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The Effect of Mental Energy on Psychological Skills and Courage in Soccer Players

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Abstract

This paper investigated whether athletic mental energy (AME) mediated soccer psychological skills and sports courage in soccer players. The study constructed a theoretical model tested using the Sobel test. The sample consisted of 369 active amateur and professional soccer players playing in the Turkish Super League, PTT 1st League, 2nd League, 3rd League, Amateur, and Honey Leagues of the Turkish Football Federation 2021-2022. Data were gathered via a personal information form, the Soccer Psychological Skills Scale-16 (SPSS-16), the Sports Courage Scale-31 (SCS-31), and the Athletic Mental Energy Scale (AMES). The results revealed that sports courage positively affected AME and psychological skill levels. Athletic mental energy affected psychological skill levels positively and mediated psychological skills and sports courage. The results verified the theoretical model. Further investigation into the domains of athletic mental energy, psychological skills, and courage within the realm of sports is essential for enhanced comprehension. Football players should receive insights into the psychological facets associated with courage, athletic mental energy, and psychological skills in football. Including psychological skills training in football programs for younger age groups is warranted. The scope of research can extend to diverse sample groups, thereby enriching the existing body of literature.
Keywords: Sports courage, Soccer psychological skill, Athletic mental energy, Soccer

Futbolcuların Zihinsel Enerjileri ile Cesaretlerine Göre Psikolojik Becerileri

Öz

Araştırmada, futbolcuların profesyonel futbolcularda psikolojik beceriler ile sporda cesaret düzeyleri arasındaki ilişkide atletik zihinsel enerjinin aracılık etkisinin olup olmadığı belirlemek amacıyla özgün teorik bir model kurulmuş ve bu model de Sobel testi ile değerlendirilmiştir. Araştırmaya 2021-22 Türkiye Futbol Federasyonu'nun belirlediği Türkiye'deki Süper Lig, PTT 1. Lig, 2. Lig ve 3. Lig ve Amatör ve Bal Lig'lerinde futbol oynayan takımların amatör ve profesyonel futbol liglerinde oynayan 369 amatör ve profesyonel aktif futbolcu katılmıştır. Veri toplama aracı olarak, kişisel bilgiler formu, "Profesyonel Futbolcularda Psikolojik Beceriler Ölçeği-16 (PFPBÖ-16)", "Sporda Cesaret Ölçeği-31 (SCÖ-31)" ile "Atletik Zihinsel Enerji Ölçeği (AZEÖ)" kullanılmıştır. Araştırma sonucunda, futbolda cesaretin atletik zihinsel enerji düzeylerini olumlu olarak, atletik zihinsel enerjinin psikolojik beceri düzeylerini pozitif yönde, futbolda cesaretin futbolda psikolojik becerileri olumlu bir şekilde etkilediği ve son olarak atletik zihinsel enerjinin futbolda cesaret ve psikolojik beceri ile olan ilişkisinde aracılık etkisinin olduğu ortaya çıkmıştır. Araştırma için önerilen teorik model doğrulanmıştır. Daha sağlıklı değerlendirme yapılabilmesi adına atletik zihinsel enerji, psikolojik beceri ve sporda cesaret ile ilgili daha fazla araştırmaya gereksinim vardır. Futbolcuların cesaret, atletik zihinsel enerji ve futbolda psikolojik beceri düzeyleri ilgili psikolojik faktörleri hakkında farkındalıkları sağlanabilir. Futbolda psikolojik beceri eğitimi alt yaş gruplarındaki programlara alınmalıdır. Araştırma farklı örneklem grupların da yapılarak alanyazına katkıda bulunacağı söylenebilir.
Anahtar Kelimeler: Sporda cesaret, Futbolda psikolojik beceri, Atletik zihinsel enerji, Futbol

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INTRODUCTION

Athletes push their physiological and psychological limits to achieve high performance. Most coaches agree that half of winning is psychological preparedness (Weinberg & Gould, 2015). Therefore, there is a positive correlation between athletic performance and mental and psychological preparedness (Altıntaş & Akalan, 2008). Post-competition evaluations generally ignore bodily needs before, during, and after competitions, emotional state and thoughts during competitions, and reactions to all these factors. Focusing on both mental and emotional effort during competitions will enable us to reach more precise information about athletic performance (Bozkurt, 2010). Some athletes perform beyond their potential. They can acquire these skills like other skills, depending on mental and psychological factors (Loehr, 1986). Athletes with psychological skills are likely to have higher performance, motivation, and talent. Psychological skills involve imagery, goal setting, pep talk, self-talk, looking at things from a different perspective, thought control, progressive relaxation, autogenic training, and visualization. Therefore, psychological skills help athletes achieve peak performance and motivation. Psychological skills are essential for athletic performance, but Turkish athletes do not use them much (Biçer, 1998; Brewer, 2009; Konter, 1999).

Although sports courage is widely accepted and discussed, there is still very limited research on it (Woodard and Pury, 2007: 135). While Aristotle defines courage as a mean with respect to fear and confidence (Pury and Hensel, 2010: 62), Kuhl and Beckmann (1985) define it as one's ability to cope with difficulties, uncertainties, dangers, pain, and fear (Konter and Beckmann, 2019: 40). Rate et al. (2007) examine the characteristics of courage from the observers' point of view and state that four characteristics define courage: (1) intentionality/deliberation, (2) the presence of personal fear, (4) noble/good act, and (4) known substantial personal risk (Konter and Beckmann, 2019: 39). Sports courage is another component of sports psychology (Lopez, 2007). Although there is a large body of research on work, musical performance, and leadership, there are few studies on sports courage, which has received little attention from football researchers (Corlett, 2002; Konter et al., 2013; Konter and Ng, 2012: 165). Affected by many factors (danger, fear, risk, etc.), sports courage depends on the athlete's task type, personal characteristics, and earlier experiences (Pury & Kowaski, 2007). Sports courage plays a key role in the performance of individual and team athletes (Corlett, 1996). It seems that there is still no clear answer to many questions related to sports courage. For example, How is sports courage defined?, Is courage personal or situational?, Do gender, age, athlete type (amateur and professional), and sport type (individual and team) affect sports courage?, What elements does sports courage consist of?, and What is the significance between success and performance in sports courage? (Konter, 2013: 959). Athletes are expected to show courage during competitions (Konter, 2015e, 2017). For example, a soccer player is expected to take the following bold actions; tackling opponents, making a long pass from one side of the court to the other, taking a free kick or penalty, shooting at goal instead of making a pass. A soccer player sometimes runs the risk of being injured or disgraced if he/she fails (Konter and Beckmann, 2019: 41; Putman, 2004).

Although "mental energy" has no clear definition, it is a concept of interest (Lieberman, 2007). It was first addressed in the nineteenth century, but it was never defined scientifically

(Yıldız, 2021: 35). Studies on exercise and sports psychology focus on the concept of mental energy. It is associated with reflecting on problems, concentrating on different factors, and insisting on finding a solution without distraction. It is an important determinant of success (Lykken, 2005). Mental energy is a mood and also one's willingness or ability to engage in cognitive work (Lieberman, 2007). The pyramid is the source of athletic performance based on an energy structure. This pyramid, built on a physical energy base, also contains mental and emotional energy layers (Loehr, 2005). Sports psychologists use self-awareness checklists linked to higher-order tasks (perception, creativity, abstract thinking, etc.) to determine mental energy levels (Lu et al., 2018). Lu et al. (2018) define athletic mental energy as "an athlete's perception of his/her existing energy state." They argue that this perception is a harbinger of sudden fluctuations arising from events and psychological situations. They add that athletic mental energy is the source of athletes' long-term physical and mental effort in workouts and competitions (Yıldız et al., 2020: 110). Performance research in sports psychology consistently focuses on the concept of "vigor," "tireless," and "composed," which are related to athletic mental energy coined by Lu et al. (2018). "Confidence" and "concentration" are the cognitive components that affect athletic performance. Most sports psychology research also focuses on the component of "motivation." In addition, the feeling of burnout related to mental energy causes a lack of interest, focus, and ambition (Lykken, 2005), resulting in poor performance (Radhakrishnan et al., 2017). Therefore, athletic mental energy is essential for athletes to control or regulate mood or the emotions that affect it and to achieve successful outcomes in relation to professional and academic goals as a result of physical or mental effort (Yıldız, 2021: 43).

There is a small body of research on psychological skills in soccer (İslam, 2021; Konter, 2002, 2004, 2005a, 2005b, 2006, 2009, 2017; Konter et al., 2019; Sivrikaya & Ozan, 2020). There is also limited research on athletic mental energy (Chiou et al., 2020; Gülşen et al., 2023; İslam, 2023a, 2023b; İslam & Öztürk, 2023; Lu et al., 2018; Yıldız et al., 2020; Yıldız, 2021). The research on sports courage (soccer, wrestling, American football, kayaking, etc.) helps us better understand athletic mental energy and psychological skills in soccer (Avşar et al., 2016; Cigrovski et al., 2018; Güvendi et al., 2018; Güvendi et al., 2020; İslam, 2021; İslam et al., 2021; Konter & Beckmann, 2019). No studies have ever addressed athletic mental energy, sports courage, and psychological skills in soccer together. Therefore, this is the first study to determine whether athletic mental energy plays a mediating role between psychological skills and sports courage levels in amateur and professional soccer players. Research shows that psychological skills, athletic mental energy, and sports courage are important variables that positively affect the psychological structure of soccer players. Therefore, the research hypotheses are as follows:

Research Hypotheses

H_1: Courage positively affects soccer players athletic mental energy.

H_2: Athletic mental energy positively affects soccer players psychological skills.

H_3: Sports courage positively affects soccer players psychological skills.

H_4: Athletic mental energy plays a mediating role between sports courage and psychological skills in soccer players.

METHOD

Research Model and Type

This study adopted a qualitative correlational survey method to develop an original theoretical model to determine whether athletic mental energy played a mediating role between psychological skills and sports courage levels in amateur and professional soccer players. In the model, psychological skills were the dependent variable, sports courage was the independent variable, and athletic mental energy was the mediating variable. Mediation analyses that add new information to the literature are theoretical studies. The survey method aims to describe a situation as it is or as it was in the past (Karasar, 2005, 2008). The model was assessed using the Sobel test (Sobel, 1982). The model in question is as follows:

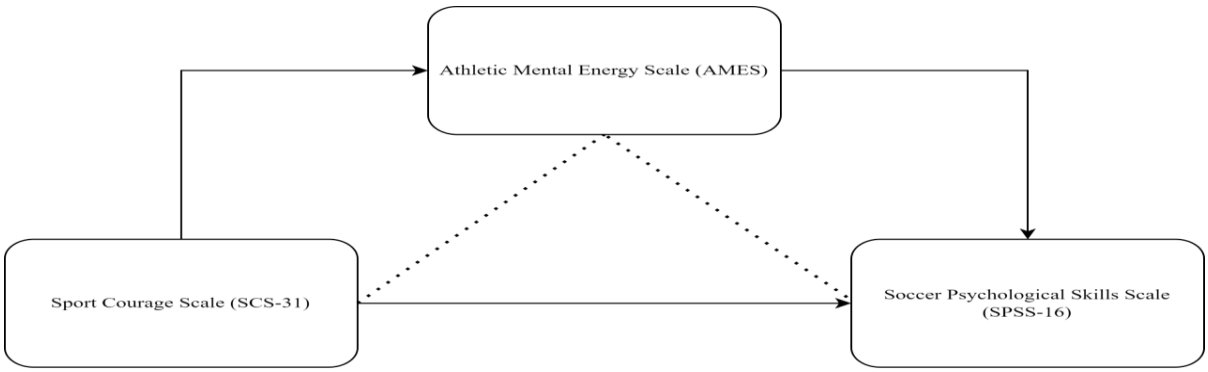

Figure 1. Sobel test model

Research Purpose

This study aimed to determine whether athletic mental energy played a mediating role between psychological skills and sports courage in male amateur and professional soccer players playing in the Super League, PTT Soccer 1st League, Soccer 2nd League, Soccer 3rd League, Regional Amateur Leagues, and Amateur League in the 2021-2022 season.

Population and Sample

The study population consisted of all amateur and professional soccer players playing in the amateur and professional leagues in 14 regions (TFF, 2021) determined by the Turkish Football Federation (TFF). Participants were recruited from Sivasspor (super league), Sivas Belediyespor (2nd League), Orduspor 1967 AŞ, Derince Belediyespor, 52 Orduspor FK, and Fatsa Belediyespor (3rd League), Abdulvahabi Gazi SK and Cumhuriyet Üniversitesi GSK (regional amateur leagues), and Esnafspor, Saraycık Belediyespor, Kotyora FK, Turnasuyu, Demirspor, Kiraz Limanspor, Mesudiyespor, and Gölköyspor (amateur league). A common rule of thumb for scale studies is to have a sample size five times the number of items in the scale (Tavşancıl, 2014). Therefore, the target sample size was 325. The sample consisted of 369 amateur and professional male soccer players recruited using disproportionate element sampling.

Data Collection Tools

Data were collected using a survey method. Participants were briefed about the research purpose and procedure. They were also informed that this was a scientific study in which they were expected to answer the questions accurately and that they could withdraw from the study at any point. The researchers answered the participants' questions as they filled out the data collection forms. The data were collected from male soccer players playing in the "Super League," "PTT 1st League", "2nd League," "3rd League," and Amateur Leagues in the 2021-2022 season. The data were collected using a sociodemographic characteristics questionnaire, the Soccer Psychological Skills Scale-16 (SPSS-16), the Sports Courage Scale-31 (SCS-31), and the Athletic Mental Energy Scale (AMES).

Sociodemographic Characteristics Questionnaire: The sociodemographic characteristics questionnaire was based on a literature review conducted by the researcher. The questionnaire consisted of items on age, professional experience, position, category, and the status of being a national athlete.

Athletic Mental Energy Scale: The Athletic Mental Energy Scale (AMES) was developed by Lu et al., (2018) and adapted to Turkish by Yıldız et al. (2020). The instrument consists of 18 items rated on a six-point Likert-type scale. The instrument consists of six subscales: vigor (Items 1, 12, and 15), confidence (Items 3, 9, and 13), motivation (Items 4, 8, and 16), tireless (Items 7, 11, and 12), concentration (Items 2, 5, and 10), and composed (Items 14, 17, and 19). The subscales of the original scale "vigor," "confidence," "motivation," "tireless," "concentration," and "composed" have a Cronbach's alpha (α) of 0.75, 0.82, 0.86, 0.89, 0.87, and 0.90, respectively (Lu et al., 2018). The subscales of the Turkish version of the scale have a Cronbach's alpha of 0.78 to 0.91 (Yıldız et al., 2020).

Sports Courage Scale: The Sports Courage Scale-31 (SCS-31) was developed by Konter & Ng, (2012). The instrument consists of 31 items rated on a five-point Likert-type scale ("1= Strongly Agree" to "5= Strongly Disagree"). The instrument has five subscales: mastery (α = .82; Items 1, 6, 11, 16, 21, 24, and 27), determination (α = .82; Items 2, 7, 12, 17, 20, 22, 25, 28, and 30), venturesome (α = 0.72; Items 3, 8, 13, 18, 23, 26, and 29), assertiveness (α = 0.72; Items 4, 9, 14, and 19), and self-sacrifice behavior (α = 0.61; Items 5, 10, 15, and 31) (Konter & Ng, 2012: 163-172).

Soccer Psychological Skills Scale: The Soccer Psychological Skills Scale-16 (SPSS-16) was developed by Konter (2009). The instrument consists of 16 items rated on a five-point Likert-type scale ("1= Strongly Agree" to "5= Strongly Disagree"). The instrument has five subscales: imagery (α = 0.66; Items 1, 6, 11, and 16), performing under pressure (α = 0.73; Items 3, 8, and 13), commitment (α = 0.62; Items 2, 7, and 12), coping with stress (α = 0.68; Items 4, 9, and 14), and competitive anxiety (α = 0.63; Items 5, 10, and 15).

Ethical Considerations

The study was approved by the "Social and Human Sciences Reseaarch Ethics Committee" of Ordu University Rectorate (Date: 11.11.2021 & 2021/196).

Data Analysis

Participants' sociodemographic characteristics were presented using frequency (n) and percent (%). The reliability of the SPSS-16, SCS-31, and AMES was analyzed. The relationship between scale scores was analyzed using correlation tests. Normality was tested. Pearson's correlation test was used for analysis. Mean ($\overline{X}$) and standard deviation (SD) values were used for descriptive statistics. Analysis was performed to determine whether athletic mental energy (AMES) played a mediating role between psychological skills (SPSS-16) and sports courage (SCS-31). The Sobel test is used to test the significance of the effect of a mediator. This test is based on the work of Michael Sobel, a professor of statistics at Columbia University in New York (Sobel, 1982, 1986). A mediation model examines whether the relationship between independent and dependent variables occurs through a third variable. The Sobel test measures whether a mediating variable is significant. The Sobel test examines and interprets the relationship between dependent and independent variables by including a mediating variable in the model (Sobel, 1982, 1986; MacKinnon et al., 2002). Three simple linear regression models were developed to test the assumptions. In the first model, athletic mental energy (AMES) was the dependent variable, while sports courage (SCS-31) was the independent variable. In the second model, psychological skills (SPSS-16) was the dependent variable, while athletic mental energy (AMES) was the independent variable. In the third model, psychological skills (SPSS-16) were the dependent variable, while sports courage (SCS-31) was the independent variable. The results of the models showed that the conditions for investigating the mediating effect of athletic mental energy were met. In line with this, a fourth model was developed. In the model, athletic mental energy and sports courage were the independent variables, while psychological skills were the independent variable. Multiple linear regression analysis was performed. The results of the fourth model showed that athletic mental energy played a partially mediating role between psychological skills and sports courage. The significance of the change in Beta values was tested to determine the validity of the partial mediation effect of athletic mental energy (Hayes, 2013). In Monte Carlo simulations, the Sobel and Aroian tests yield the best results for samples larger than 49 (MacKinnon et al., 1995). Sobel, Aroian, and Goodman test statistics were used to evaluate the significance of the change in beta values. The margin of error in the statistical analyses was 5%. All analyses were carried out using the R-Project program (R Core Team, 2020) and the bda (Wang, 2015) package.

RESULTS

Table 1. Sociodemographic characteristics

Variable	n	%
Age (year)		
≤18	20	5.4
19-24	167	45.3
25-29	100	27.1
30-35	63	17.1
≥35	19	5.1
Professional experience (year)		
0-2	18	4.9
3-5	43	11.7
6-8	101	27.4
9-11	100	27.1
≥11	107	29.0
Position		
Goalkeeper	37	10.0
Defender	122	33.1
Midfielder	125	33.9
Striker	85	23.0
Team category		
Amateur/Regional League	240	65.0
3rd League	89	24.1
2nd League	20	5.4
Super League	20	5.4
Being a national athlete		
Yes	29	7.9
No	340	92.1

Table 1 shows the participants' sociodemographic characteristics. Most participants were 19 to 29 years of age (n=267; 72.4%). More than half the participants had a professional experience of 6 to 11 years (n=201; 54.5%). Participants were goalkeepers (n=37; 10%), central defenders (n=122; 33.1%), midfielders (n=125; 33.9%), or strikers (n=85; 23%). More than half the participants played soccer in the amateur/regional leagues (n=240; 65%). A quarter of the participants played soccer in the 3rd league (n=89; 24.1%). Forty participants played soccer in the 2nd league (n=20; 5.4%) or super league (n=20; 5.4%). Only twenty-nine participants were national athletes (7.9%).

Table 2. Reliability test results

Scales	Item No	Cronbach's Alpha
AMES	18	0.886
SCS-31	31	0.844
SPSS-16	16	0.868

AMES: Athletic Mental Energy Scale, SCS-31: Sports Courage Scale, SPSS-16: Soccer Psychological Skills Scale

The AMES, SCS-31, and SPSS-16 had a Cronbach's alpha of 0.886, 0.844, and 0.868, respectively.

Table 3. The descriptive statistics and correlations of the total scores of the scales

Variable	$\bar{X}$	SD	1	2	3
1. AMES	82.379	15.386	1	-0.269***	0.676***
2. SCS-31	72.385	18.810		1	-0.337***
3. SPSS-16	62.149	12.279			1

$\bar{X}$: Mean, SD: Standard deviation, AMES: Athletic Mental Energy Scale, SCS-31: Sports Courage Scale, SPSS-16: Soccer Psychological Skills Scale

Participants had a mean AMES, SCS-31, and SPSS-16 score of 82.379, 72.385, and 62.149, respectively. The AMES total score was negatively correlated with the SCS-31 total score ($r=-0.269$, $p<0.05$) and positively correlated with the SPSS-16 total score ($r=0.676$, $p<0.05$). There was also a negative correlation between the SCS-31 and SPSS-16 total scores ($r=-0.337$, $p<0.05$).

Table 4. Simple linear regression analysis (model 1)

Variable	Beta	Std. Error	t	p
Constant	98.329	3.075	31.976	<0.001
SCS-31	-0.220	0.041	-5.359	<0.001
R		0.269		
R^2		0.073		

Beta: Coefficient, Std. Error: Standard Error, SCS-31: Sports Courage Scale,

Table 4 shows the simple linear regression analysis where athletic mental energy (AMES) was the dependent variable, while sports courage (SCS-31) was the independent variable. The results showed that sports courage significantly affected athletic mental energy ($p<0.05$).

Table 5. Simple linear regression analysis (model 2)

Variable	Beta	Std. Error	t	p
Constant	17.690	2.572	6.878	<0.001
AMES	0.540	0.031	17.585	<0.001
R		0.676		
$R^{2.}$		0.457		

Beta: Coefficient, Std. Error: Standard Error, AMES: Athletic Mental Energy Scale

Table 5 shows the simple linear regression analysis where psychological skill (SPSS-16) was the dependent variable, while athletic mental energy (AMES) was the independent variable. The results showed that athletic mental energy significantly affected psychological skills ($p<0.05$).

Table 6. Simple linear regression analysis (model 3)

Variable	Beta	Std. Error	t	p
Constant	78.052	2.400	32.525	<0.001
SCS-31	-0.220	0.032	-6.846	<0.001
R		0.337		
R^2		0.113		

Beta: Coefficient, Std. Error: Standard error, SCS-31: Sports Courage Scale

Table 6 shows the simple linear regression analysis where psychological skill (SPSS-16) was the dependent variable, while sports courage (SCS-31) was the independent variable. The results showed that sports courage significantly affected psychological skills ($p<0.05$).

The models showed that athletic mental energy played a mediating role between psychological skills and sports courage.

Table 7. Multiple linear regression analysis (model 4)

Variable	Beta	Std. Error	t	p
Constant	28.503	3.570	7.984	<0.001
SCS-31	-0.109	0.025	-4.265	<0.001
AMES	0.504	0.031	16.178	<0.001
R		0.695		
R^2		0.483		

Beta: Coefficient, Std. Error: Standard Error, AMES: Athletic Mental Energy Scale, SCS-31: Sports Courage Scale

Table 7 shows the multiple linear regression analysis where athletic mental energy (AMES) was added to Model 3 as an independent variable.

The regression coefficient in Model 4 was statistically significant ($p<0.05$). Moreover, the coefficient of AMES total scores was statistically significant ($p<0.05$). These results showed that athletic mental energy played a partially mediating role between psychological skills and sports courage. However, the significance of the change in beta values is taken into account to determine whether the effect of the mediating role of athletic mental energy is significant (Hayes, 2013).

Table 8. Sobel test values

Test type	Test stat.	p
Sobel	-5.087	<0.001
Aroian	-5.078	<0.001
Goodman	-5.096	<0.001

The results showed that the Sobel, Aroian, and Goodman test values were statistically significant ($p<0.05$), indicating that athletic mental energy played a partially mediating role between psychological skills and sports courage.

DISCUSSION AND CONCLUSION

In recent years, there has been a growing body of research on psychological structures in soccer. However, there is limited research on sports courage, soccer psychological skills, and athletic mental energy. Moreover, this is the first study to investigate whether athletic mental energy plays a mediating role between psychological skills and sports courage. The results were discussed within the scope of the hypotheses.

The first result showed that the AMES total score was negatively correlated with the SCS-31 total score ($r=-0.269$, $p<0.05$) and positively correlated with the SPSS-16 total score ($r=0.676$, $p<0.05$). There was also a negative correlation between the SCS-31 and SPSS-16 total scores ($r=-0.337$, $p<0.05$). The result indicated that athletic mental energy did not significantly predict sports courage. Our results are consistent with the literature (Gökkaya, 2017; Güvendi et al., 2020; İslam, 2021; Konter, 2017; Konter, 2021b, 2021c; Yalçın, 2018). Our results also showed that the higher the sports courage, the higher the psychological skills. Therefore, we can state that soccer players with self-confidence, determination, and assertiveness are more likely to tackle their opponents during competitions, resulting in higher psychological skills. Soccer players with psychological skills are committed players who can overcome competitive anxiety and stress and perform exceedingly under pressure. Our result is consistent with the literature (Avşar, 2018; Güvendi et al., 2018; Geneşke, 2020; İslam, 2021; İslam et al., 2021; Konter, 2021a, 2021d; Savaş, 2019; Yalçın, 2018).

The second result showed that sports courage significantly affected athletic mental energy ($p<0.05$), confirming hypothesis I. We can state that courage helps amateur and professional soccer players concentrate on competitions and inhibit adverse factors. In other words, courage helps them put athletic mental energy into practice. We can also argue that self-confidence, determination, and risk-taking allow soccer players to display high performance without losing motivation and concentration. Sports courage enables soccer players to control their mental energy levels (Cook & Davis, 2006). Yıldız (2021) also reported a positive correlation between sports courage and athletic mental energy. However, there is no research on sports courage and athletic mental energy in professional soccer players.

The third result showed that athletic mental energy significantly predicted psychological skills ($p<0.05$). This result suggested that athletic mental energy positively affected soccer players' psychological skills, confirming Hypothesis II. Confidence and motivation affect amateur and professional soccer players' psychological skills and help them perform at a high level during competitions. We should help players overcome negative moods to enable them to achieve success during workouts and competitions (Ryan & Deci, 2000). Yıldız (2021) found that athletic mental energy positively affected coach-athlete relationships, which is consistent with our result. However, there is no research on the relationship between psychological skills and athletic mental energy in soccer players.

The fourth result showed that sports courage significantly affected psychological skills ($p<0.05$), indicating that the higher the sports courage, the higher the psychological skills in soccer players. This result confirms Hypothesis III. Konter (2015a) found that children with higher SCS-31 "mastery" subscale scores were likely to perceive success more positively. Therefore, soccer players with high courage are more likely to have more psychological skills, resulting in high physical and mental performance. Our results are consistent with the literature (Beckmann & Nash, 2018; İslam, 2021; Konter, 2017; Konter & Beckmann, 2019).

The fifth result showed that athletic mental energy played a partially mediating role between psychological skills and sports courage, confirming Hypothesis IV. Athletic mental energy, courage, and psychological skills are essential for optimal performance in soccer

players because athletic mental energy (self-confidence, motivation, and concentration) turns them into committed players who can overcome anxiety and stress and perform decisively and skillfully during competitions. Soccer players with high courage (mastery, determination, venturesome, assertiveness, and self-sacrifice behavior) (Konter & Ng, 2012) use imagery more than those with low courage. These characteristics allow soccer players to take action despite risks and keep moving until they reach their goals. High courage is equivalent to assertiveness until reaching the solutions specified in athletic mental energy. Therefore, high courage is required for psychological skills to maintain performance under adverse conditions. Research also shows a positive correlation between psychological skills and courage (İslam, 2021; Konter, 2015a, 2015b; Konter, 2017; Konter & Beckmann, 2019). Yıldız (2021) also reported that athletic mental energy played a mediating role between psychological skills and sports courage. Although there is a growing body of research on sports courage and soccer psychological skills, few studies investigate the relationship between psychological skills, sports courage, and athletic mental energy. Therefore, more research is warranted on this topic.

Our results indicate that sports courage, psychological skills, and athletic mental energy play a vital role in the performance of soccer players. Athletic mental energy plays a mediating role between sports courage and psychological skills. This study developed three models based on a theoretical model and confirmed its hypotheses. Therefore, our results show that sports courage and athletic mental energy affect soccer players' psychological skills. Trainers and coaches should inform soccer players about the importance of sports courage, psychological skills, and athletic mental energy and provide them with the opportunity to improve those skills to display high performance during workouts and competitions. The components of courage, such as mastery and determination, motivate soccer players and help them concentrate and display optimal performance during competitions. Soccer players with courage can overcome the anxiety that arises from adverse situations, such as committing a foul in their own penalty box, being defeated, etc. Trainers and coaches should boost soccer players' courage and train them to keep their mood swings under control during competitions. In this way, they can acquire a collective form of these psychological factors to achieve optimal performance. Coaches should inform soccer players that athletic mental energy and courage play a key role in their psychological skills. Trainers should develop programs on soccer psychological skills and courage catered to young soccer players. Researchers should recruit larger samples to better understand the relationship between athletic mental energy, psychological skills, and sports courage.

Limitations and future directions

Sports psychology researchers, especially football researchers, have given little scientific attention to courage (Corlett, 2002; Konter, et al. 2013; Konter and Beckmann, 2019: 38). While there is a large number of research on the effectiveness of psychological training in many sport branches, it has been observed that there is very little study on the effectiveness of psychological training in football and especially studies on athlete mental energy are very new (Konter, et al. 2019: 180; Nesti, 2010; Yıldız, 2021: 1). Due to research deficiencies, a unique theoretical model was used to determine whether athlete mental energy has a mediating effect on the relationship between psychological skills and sport courage levels. In this study, when

defining the sample, the data above the targeted sample was reached by obtaining representatives from football clubs of almost all leagues in the 14 regions specified by the Turkish Football Federation (TFF) in the 2021-22 football season. The hypotheses set forward by the original theoretical model used in the research, especially during the statistical analysis phase, confirmed the contribution of this study to the field of sport psychology. However, a qualitative study of these psychological variables that affect the psychological structure of football players could not be carried out because it would have been time consuming, and it was found that due to the COVID-19 pandemic, permission is necessary from the football teams who are also reluctant to participate in the study. However, the study can be replicated with football teams in a different country of a different culture.

Similar research can be conducted on the coaches of these football teams. It can be stated that the psychological structure comes especially in the cases of relegation or defeat (Apitzsch, 2006). Furthermore, it has been determined that there is a resistance to and a lack of knowledge of psychological skills training of coaches. Therefore, it is necessary to ensure that the coaches and managers have more knowledge of courage and its importance in modern football (Konter, et al. 2019: Konter and Beckmann, 2019: 46).

Courage and psychological skills training in football can be applied to the programs of lower age groups. For example, psychological skills training in football became compulsory in the lower age categories of the German Football Federation (Konter, et al. 2019: 193). It can be asserted that this study will contribute to the existing literature related to overgeneralisations about athlete mental energy, psychological skills and sport courage in different branches of sport.

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Ethics Committee Approved
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