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<sup>1</sup> Graduate School of Health Sciences, Gazi University, Ankara, Turkey

<sup>2</sup> Faculty of Sports Sciences, Gazi University, Ankara, Turkey

Corresponding author: A. Yazıcı

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e-mail: atakanyazici@gazi.edu.tr

# Examination of Mental Toughness and Emotional Intelligence of The Turkish and American Professional Basketball Players

#### Abstract

The purpose of this study was to investigate the relationship between mental toughness (MT) and emotional intelligence (EI) of Turkish and American professional basketball players in Turkish Professional Leagues. The population target was 156 participants (xage=24,35±5,48) from Turkey, and 42 participants ( $\bar{x}$ age =27,69±3,15) from the USA - a total of 198 professional basketball player from 17 professional teams. Participants completed "Sports Mental Toughness Questionnaire (SMTQ)" developed by Scheard et al. (2009) and "Emotional Intelligence Scale for use in Sport (EISS)" developed by Lane et al. (2009). One-Way ANOVA test was utilized in order to examine the influence of an independent variable (citizenship) on dependent variables. The relation between emotional intelligence (EI) and mental toughness (MT) was analyzed through Pearson Product-Moment Correlation Coefficient technic (p <0.05). According to the results, significant differences were observed between citizenship variable in terms of EI and MT. In addition, a linear positive correlation was found while examining the relationship between the EI and MT subscales, EI social skills subscales and the MT constancy subscales. As a result of research, Turkish athletes have a higher social skills score in terms of citizenship variables, while American players have a better score in appraisal of others' emotions. In addition, American citizens showed higher mean in terms of constancy and control subscales. The results also showed that the increase in MT constancy subscale scores causes the increase in EI social skills subscale scores.

**Keyword:** Psychological skills, mental toughness, emotional intelligence, professional basketball players

**Note:** \*This article was produced from Atakan YAZICI's master's thesis titled "Mental toughess and emotional intelligence of professional basketball players in terms of different variables".

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## INTRODUCTION

The concept of mental toughness and emotional intelligence, which remains a largely dormant framework for explaining performance aspects, continues to draw the interest of sport psychology researchers.

Mental toughness is an undiscovered key to quality in athletes' performance (Jones, 2002). Jones (2002) investigated the mental toughness framework with elite athletes to develop a definition and a deeper understanding of the concept. The researchers reported 12 dimensions, such as self-belief, desire/motivation, dealing with pressure and anxiety, focus (performance-related), focus (lifestyle-related), and pain/hardship factors. These findings support the idea that mental toughness is a multi-dimensional concept. Recent research in psychological sub-disciplines has also focused on emotional control which has been associated with specific skills, such as imagery, self-talk, and goal setting (Fletcher and Hanton, 2001; Thelwell and Greenlees, 2003). In turn, emotional control is an essential part of emotional intelligence and mental toughness, and thus, has a direct connection with athletic performance. Findings demonstrate that athletes can improve these psychological skills in both training and competition (Lane et al., 2009a). In addition, Nicholls et al. (2015) demonstrated that mental toughness and emotional intelligence have an extremely strong positive correlation. Therefore successful athletes' common psychological features are high mental toughness and emotional intelligence skills which makes a difference during the performance.

According to Newland et al. (2013) reported, mental toughness was a predictor of basketball team starter players. Moreover, their findings demonstrated that male basketball starter players' mental toughness is higher than a non-starter, but female participants did not significantly differ between starter and non-starters. Crombie et al. (2009) findings illustrated that emotional intelligence scores are positively associated with the team sport's performance. There was evidence that the average team ability of EI was positively related to team performance of cricketers (Crombie et al., 2009), or Zizzi et al. (2003) found that EI components were moderately associated with pitching performance of baseball. Laborde et al. (2014) also demonstrated that trait EI was non-associative to tennis serve performance. According to sport psychology literature, there was no higher number of studies regarding professional basketball players, MT or EI. High-performance adolescent athletes' common psychological feature was effectively coping skills against stressors during the performance. According to Cowden (2016), study findings demonstrated that emotional intelligence was a significant predictor of athletes' mental toughness. Moreover, mental toughness had a mediated role between emotional intelligence and coping effectiveness. The American players were chosen due to the fact that the USA is the biggest producer of basketball players in the world. Most of the players have been playing overseas and can be seen in almost every country. In Turkey, teams' management brings American players to their leagues in order to achieve success. Therefore, most of the players in local leagues do not play as much as their American teammates. This could be explained by the differences in psychological or athletic skills between local and American players, which could affect performance. In this context, the study is aimed to investigate the psychological characteristics that may cause American players to take more time on the field than Turkish players, and, therefore, try to reverse this trend.

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This study aimed to investigate the relationship between emotional intelligence and mental toughness in the difference between Turkish and American professional basketball players.

## **METHODS**

# Research design

A descriptive survey model was used in the research. Survey models are a suitable model for studies aiming to describe a past or current situation in its current form (Karasar, 2006).

# Population and sample of the study

The universe of this study is constituted by 926 professional players from different teams in Turkish Basketball Federation Leagues. The sample of the research consists of a total of 198 professional basketball players, table 1. shows that 63 of whom are women ( $\bar{X}age = 23.58 \pm 4.64$ ), 135 are male ( $\bar{X}age = 25.74 \pm 5.39$ ) from 17 teams in these leagues. As a population and sample rate, a minimum of 15% is targeted. The rate seen among male basketball players is 28%, and the rate seen among female basketball players is 16%. Because of these rates, it was assumed that the sample rate represents the targeted population. In addition, 156 of these participants ( $\bar{X}age = 24.35 \pm 5.48$ ) are Turkish citizens, while 42 ( $\bar{X}age = 27.69 \pm 3.15$ ) are American citizens. Descriptive statistics of the basketball players participating in the study according to their positions in the game were given in Table 2. According to the results of the analysis, 38 (19.2%) players point guard, 45 (22.7%) shooting guard, 36 (18.2%) small forward, 50 (25%) power forward and 29 (14.6%) center from 198 players participated the study (Table 3.).

Table 1. Gender information

**Power Forward** 

Center

**Total** 

Table 1. Gender information	on	
Gender	N	%
Male	135	68.2
Female	63	31.8
Total	198	100
Table 2.Citizenship inform	nation	
Citizenship	N	%
Turkish	156	78.8
American	42	21.2
Total	198	100
Table 3.Players position ir	nformation	
Players Position	N	%
Point Guard	38	19.2
<b>Shooting Guard</b>	45	22.7
Small Forward	36	18.2

50

29

198

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25.3

14.6

100

## Personal information form

A personal information form consisting of some questions was prepared by the researchers in order to reveal the demographic information of the athletes.

# **Sports Mental Toughness Questionnaire (SMTQ)**

The SMTQ was developed by Sheard et al. (2009) to measure the mental toughness of athletes. The questionnaire included 14 items and three subscales (confidence, constancy, and control). SMTQ was adapted to the Turkish population by Altıntaş and Koruç (2016). According to the subscales, confidence measures athletes' beliefs in their own abilities to achieve goals, constancy indicates performance responsibility and concentration skills during the performance, control is the ability of the athletes to control their emotions in internal and external negative conditions.

# **Emotional Intelligence Scale for use in Sport (EISS)**

Based on the emotional intelligence scale developed by Shutte et al. (1998), it was adapted for the athlete population by Lane et al. (2009b) to measure the emotional intelligence abilities of athletes. Turkish athletes' population adapted by Adiloğulları and Görgülü (2015). In addition, the scale has a total of 19 items in 5 subscales (social skills, appraisal of ow emotions, appraisal of others emotions, emotional regulation, utilization of emotions).

#### Data collection

In the study, scales and demographic form were used as the data collection tool. The study was granted ethical approval from the Graduate School of Health Sciences Ethics Committee at Gazi University. Additionally, every participant signed a "voluntary consent form." The first part of the data collection was a personal information form that would descriptively reveal the demographic information of athletes, the second part was a sport mental toughness questionnaire, and the last part was an emotional intelligence scale for use in sport. Each and every single of the measures used English and Turkish. Data was collected before training, and the researcher used the protocol of individual or group face-to-face survey method procedure (Büyüköztürk et al., 2016). Before the data collection, the researcher explained information about the study process to the participants separately, in Turkish for Turkish athletes and in English for American athletes. The athletes who voluntarily accepted and participated in the application answered the personal information form, the emotional intelligence inventory in sports, and the mental endurance inventory in sports. Participants who did not want to continue working during the application were free to leave.

## Data analysis

Statistical analysis of the data set obtained from the research was made in the IBM SPSS 21.0. (SPSS Inc., Chicago, IL, USA) package program. Frequency and percentage calculations were made for the demographic characteristics of the research group. In addition, the distributions of the variables were examined, evaluating the normality and homogeneity of the distributions, it was concluded that the distributions showed parametric value. Therefore,

in addition to descriptive statistics, inferential statistics were also used. One Way ANOVA was used to compare between groups, and Pearson Correlation was used to explore the relationship between parameters in each group. The analysis of the data was evaluated at 95% confidence interval and p < 0.05 significance level.

## **FINDINGS**

The correlation between emotional intelligence and mental toughness subscale scores were shown in Table 4. According to Table 4, a significant relationship was found between emotional intelligence, social skills, and the constancy of mental toughness (r = 158; p < 0.05\*). This relationship was positively, linearly and weakly correlated. According to results, data demonstrated that while one of the variables increases, while another increase. According to Table 5, there was no significant difference in terms of the citizenship variable in the subscales of emotional intelligence, appraisal of own emotions, emotional regulation, and utilization of emotions. However, there was a significant difference according to the appraisal of others' emotions and social skills by the citizenship variable [(F = 21.0), (F = 7.29); p < 0.05]. According to arithmetic averages of results demonstrated that American citizen players had a higher average in the subscale of the appraisal of others' emotions than the Turkish citizen players. Additionally, Turkish citizen players have had a higher average than the American participants in social skills. According to Table 5, the confidence subscale was significantly different in terms of the citizenship variable. Moreover, findings provide that was positively significant differences that constancy and control of mental toughness. [(F = 10.1), (F = 11.9); p <0.05)]. Arithmetic averages demonstrated that American participants have a higher mean constancy and control subscales than Turkish participants.

Table 4. Correlation between emotional intelligence and mental toughness (n=198)

Subscales	1	2	3	4	5	6	7
1. Appraisal of others' emotions							
2. Appraisal of own emotions	40**						
2. Appraisal of own emotions	.00						
2 Emption I reculation	.09	.20**					
3. Emotioal regulation	.20	.00					
4. Social skills	.30**	.32**	.33**				
4. Social skills	.00	.00	.00				
5. Utilization of emotions	.28**	.42**	.47**	.35			
5. Offization of emotions	.00	.00	.00	.00			
6 Confidence	02	02	.05	.04	01		
6. Confidence	.72	.82	.46	.61	.13		
7. Compton ex	.11	03	.06	.16*	.14	.42**	
7. Constancy	.11	.68	.41	.03	.06	.00	
9 Control	.10	04	10	.01	.04	.31**	.55**
8. Control	.15	.56	.16	.92	.53	.00	.00

<sup>\*</sup>p<0,05. \*\*p<0,01. \*\*\*p<0,001 p>0,05

Table 5. Means, standart deviations and One-Way Anova Test results for citizenship variable

	Subscales	Citizenship	N	Mean	Std.	F
					deviation	
Emotional Intelligence	Appraisal of others	Turkish	156	14.6	.190	21.0***
	emotions	American	42	16.4	.365	
	Appraisal of own	Turkish	156	11.8	.150	.010
	emotions	American	42	11.8	.288	
	Emotional	Turkish	156	7.58	.121	.592
	Regulation	American	42	7.78	.234	
	Social Skills	Turkish	156	11.3	.158	7.29**
		American	42	10.4	.304	
	Utilization of	Turkish	156	22.7	.268	2.15
	emotions	American	42	23.5	.517	
Mental Toughness	Confidence	Turkish	156	3.22	.031	.074
		American	42	3.32	.060	
	Constancy	Turkish	156	3.18	.037	10.1**
		American	42	3.44	.072	
	Control	Turkish	156	2.62	.045	11.9***
		American	42	2.95	.086	

<sup>\*</sup>p<0,05. \*\*p<0,01. \*\*\*p<0,001 p>0,05

#### DISCUSSION AND CONCLUSION

This study aimed to investigate the relationship between EI and MT in the difference between Turkish and American athletes in terms of citizenship variable. Sport psychology literature supported a significant relationship between athletes' performance, emotional intelligence, and mental toughness (Cowden, 2016; Newland, 2009; Kopp and Jekauc, 2018).

According to Kopp and Jekauc (2018), the conceptualization of EI (ability model, trait model, or mixed-model model), encouraged regarding the value of EI as a possible predictor in sports performance. Moreover, studies demonstrated that MT is one of the predictors of athletes' psychological performance (Yazıcı, 2019). These features support the vital concept of emotional control of athletes.

In our study, it was found that constancy skill, which is a decisive factor of mental toughness, has a significant relationship with social skills, which are also a vital factor of emotional intelligence. Accordingly, it is revealed that as the level of constancy increases, the level of social skills also increase. According to Sheard (2013), mental toughness constancy is defined as "taking responsibility, concentrating and struggling in line with the determined goals". According to Goleman (1998), social skills help to manage emotions in relationships properly and perceive relationship networks and social situations correctly. To explain, this means to be in fluent interaction, to use these skills to persuade and lead people, to provide consensus and resolution in conflicts, to cooperate and teamwork. In addition, findings by Cowden et al. (2014) demonstrated that EI was a predictor of athletes' mental toughness.

In literature, the relationship between emotional intelligence and ethnicity was examined by Van Rooy et al. (2005) in a study involving 50 African Americans, 135 Latin Americans, 60 Caucasian, and 30 participants from other ethnic origins. According to the findings, a significant difference was observed between ethnic origins, and Latin American descent was reported to have higher emotional intelligence scores (Van Rooy, Alonso, and

Viswevaran, 2005). We cannot provide clear information that the study conducted by Van Rooy, Alonso, and Viswevaran (2005) demonstrates the parallelism with our study because the sample group was not athletes, and the ethnic origin variable was examined in their research. Therefore, it is difficult for us to comment due to the limited data we have on the subject. According to the results of our study, it shows that American participants have higher scores for the constancy, and control than Turkish participants. When the related literature was examined, there were no findings supporting our study results. However, mental toughness has a structure that interacts positively with the development of psychological skills, and psychological skills can be developed with mental training (Altıntaş and Akalan, 2008; Erdoğan and Kocaekşi, 2015). Slack et al. (2015) subjected the Mental Toughness Education and Training Program (MTETP) to early career professional referees. Referees' selfreported mental toughness and external referee performance ratings were higher after the intervention compared to baseline scores. After that, intervention program showed that participants had higher psychological performance scores. Besides, athletes in the sports system in the USA might have support by psychological performance specialists, which may be related to their high results. As a matter of fact, the concept of mental toughness is in a structure that can be affected by different dynamics (Gucciardi and Gordon, 2009; Bull, Shambrook, James, and Brooks, 2005). Although there is no significant difference in the confidence subscale, American athletes have a higher mean than Turkish athletes. Therefore, American athletes had a higher belief in their individual performance, both in training and game. The main reason why American athletes had taken more time during entire games than other players in European and World basketball leagues may be the contribution of individual performance skills to team performance. Moreover, Newland et al. (2013) reported that basketball game starter players had higher mental toughness scores than non-starters. In the study, American players had significantly different constancy and control components scores in comparison to Turkish players. Thus, psychological performance skills could be the reason that almost all American players were starter players in their teams. Therefore, our results support that effective players of basketball (such as starters) had differences in mental Cowden (2017) reviewed the literature on mental toughness, competitive standard, achievement level, and performance in sport. According to findings of achievement level, one study revealed that mentally tough tennis athletes were ranked higher using athleterated mental toughness (Cowden, 2016), but another study by Cowden et al. (2014) did not report any relationship achievement and mental toughness. Recent studies still did not explain performance relation of emotions and mental toughness. Besides, Kopp and Jekauc's (2018) meta-analytical research results illustrated there was not much research to explain the nature of EI differences on the court because there were few studies on professional basketball components.

Coaches or trainers must receive education about improving the athletes' EI and MT components that could help athletes develop in long and short term (Cowden, et al., 2020) because psychological performance is one of the criteria that differentiates athletes from one another.

Finally, psychological components such as the appraisal of the emotions of others, social skills such as constancy and emotional control skills might vary between domestic and international players. Thus, there has to be research on these emotional and mental skills and court performance, which might be interrelated as American players' game time is in general

higher than Turkish players'. Therefore, future research is needed to examine these performance differences and their relationship with psychological performance or any other components.

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## **Declarations**

#### **Ethics**

Ethics Committee of Gazi University consent number of '2016-604.01.02' received to perform the study.

## **Conflict of Interest**

All authors of the article declare that there is no conflict of interest

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