



THE ANALYSIS OF AMERICAN FOOTBALL PLAYERS' COURAGE LEVELS AND SPORT MENTAL TOUGHNESS

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ABSTRACT

The purpose of the present study is to examine the courage and mental toughness of elite Turkish male American football players. The study group consists of 231 American football players, with a mean age of 22.14±3.67 year and with a sports experience of 3.29±2.43 year. As data collection tool, 'Personal Information Form' 'Mental Toughness Scale' and 'Sport Courage Scale' were conducted face to face with the participants. For data analysis, descriptive statistics, t test, ANOVA and Pearson Correlation analysis were used. It was observed that there is a significant positive relation between sub-dimensions of mental toughness scale and sub-dimensions of courage scale. It was understood that there is a significant difference in all sub-dimensions of mental toughness based on age and competence-mastership, hardiness and being self-giving sub-dimensions of courage in sports scale in favor of sportspeople who are 24 years old or older. When it was evaluated based on sports year, there was a significant difference in favor of players doing sports for 5 years and more in the trust and continuity sub-dimensions of mental toughness scale and competence-mastership, determination and hardiness sub-dimensions of courage in sports scale. There was a significant difference in favor of players doing sports for 3 years and more in the trust and continuity sub-dimensions of mental toughness scale and competence-mastership and hardiness sub-dimensions of courage in sports scale, when it was evaluated based on the working time of the players with their coaches. Based on American football players' playing at national team, it was clear that there was a significant difference in all sub-dimensions of courage in sports scale in favor of the sportspeople playing at national team. It was observed that mental toughness and courage in sports levels increase as the ages, years doing sports, the time of working with a coach of the American football players increase.

Keywords: American football, courage, mental toughness, sports

AMERİKAN FUTBOL (KORUMALI FUTBOL) OYUNCULARININ SPORDA CESARET DÜZEYLERİ İLE ZİHİNSEL DAYANIKLILIKLARININ İNCELENMESİ

ÖZET

Araştırmanın amacı amerikan futbol oyuncularının cesaret düzeyleri ile zihinsel dayanıklılık düzeylerinin incelenmesi ve aralarındaki ilişkinin ortaya konulmasıdır. Araştırmanın çalışma grubunu 1.lig ve 2. Lig de yer alan, yaş ort.=22,14±3,67 yıl olan, ort. =3,29±2,431 spor yılına sahip toplamda 231 Amerikan futbol oyuncusu oluşturmaktadır. Araştırmada veri toplama aracı olarak; "Zihinsel Dayanıklılık" ve "Sporda Cesaret Ölçeği" kullanılmıştır. Verilerin analizinde; betimleyici istatistikler, t testi, ANOVA ve Pearson Korelasyon analizi kullanılmıştır. Zihinsel dayanıklılık ölçeği alt boyutları ile cesaret ölçeği alt boyutları arasında pozitif yönde anlamlı ilişki olduğu görülmüştür. Yaşa göre, zihinsel dayanıklılık ölçeğinin tüm alt boyutlarında ve sporda cesaret ölçeğinin yetkinlik-ustalık, atılganlık ve özverili olma alt boyutlarında 24 yaş ve üzeri sporcuların lehine; Spor yılına bakıldığında ise zihinsel dayanıklılık ölçeğinin güven ve devamlılık alt boyutlarında ve sporda cesaret ölçeğinin yetkinlik-ustalık, kararlılık ve atılganlık alt boyutlarında 5 yıl ve üzeri lehine; Oyuncuların antrenörleri ile çalışma sürelerine bakıldığında, zihinsel dayanıklılık ölçeğinin güven ve devamlılık alt boyutlarında ve sporda cesaret ölçeğinin yetkinlik-ustalık ve atılganlık alt boyutlarında 3 yıl ve üzeri lehine; Amerikan futbol oyuncularının milli olma durumlarına göre zihinsel dayanıklılık ölçeğinin tüm alt boyutlarında sporda cesaret ölçeğinin atılganlık boyutunda milli olanların lehine anlamlı farklılık belirlenmiştir. Amerikan futbol oyuncularının yaşı, spor yapma yılı ve antrenörü ile çalışma süresinin artmasıyla da zihinsel dayanıklılık ve sporda cesaret düzeylerinin arttığı görülmüştür.

Anahtar kelimeler: Amerikan futbolu, cesaret, spor, zihinsel dayanıklılık

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INTRODUCTION

American football is a team sport including various complex specialties like toughness, force, speed and promptness. These specialties are the main must-have specialties in order to be successful in the play [1]. Mental toughness is described as a power of rally in some negative events like conflict and increasing responsibility and positive improvable psychological capacity in order to be able to change back [2]. There are also courage emotions in the must-have specialties of the athletes in order to be able to proceed against the obstacles and obtain their goals [3]. Courage can pedagogically be an important tool to overcome the fear in sports [4]. Moreover, it is also an emotional power including willpower of reaching goals against external or internal opposition [5]. Another different definition is the attitude of taking relatively (depending on the limits of the person) high risks in sports environment or situations related to sports [6]. According to Loehr (1982), athletes who are mentally strong have various reactions providing them to stay emotionally relaxed, calm and strong [7]. Athletes should be able to act being aware of their talents, with braveness, toughness and determination of their sportsmanship [8]. Yardımçı, Sadık and Kardaş (2017) stated that the levels of mental toughness in sports increase, loneliness level decrease [9]. In another result, there is a positive correlation between athletes' identity and courage [3]. Konter (2015a) reported in his study on preservice classroom teachers that male candidates had higher scores in all sub-scales of the sport courage scale compared to female candidates [10]. In another research about class teachers, Konter and Balcı (2015) state that sports courage is correlative with the physical description in positive and significant level [11]. The popularity of American football, a sports branch becoming widespread, grows day by day. It is seen that while there are many researches analyzing mental toughness in different branches, there is no research analyzing both mental toughness and courage emotion in American football which includes severe contact, risky factors and high possibilities of injuries. However, Gucciardi, Gordon and Dimock (2008) stated that American Football can be useful not only for support against adversity but also for adapting to challenging situations [12]. In this regard, the aim of this study is to analyze football players' levels of courage and mental toughness and reveal the relation between them.

MATERIAL and METHOD

Study Group

The study group, selected by convenience sampling, consists of 231 American football players at age of $\bar{X}=22.14\pm3.67$ age, having sports year of $\bar{X}=3.29\pm2.43$ yaer.

Data Collection

As data collection tool, 'Personal Information Form' 'Mental Toughness Scale' and 'Sport Courage Scale' were conducted face to face with the participants. Developed by the researcher, 'Personal Information Form' consists of the questions about independent variables: age, sports years, years of training with a coach, playing in national team, in order to collect information.

Instruments

Sports Mental Toughness Questionnaire: Improved by Sheard, Golby and Van Wersch, (2009) and adapted to Turkish by Altıntaş and Koruç (2016), Sports Mental Toughness Questionnaire (SMTQ) was used in order to determine the players' mental toughness [13,14]. The questionnaire consists of 14 items. It is typical of four point Likert type (1=Totally Wrong; 4=Totally Correct), consisting of three sub-dimensions (Confidence, Constancy and Control) in addition to general mental toughness. Confidence: Believing in talents and thinking on being better than the others in order to reach the goals in hard conditions necessitating struggle (1, 5, 6, 11, 13, 14). Control: Maintaining calmness, being controlled and relaxed under pressure or under unexpected conditions (2, 4, 7, 9). Constancy: Taking responsibilities, concentrating and struggle in accordance with the aims (3, 8, 10, 12). Internal Consistency Coefficient was 0.84 in sub-dimension of Confidence, 0,79 in sub-dimension of Control and 0.51 in sub-dimension of Constancy. In this study, the Cronbach Alpha value of the sports mental toughness questionnaire was determined to be $a=0,72$ for the sub-scale of confidence, $a=0,70$ for the sub-scale of control and $a=0,69$ for the sub-scale of constancy. The control, confidence and constancy levels, forming the sub-scale of mental toughness of athletes, increase, as the item means taken from each item and sub-scale and the general average resulting from these raise. It is rated as not at all true 1,00-1,75, a little true 1,76-2,50, mostly true 2,51-3,25, and very true 3,26-4,00.

Sport Courage Scale: Developed by Konter and Ng (2012), Sport Courage Scale was used in order to determine courage emotions of the athletes. Scale is a typical of 5-point Likert consisting of 31 items and 5 factors namely “Determination”, “Mastery”, “Assertiveness”, “Venturesome”, and “Self-Sacrifice Behaviour”. The Cronbach alphas for scales scores were: DT = .82, MT = .82, AT = .72, VS = .72, SB = .61. [8]. In this study, the Cronbach Alpha values of the sport courage scale was found to be DT = .82, MT = .84, AT = .79, VS = .78, SB = .60. As the item means taken from each item and sub-scale, and the general average resulting from these increase, the emotion levels of detemination, assertiveness, sportive self-confidence, coping with fear and self-sacrifice, forming the courage sub-scale of athletes, raise (Konter and Ng 2012). It is rated as strongly disagree 1,00-1,80, disagree 1,81-2,60, neutral 2,61-3,40, agree 3,41-4,20, strongly agree 4,21-5,00.

Data Analysis

The obtained data were analysed by SPSS 20 package program. First of all, Kolmogorov-Smirnov test was administrated in order to determine the normal distribution of data. When examining p values obtained as a result of Kolmogorov-Smirnov test, the data were found to be distributed normally ($p>0,05$). While descriptive statistics (frequency, arithmetic mean, standard deviation) were used in the assessment of data, t test was administrated for analysing the sub-scales of the sports mental toughness questionnaire and the sport courage scale, achieved by combining questions, related to variables with two groups, and ANOVA test was conducted for variables with more than two groups. In the event that there is a difference between the groups in the study, Tukey test from the multiple comparison tests, was utilised to determine where this difference originated.

RESULTS

This study has been conducted in order to determine American football players’ courage and mental toughness based on some independent variables and to determine the relation between them.

Table 1. Mean scores based on scales

Mental Toughness Scale	n	Min.	Max.	$\bar{X}\pm Sd$
Confidence	231	1.83	4.00	3.04±.411
Control	231	1.00	4.00	2.37±.592
Constancy	231	2.00	4.00	3.26±.447
Sport courage Scale	n	Min.	Max.	$\bar{X}\pm Sd$

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Determination	231	2.44	5.00	4.26±.470
Assertiveness	231	2.57	5.00	3.93±.498
Venturesome	231	1.75	5.00	4.18±.694
Self-Sacrifice	231	2.75	5.00	4.16±.550
Mastery	231	1.71	5.00	3.64±.766

Table 2. ANOVA analysis results of mental toughness and sport courage scale based on age variable

Scales	Age	n	$\bar{X}\pm Sd$	F	p	Tukey	
Mental Toughness	Control	18-19	52	2.24±.597	4.333	.005	24+ / 18-19 24+ / 20-21
		20-21	69	2.26±.468			
		22-23	47	2.41±.552			
	24+	63	2.57±.687				
	Constancy	18-19	52	3.17±.486	3.882	.010	24+ / 18-19 24+ / 20-21
		20-21	69	3.21±.425			
22-23		47	3.22±.417				
24+	63	3.42±.430					
Sport courage	Assertiveness	18-19	52	3.77±.480	5.325	.001	24+ / 18-19 24+ / 22-23
		20-21	69	3.94±.408			
		22-23	47	3.86±.496			
	24+	63	4.12±.551				
	Mastery	18-19	52	3.48±.792	4.949	.002	24+ / 18-19 24+ / 20-21 24+ / 22-23
		20-21	69	3.55±.734			
22-23		47	3.55±.771				
24+	63	3.95±.704					

It is seen in Table 2 that the scores which players get from sub-dimensions of mental toughness and sport courage scale change significantly based on age variable ($p<.05$).

Table 3. ANOVA analysis results of mental toughness and sport courage scale based on sports year

Scales	Sports Year	n	$\bar{X}\pm Sd$	F	.p	Tukey	
Mental Toughness	Confidence	1-2 years	113	2.95±.337	8.228	.000	5+ / 1-2 5+ / 3-4
		3-4 years	62	3.04±.435			
		5+	56	3.22±.467			
	Constancy	1-2 years	113	3.15±.458	8.020	.000	5+ / 1-2
		3-4 years	62	3.29±.421			
		5+	56	3.43±.399			
Sport courage	Determination	1-2 years	113	4.22±.441	5.617	.004	5+ / 1-2 5+ / 3-4
		3-4 years	62	4.19±.530			
		5+	56	4.44±.417			
	Assertiveness	1-2 years	113	3.83±.467	13.391	.000	5+ / 1-2 5+ / 3-4
		3-4 years	62	3.87±.471			
		5+	56	4.22±.487			
Mastery	1-2 years	113	3.53±.755	5.258	.006	5+ / 1-2	
	3-4 years	62	3.60±.781				
	5+	56	3.92±.766				

It is seen in Table 3 that the scores which players get from sub-dimensions of mental toughness and sport courage scale change significantly based on sports year ($p<.05$).

Table 4. ANOVA analysis results of mental toughness and sport courage scale based on years of training with a coach

Scales	Years of Training with a Coach	n	$\bar{X}\pm Sd$	F	p	TUKEY	
Mental Toughness	Confidence	1 years	111	3.01±.404	4.243	.016	3 +/1 3 +/2
		2 years	63	2.97±.328			
		3 +	57	3.17±.479			
	Constancy	1 years	111	3.20±.452	7.208	.001	3 +/1 3 +/1
		2 years	63	3.18±.446			
		3 +	57	3.45±.390			
Sport courage	Assertiveness	1 years	111	3.90±.488	3.802	.024	3 +/2 3 +/1
		2 years	63	3.86±.495			
		3 +	57	4.09±.495			
	Mastery	1 years	111	3.50±.764	6.630	.002	3 +/2 3 +/1
		2 years	63	3.62±.783			
		3 +	57	3.94±.671			

It is seen in Table 4 that the scores which players get from sub-dimensions of mental toughness and sport courage scale change significantly based on years of training with a coach ($p<.05$).

Table 5. T-test results of mental toughness and sport courage scale based on playing in national team

Scales	Did you play national team?	n	$\bar{X}\pm Sd$	t	p	
Mental Toughness	Confidence	Yes	17	3.37±.414	3.504	.001
		No	214	3.01±.400		
	Control	Yes	17	2.72±.605	2.530	.012
		No	214	2.34±.584		
	Constancy	Yes	17	3.57±.372	3.033	.003
		No	214	3.23±.444		
Sport courage	Determination	Yes	17	4.48±.386	1.958	.031
		No	214	4.25±.473		
	Assertiveness	Yes	17	4.32±.436	3.422	.001
		No	214	3.90±.490		

It is seen in Table 5 that the scores which players get from sub-dimensions of mental toughness and sport courage scale change significantly based on playing in national team ($p<.05$).

Table 6. Correlation analysis results of scales

		Mental Toughness Scale					
		Competence Mastership	Determination	Assertiveness	Venturesome	Self-Sacrifice	
Sport courage	Confidence	r	.529**	.631**	.712**	.274**	.409**
		p	.000	.000	.000	.000	.000
	Constancy	r	.591**	.611**	.598**	.272**	.399**
		p	.000	.000	.000	.000	.000
	Control	r	.571**	.379**	.416**	.020	.137*
		p	.000	.000	.000	.758	.037

According to the Correlation analysis in Table 6, there is a significant positive correlation between the sub-dimensions of mental toughness and sport courage scale.

DISCUSSION

It was aimed to examine courage and mental toughness of American football players and revealing whether these levels change or not based on some independent variables.

There are significant differences between players' sub-dimensions of mental toughness and sport courage scale. It is seen that the average score of the mental toughness and constancy of the age group 24 + is higher than the score of the age group 18-19 and 20-21. Moreover, the average scores of sport courage scale, Assertiveness and Mastery of age group 24 + are higher than the other age groups. There is some similar result with our study results (Connaughton, Wadey, Hanton & Jones 2008), it is understood that mental toughness and age are directly proportional and mental toughness of older players is higher than the others [15]. Similarly, in his research about toughness and self-efficacy, Yıldız (2017) states that mental toughness increases as the age increases [16]. According to Yardımçı et al., (2017), mental toughness levels of the age group of 24 + are higher than the juniors [9]. According to a research on university students conducted by Konter (2016), age and sport courage have positive correlation. It can be said that older players believe in themselves more in the issues like taking on difficult tasks, struggling and coming through [17].

Significant difference was detected between the sub-dimensions of mental toughness and sport courage scale based on years doing sports. In this regard, the scores of the players with more than 5 and above sport years related to confidence and constancy of the mental toughness questionnaire, and determination, assertiveness and mastery of the sport courage scale were higher than the scores of the players with 1-2 or 3-4 sport years. Similar

to our research, in the research about mental toughness and self-efficacy levels, Yıldız (2017) states that as the sports year increases, mental toughness also increases [16]. Meanwhile, different from our research, Can and Kaçay (2016) did not find any significant difference between sports year and courage [3]. To conclude, it can be urged that as experience increases in sport, the abilities of players of American football for overcoming all difficulties they may encounter in a match and their struggling ability increase, too. Significant difference was found in players' sub-dimensions of mental toughness and sport courage scale based on training time with a coach. The scores of the players doing sports for 3 or more years in sub-dimensions of mental toughness: confidence and constancy and sub-dimensions of sport courage scale: Assertiveness and Mastery are higher than the players doing sports for 1 and 2 years. It can be stated that training with a coach for a long time is effective on players' levels of toughness and courage and this situation affects the performance of the players positively during the game.

Significant difference was found in players' sub-dimensions of mental toughness and in sub-dimensions of sport courage scale based on playing in national team. According to the research conducted with professional football players by Konter (2015b), it is understood that players who have not played in national team have higher courage score in venturesome and being self-sacrificing sub-dimensions than the players playing in national team [17]. There isn't any difference between these two sub-dimensions in our research. Furthermore, in our research, there is no difference only in Self-Sacrifice and Venturesome sub-dimensions based on age, sport years, training with a coach, playing in national team.

According to the correlation analysis, it is seen that there is a significant positive relation between the sub-dimensions of mental toughness and courage scale. According to this, as the mental toughness of the American football players increases, courage levels in sports also increase. While there no study directly related to mental toughness and courage, it is understood from the research conducted by Yıldız (2017) about mental toughness that there is a significant relation with self-sufficiency and in the research conducted with American football players by Yardımcı et al., (2017), it is seen that mental toughness has significant negative relation with solitude [16, 8].

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