales	n	Skewness	Kurtosis	Kolmogorov-smirnow
Trait Anxiety Score	161	.210	-.136	.200
Clothing and Appearance	161	1.185	1.467	.000
Lucky Objects	161	.854	.067	.000
Pre-match Behaviors	161	.582	-.294	.001
While-match Behaviors	161	.939	.010	.002
Team Behavior	161	.823	.232	.000
Praying	161	-.009	-.497	.000
Overall Superstition Total Score	161	.601	.052	.038

data exhibited a normal distribution, thereby justifying the use of parametric statistical analysis tests. The arithmetic mean and standard deviation of participants' scores from the scales are presented as $X \pm SD$. To examine the relationships between the scores obtained from the various scales, Pearson product-moment correlation analysis (r) was conducted.

Findings

It was determined that the average level of trait anxiety of the footballers participating in the study was 39.16 ± 8.56 . When the sub-dimensions of the superstition scale were examined, it was determined that clothing and appearance were 1.94 ± 0.66 , the object considered lucky was 2.03 ± 0.94 , the behaviors before the competition were 2.28 ± 0.83 , the behaviors during the competition were 1.93 ± 0.29 , the team behavior was 2.02 ± 0.98 , the praying was 3.08 ± 1.09 , and the total level of general superstition was 2.21 ± 0.71 (Table 3).

In Table 4, while no relation was found between the trait anxiety levels of soccer players and the superstition sub-headings of clothing and appearance ($r=.196, p=.012^*$) and lucky objects ($r=.209, p=.008^*$), positive relation at low level was found between pre-match behaviors ($r=.300, p=.000^*$), while-match behaviors ($r=.297, p=.008^*$), team behaviors ($r=.221, p=.005^*$), praying ($r=.249, p=.001^*$) and overall superstition total score ($r=.320, p=.000^*$).

Table 3*Descriptive Statistics of Soccer Players' Scores from Scales*

Scales	n	Min	Max	X±SD
Trait Anxiety Score	161	20.00	62.00	39.16 ± 8.56
Clothing and Appearance	161	1.00	4.40	1.94 ± 0.66
Lucky Objects	161	1.00	5.00	2.03 ± 0.94
Pre-match Behaviors	161	1.00	4.46	2.28 ± 0.83
While-match Behaviors	161	1.00	5.00	1.93 ± 1.01
Team Behavior	161	1.00	5.00	2.02 ± 0.98
Praying	161	1.00	5.00	3.08 ± 1.09
Overall Superstition Total Score	161	1.02	4.33	2.21 ±0.71

Table 4*The Relationship Between Participants' Trait Anxiety and Superstitious Behaviors*

		Clothing and Appearance	Lucky Objects	Pre-match Behaviors	While-match Behaviors	Team Behavior	Praying	Overall Superstition Total Score
	n							
	r	.196	.209	.300	.297	.221	.249	.320
Trait Anxiety	161							
	p	.012*	.008*	.000*	.000*	.005*	.001*	.000*

Discussion and Conclusion

The impact of anxiety on athletes' ability to successfully showcase their performance is an important research topic. It is known that the psychological states of athletes and the levels of anxiety they are exposed to can affect their motivation and the levels related to the respective sport (Hall & Kerr, 1997; Mottaghi et al., 2013; O'Rourke et al., 2014). While athletes' anxiety levels depend on many factors, factors and behaviors that trigger or reduce anxiety are being researched (Jones et al., 2009; Zhang et al., 2018). Anxiety is generally examined under two main segments: state anxiety and trait anxiety. State anxiety is defined as a temporary state of anxiety that individuals feel in response to certain dangerous situations. This type of anxiety, which everyone can experience from time to time, is considered a normal emotional response. On the other hand, some individuals experience a constant state of anxiety regardless of environmental threats, and this condition is referred to as "chronic anxiety." Chronic anxiety is defined as a personality trait and is generally considered a condition that requires treatment (Öner & Le Compte,

1983). Athletes can exhibit behaviors that we might call superstitious behaviors due to the anxiety levels caused by the fear of losing or the desire to win. However, it is believed that studies examining the impact of anxiety on such superstitious behaviors are insufficient. For this purpose, it is important to investigate the relationship between the tendency of female soccer players toward superstition and their levels of trait anxiety.

Considering that the total score obtained from the State-Trait Anxiety Inventory can range from 20 to 80 points (Spielberger et al., 1964), it was determined in our study that the anxiety levels of female soccer players were at a moderate level. When the literature is examined, in studies on trait anxiety levels, Kolayış and colleagues (2015) found that the trait anxiety levels of female athletes who participate in team sports were at a moderate level. A study conducted by Başaran and colleagues (2009) involving athletes in basketball, volleyball, handball, taekwondo, and wrestling found that female athletes participating in these sports exhibited moderate levels of trait anxiety. Kaya et al. (2014) stated in their study with students studying at the School of Physical Education and Sports that the students' levels of constant anxiety were at a high level. In a study conducted by Karabulut et al. (2013) with male soccer players, it was found that athletes experienced high levels of trait anxiety. It is thought that there are several reasons for the differences between the findings in the literature and the findings obtained in this study. Considering the competitive environment in sports, there are many factors affecting anxiety levels, and some sports branches may have more mental and physical pressure than others.

For this reason, while anxiety may be higher in some sports branches, anxiety levels experienced by athletes in some sports branches may be lower. At the same time, factors such as athletes' current mental endurance and sport experiences also affect the anxiety levels of athletes. On the other hand, gender is among the important factors affecting anxiety. Therefore, the social and cultural pressures faced by female athletes may also increase their anxiety levels. Finally, sample sizes of the studies and demographic characteristics of the participants are also among the important factors affecting anxiety levels. In our study, there are several possible reasons for the moderate anxiety levels of female soccer players. Firstly,

social support among athletes in team sports, such as soccer, may be an important factor in reducing anxiety. The solidarity and communication established among team members help athletes cope with stress. Additionally, conducting training processes and pre-competition preparations in an orderly manner can be effective in helping athletes manage their anxiety levels. In addition, the psychological resilience of female soccer players may have been shaped by their training and competition experiences, which have contributed to their anxiety levels remaining at a moderate level.

When the mean values of the superstitious belief behaviors and sub-dimensions of the soccer players were examined, it was determined that the general superstitious belief behavior levels were at a low level, and the mean of the 'prayer' sub-dimension was higher than the means of other sub-dimensions (Table 3). Kurudirek (2018) examined the relationship between superstitious belief and anxiety in ice hockey players and reported that superstitious belief behaviors were at a low level. The mean of the prayer sub-dimension was at a medium level and higher than the other sub-dimensions. Işık et al. (2015) reported that the mean superstitious belief score of female athletes was at a very low level, and the mean superstitious belief score of male athletes was at a lower level compared to women. While Kavi (2019) found the superstitious behavior of professional soccer players at a high level in his study, Çakmak (2019) found the average superstitious behavior score of professional soccer players at a medium level, in parallel with our study. The higher level of prayer sub-dimension behavior compared to the other sub-dimensions can be interpreted as the athletes' strong belief in the power of prayer to achieve success and that their prayers will be accepted. On the other hand, it is believed that prayer enhances athletes' mental endurance and has a positive impact on coping with performance anxiety. At the same time, it can be said that the search for spiritual support in order to achieve success, combined with belief systems, strengthens the athletes' superstitious behaviors and thus positively affects the results.

In the study, a low-level positive correlation was found between the anxiety levels of female soccer players and the average of general superstitious behaviors. In the literature review, Işık et al. (2015) found a positive and significant relationship between athletes' anxi-

ety levels and superstitious behaviors. Kurudirek (2018) found a statistically significant inverse relationship between the superstitious behaviors of ice hockey players and their anxiety levels. Erol and colleagues (2022) conducted a study on the impact of athletes' superstitions on success and reported that there are positive and moderately significant relationships between the level of belief and the anxiety that arises when superstitions and behaviors are not fulfilled. Schippers and Van Lange (2006) reported that four out of every five professional athletes engaged in at least one superstitious behavior before a competition. Additionally, Todd and Brown (2003) found that athletes in higher level leagues exhibited significantly more superstitious behavior than those in lower level leagues. Individuals who cannot cope with their anxieties are more prone to superstitions and compulsive behaviors. Undoubtedly, the feelings of anxiety and fear that lie at the center of religion can never be eliminated in us humans. However, anxiety towards behaviors and beliefs can be reduced and directed in some way. (Arslan, 2004).

On the other hand, Burger and Lynn (2005) examined the effects of superstitious behaviors on athletes in their research conducted on baseball players in different cultural contexts. While it has been determined that superstitious behaviors positively contribute to the individual performance of American baseball players, it has been emphasized that these behaviors affect the team performance of Japanese baseball players. This study reveals that superstitious behaviors vary within the framework of cultural differences. These findings provide important data for understanding the relationship between athletes' anxiety levels and superstitious behaviors. The positive correlation between anxiety and superstitions indicates that athletes resort to spiritual or ritualistic behaviors in their efforts to manage their worries. In particular, it can be said that individuals who have difficulty in coping with anxiety tend to develop more superstitious behaviors than other individuals due to the feelings of uncertainty and lack of control they experience. This situation reveals that the religion and belief systems that individuals believe in have the capacity to reduce anxiety and provide relief for individuals.

As a result, a low positive correlation was found between anxiety levels and superstitious behavior levels of female soccer players. It is thought that this situation may be due to the fact that athletes cannot

manage their anxiety states that arise as a result of fear of losing or ambition to succeed and that they turn to superstitious behaviors that exist in all beliefs from past to present and are widely used in sports fields as well as in daily life. This finding provides important results supporting the relationship between anxiety and superstitious behaviors in the sport psychology literature. In order to understand the psychological factors affecting the performance of female soccer players better, investigating the role of superstitious beliefs in anxiety management processes can be considered an important area for future studies.

Recommendations

Anxiety and superstitious belief levels can be examined with larger soccer player sample groups. Anxiety and superstitious belief levels of athletes who play team sports such as soccer can be investigated. Factors that may mediate anxiety and superstitious belief behaviors in sports can be investigated. The impact of superstitions on performance can be investigated in future studies. Athletes' religious and superstitious beliefs should be respected, and appropriate environments and facilities should be provided for them to perform their religious rituals.

A study can be conducted on the relationship between superstition and anxiety, as well as intercultural differences. This study can contribute to the sports psychology literature by examining the impact of superstitions on anxiety levels in different cultural contexts.

References

- Alisinanoğlu, F., & Ulutaş, İ. (2003). Çocukların kaygı düzeyleri ile annelerinin kaygı düzeyleri arasındaki ilişkinin incelenmesi. *Eğitim ve Bilim*, 128(28), 65–71.
- Arisoy, A., Pepe, O., & Karaoğlu, B. (2021). COVID-19 sürecinde futbola dönüş öncesi futbolcuların durumluk kaygı düzeyleri ile psikolojik performansları arasındaki ilişki belirlenmesi: Isparta örneği. *Yalvaç Akademi Dergisi*, 5(1), 55–63. <https://dergipark.org.tr/en/pub/yalvac/issue/55032/749618>
- Arslan, M. (2004). Kişilerin batıl inanç kaygı düzeylerinin bazı değişkenler açısından incelenmesi. *Değerler Eğitimi Dergisi*, 2(6), 7–34. <https://dergipark.org.tr/en/download/article-file/302573>

- Bali, A. (2015). Psychological factors affecting sports performance. *International Journal of Physical Education, Sports and Health*, 1(6), 92–95. <https://doi.org/10.2165/00007256-200131120-00004>
- Barut, A. İ. (2008). *Sporda batıl davranış ve öz yeterlik ilişkisi* [Yüksek lisans tezi, Mersin Üniversitesi]. YÖK Tez Merkezi.
- Başaran, M. H., Taşgın, Ö., Sanioğlu, A., & Taşkın, A. K. (2009). Sporcularda durumluk ve sürekli kaygı düzeylerinin bazı değişkenlere göre incelenmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21, 533–542.
- Beisecker, L., Harrison, P., Josephson, M., & DeFreese, J. D. (2024). Depression, anxiety and stress among female student-athletes: A systematic review and meta-analysis. *British Journal of Sports Medicine*, 58(5), 278–285. <https://doi.org/10.1136/bjsports-2023-107328>
- Berutu, R., & Mutiawati, M. (2023). Understanding learning anxiety and mental health of final year students: A qualitative study. *ProGCouns: Journal of Professionals in Guidance and Counseling*, 4(1), 42–51. <https://doi.org/10.21831/progcouns.v4i1.60000>
- Budak, S. (2005). *Psikoloji sözlüğü*. Bilim ve Sanat Yayınları.
- Buhrmann, H., Brown, B., & Zaugg, M. (1982). Superstitious beliefs and behavior: A comparison of male and female basketball players. *Journal of Sport Behavior*, 5(4), 175–182.
- Burger, J. M., & Lynn, A. L. (2005). Superstitious behavior among American and Japanese professional baseball players. *Basic and Applied Social Psychology*, 27(1), 71–76. https://doi.org/10.1207/s15324834basps2701_7
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demiral, F. (2018). *Eğitimde bilimsel araştırma yöntemleri*. Pegem Akademi.
- Çakmak, R. F. (2019). *Profesyonel futbolcuların antrenman, müsabaka öncesi veya sırasındaki inanç, batıl inanç ve farklı davranış eğilimlerinin incelenmesi* [Yüksek lisans tezi, Afyon Kocatepe Üniversitesi]. YÖK Tez Merkezi.
- Çepni, S. (2010). *Araştırma ve proje çalışmalarına giriş*. Ofset Matbaacılık.
- Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin*, 124(1), 3–21. <https://doi.org/10.1037/0033-2909.124.1.3>

- Chuang, W. C., Lu, F. J., Fang, B. B., Chen, B., Zhang, Z., & Gill, D. L. (2024). Development and validation of sports superstition attitude scale: Examining the influences of superstition on athletes' behavior. *Kinesiology*, 56(1), 135–144. <https://doi.org/10.26582/k.56.1.8>
- Çingir, H. (1994). *Örneklem kuramı*. Hacettepe Üniversitesi Basımevi.
- Dalkıran, O. (2012). *Dershane öğrencilerinin fiziksel aktivitede bulunma değişkenine göre sürekli kaygı, sınav kaygısı ve sosyal beceri düzeyleri ile sınav performanslarının değerlendirilmesi* [Doktora tezi, Ankara Üniversitesi]. YÖK Tez Merkezi.
- Demir, E., Saatçioğlu, Ö., & İmrol, F. (2016). Uluslararası dergilerde yayımlanan eğitim araştırmalarının normallik varsayımları açısından incelenmesi. *Curr Research Educ*, 2(3), 130–148.
- Doğru, S. S. Y., & Arslan, E. (2008). Engelli çocuğu olan annelerin sürekli kaygı düzeyi ile durumluk kaygı düzeylerinin karşılaştırılması. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 19, 543–553. <https://dergipark.org.tr/en/pub/susbed/issue/61795/924286>
- Dömötör, Z., Ruíz-Barquín, R., & Szabo, A. (2016). Superstitious behavior in sport: A literature review. *Scandinavian Journal of Psychology*, 57(4), 368–382. <https://doi.org/10.1111/sjop.12301>
- Erol, A. E., Çalışır, M., Çivgin, U., & Deniz, S. (2022). Elit takım sporcularının performans öncesi ve sırasındaki batıl inanç yönelimlerinin ve kaygı düzeylerinin incelenmesi. *Uluslararası Türk Spor ve Egzersiz Psikolojisi Dergisi*, 2(1), 22–38. <https://doi.org/10.55376/ijtsep.1098469>
- Faizan, M., Ahuja, A., Ansari, S., Sharma, S., Ngomdir, K., & Alam, M. F. (2024). Effect of 6-week combined training on salivary cortisol levels, total Olympic lifting performance, and anxiety levels in elite male Olympic weightlifters. *Sport Sciences for Health*, 20(1), 55–64. <https://doi.org/10.1007/s11332-023-01064-w>
- George, D., & Mallery, P. (2016). *IBM SPSS statistics 23 step by step: A simple guide and reference*. Routledge.
- Hall, H. K., & Kerr, A. W. (1997). Motivational antecedents of precompetitive anxiety in youth sport. *The Sport Psychologist*, 11(1), 24–42. <https://doi.org/10.1123/tsp.11.1.24>
- İnce, B. (2021). 12–18 yaş arası lisanslı sporcularda batıl inançların stresle baş edebilme becerilerinin incelenmesi. *International Multilingual Journal of Science and Technology (IMJST)*, 6(1), 2318–2342.

- Işık, U., Ağbuğa, B., & Elçi, G. (2015). Aktif spor yapan üniversite öğrencilerinde sporda batıl inanç eğilimi ile sürekli kaygı seviyeleri arasındaki ilişkinin incelenmesi. *Sportif Bakış: Spor ve Eğitim Bilimleri Dergisi*, 2(1), 31–39. <https://dergipark.org.tr/en/pub/sbsebd/issue/31659/347117>
- Jones, M., Meijen, C., McCarthy, P. J., & Sheffield, D. (2009). A theory of challenge and threat states in athletes. *International Review of Sport and Exercise Psychology*, 2(2), 161–180. <https://doi.org/10.1080/17509840902829331>
- Karabulut, O., Atasoy, M., Kaya, K., & 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), 243–254. <https://dergipark.org.tr/en/pub/kefad/issue/59473/854645>
- Karasar, N. (2004). *Bilimsel araştırma yöntemi*. Nobel Yayıncılık.
- Kavi, O. (2019). *İstanbul ili Anadolu Yakası futbol kulüplerinde oynayan profesyonel futbolcuların; takıntı, batıl inanç ve düşünce kontrollerinin incelenmesi* [Bilim uzmanlığı tezi, Kocaeli Üniversitesi]. YÖK Tez Merkezi.
- Kaya, E., Sari, İ., Tolukan, E., & Gülle, M. (2014). Examination of trait anxiety levels of physical education and sports students (Ibrahim Cecen University case). *Procedia: Social and Behavioral Sciences*, 152, 399–402. <https://doi.org/10.1016/j.sbspro.2014.09.219>
- Kolayış, H., Sarı, İ., & Köle, Ö. (2015). Takım sporlarıyla uğraşan kadın sporcuların imgeleme, güdülenme ve kaygı puanları arasındaki ilişkinin incelenmesi. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi*, 13(2), 129–136. https://doi.org/10.1501/Sporm_0000000277
- Manav, F. (2011). Kaygı kavramı. *Toplum Bilimleri Dergisi*, 5(9), 201–211.
- Mottaghi, M., Atarodi, A., & Rohani, Z. (2013). The relationship between coaches' and athletes' competitive anxiety, and their performance. *Iranian Journal of Psychiatry and Behavioral Sciences*, 7(2), 68–76.
- Muir-Cochrane, E. C. (2009). The person who experiences anxiety. In P. Barker (Ed.), *Psychiatric and mental health nursing: The craft of caring* (2nd ed., pp. 211–218). Arnold.
- O'Rourke, D. J., Smith, R. E., Smoll, F. L., & Cumming, S. P. (2014). Relations of parent- and coach-initiated motivational climates to young athletes' self-esteem, performance anxiety, and autonomous motivation: Who is more influential? *Journal of*

- Applied Sport Psychology*, 26(4), 395–408. <https://doi.org/10.1080/10413200.2014.907838>
- Öncül, R. (2000). *Eğitim ve eğitim bilimleri sözlüğü*. M.E.B. Yayınları.
- Öner, N., & Le Compte, A. (1983). *Süreksiz durumluk sürekli kaygı envanteri el kitabı*. Boğaziçi Üniversitesi Yayınevi.
- Pepe, O. (2020). Zihinsel antrenman ve vücut geliştirme. In İ. K. Türkay (Ed.), *Bilimsel ve sağlık açısından vücut geliştirme*. Akademisyen Kitabevi.
- Polat, M., Coksevim, B., Günay, E., & Pepe, O. (2010). The investigation of anxieties and brief symptom inventory levels of female volleyball players. *Ovidius University Annals, Series Physical Education & Sport/Science, Movement & Health*, 10(2), 570–576.
- Reardon, C. L., Gorczynski, P., Hainline, B., Hitchcock, M., & Rice, S. (2024). Anxiety disorders in athletes. *Clinics in Sports Medicine*, 43(1), 33–52. <https://doi.org/10.1016/j.csm.2023.06.002>
- Sanfilippo, J. L., Haralsdottir, K., & Watson, A. M. (2024). Anxiety and depression prevalence in incoming Division I collegiate athletes from 2017 to 2021. *Sports Health*, 16(5), 776–782. <https://doi.org/10.1177/19417381231198537>
- Schippers, M. C., & Van Lange, P. A. (2006). The psychological benefits of superstitious rituals in top sport: A study among top sportspersons. *Journal of Applied Social Psychology*, 36(10), 2532–2553. <https://doi.org/10.1111/j.0021-9029.2006.00116.x>
- Sieber, J. E. (1977). Development of the concept of anxiety. In J. E. Sieber, H. F. O'Neil Jr., & S. Tobias (Eds.), *Anxiety, learning, and instruction* (pp. 1–20). Lawrence Erlbaum.
- Skinner, B. F. (1992). “Superstition” in the pigeon. *Journal of Experimental Psychology: General*, 121(3), 273–274.
- Spielberger, C. D. (1972). *Anxiety: Current trends in theory and research*. Academic Press.
- Tahılar, R., Karaoğlu, B., & Turan, M. B. (2017). Investigation of university students' social appearance anxiety according to some variables. *Journal of Physical Education Research*, 4(2), 37–44.
- Todd, M., & Brown, C. (2003). Characteristics associated with superstitious behavior in track and field athletes: Are there NCAA divisional level differences? *Journal of Sport Behavior*, 26(2), 168–187.

- Üngüren, E. (2007). *Lise ve üniversitelerde turizm eğitimi alan öğrencilerin umutsuzluk ve kaygı düzeylerinin çeşitli değişkenler açısından değerlendirilmesi: Antalya'da bir uygulama* [Yüksek lisans tezi, Akdeniz Üniversitesi]. YÖK Tez Merkezi.
- Womack, M. (1992). Why athletes need ritual: A study of magic among professional athletes. In S. Hoffman (Ed.), *Sport and religion* (pp. 191–202). Human Kinetics.
- Yılmaz, E., Özdiç, M., & Aydemir, R. (2021). Genç hentbolcularda stres ve saldırganlık düzeylerinin incelenmesi. *Social Sciences Studies Journal*, 80, 1209–1216. <https://doi.org/10.26449/sssj.3058>
- Yoka, O., Yoka, K., Turan, M. B., & Güler, E. (2022). The relationship between individual and team athletes' anxiety to catch the novel coronavirus (COVID-19) and sleep quality. *VIREF Revista de Educación Física*, 11(1), 114–133.
- Zhang, S., Woodman, T., & Roberts, R. (2018). Anxiety and fear in sport and performance. In *Oxford research encyclopedia of psychology*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190236557.013.162>