



## Mental Toughness in Women Volleyball Players: Influencing Dynamics and Performance Relationship

*Kadın Voleybolcularda Zihinsel Dayanıklılık: Etki Eden Dinamikler ve Performans İlişkisi*

### ÖZET

Zihinsel dayanıklılık, performans mükemmelliğine önemli ölçüde katkıda bulunduğu öne sürülen psikolojik bir özelliktir. Zihinsel dayanıklılık, kişisel gelişim, psikolojik esneklik ve olumlu adaptasyon süreçlerini içerir ve bireylerin yaşamın zorlukları karşısında esnek kalabilmelerini sağlar. Zihinsel dayanıklılık, azim, direnç, odaklanma ve stres yönetimi gibi birkaç temel özelliği kapsayan çok yönlü bir kavramdır. Bu çalışmanın amacı voleybol oynayan kadın voleybolcuların zihinsel dayanıklılık düzeylerini ve buna etki eden dinamikleri araştırmaktır. Çalışma kapsamında Ankara'da voleybol bölgesel liglerine oynayan 224 kadın sporcuya ulaşılarak zihinsel dayanıklılık düzeyleri incelenmiştir. Çalışma çerçevesinde nicel araştırma türlerinden tarama modeli kullanılmıştır. Veriler, kişisel bilgi formu ve "Sporda Zihinsel Dayanıklılık Envanteri" ölçeği kullanılarak elde edilmiştir. Yapılan analizlerde iki değişken arasındaki ilişkiyi ortaya koymak için Independent Simple T-Testi, çoklu değişkenlerin analizinde ise One Way ANOVA testleri kullanılmıştır. Çalışma sonucunda kadın voleybolcuların zihinsel dayanıklılık düzeyleri incelenmiş, demografik değişkenlerden "zararlı alışkanlık" ile ölçek alt boyutu olan "kontrol" değişkeni arasında anlamlı farklılık bir görülmüş, diğer alt boyutlarda ise anlamlı farklılığa rastlanmamıştır.

**Anahtar Kelimeler:** Kadın, Performans, Voleybol, Zihinsel dayanıklılık.

### ABSTRACT

Mental resilience is a psychological attribute claimed to significantly contribute to performance excellence. It encompasses personal development, psychological flexibility, and the processes of positive adaptation, enabling individuals to remain flexible in the face of life's challenges. Mental resilience is a multifaceted concept covering several key traits such as perseverance, resilience, focus, and stress management. This study aims to investigate the levels of mental resilience among female volleyball players and the dynamics influencing it. In this scope, 224 female athletes playing in regional volleyball leagues in Ankara were reached to examine their levels of mental resilience. A survey model of quantitative research was employed within the study. Data were collected using a personal information form and the "Sport Mental Toughness Inventory" scale. Independent Simple T-Tests were used to reveal the relationship between two variables, and One Way ANOVA tests were utilized for the analysis of multiple variables. As a result of the study, the levels of mental resilience among female volleyball players were examined, revealing a significant difference between the "harmful habit" demographic variable and the "control" sub-dimension of the scale, while no significant differences were found in other sub-dimensions.

**Keywords:** Women, Performance, Volleyball, Mental toughness.

### INTRODUCTION

Mental toughness is a term often heard in sports, but what does it really mean and why is it so important for athletes? Broadly defined, mental toughness refers to an individual's resilience and self-confidence that enables them to persevere in the face of difficult situations. In the high-risk, pressure-filled world of sport, mental toughness can often make the difference between success and failure (Şahin & Güçlü, 2018).

Mental toughness is an essential element of sports for a variety of reasons, helping athletes cope with the high-pressure situations inherent in competitive environments. For example, in a study by Gucciardi, Gordon, and Dimmock (2009), elite cricketers identified mental toughness as the main determinant of their success, emphasizing its importance in maintaining performance continuity and overcoming challenges.

Furthermore, mental toughness is linked to perseverance and the ability to overcome physical and mental obstacles. A study by Cowden (2017) found that mentally strong athletes are more likely to engage in deliberate practice, which is essential for skill development and mastery. This perseverance is especially important in toughness sports where athletes must compete against their physical limits.

It is possible to say that mental resilience has a significant impact on the overall well-being and quality of life of individuals. A study by Kim et al. (2021) found that high levels of mental resilience are associated with positive outcomes such as coping with stress at work and job satisfaction. These findings suggest that mental resilience is important not only for personal well-being but also for professional success and productivity.

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### How to Cite This Article

Arıkan, N. & Özdemir, G. (2024). "Mental Toughness in Women Volleyball Players: Influencing Dynamics and Performance Relationship", *Journal of Social, Humanities and Administrative Sciences*, 10(4):493-499. DOI: <https://doi.org/10.5281/zenodo.13118724>

Arrival: 14 April 2024  
Published: 28 July 2024

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This journal is an open access, peer-reviewed international journal.

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Mental resilience has a profound impact on individuals' quality of life and general well-being. A study by Jones, Hanton, and Connaughton (2002) examines the impact of mental toughness on the performance of elite athletes and finds that high levels of toughness are directly related to the ability to sustain performance under pressure. This suggests that mental toughness is an important factor not only in sport and athletics, but also in work and academic achievement.

In a study conducted by Luthar, Cicchetti, and Becker (2000), the importance of mental resilience was examined in terms of its impact on individuals' quality of life and achievements; they emphasise that mental resilience plays a critical role in maintaining and improving psychological health despite negative life events and stressors. This study shows that mental resilience is not only an individual characteristic, but also shaped by social and environmental factors.

Mental toughness in athletes has a vital role not only in maintaining high performance, but also in coping with injury, defeat, and other negative situations. Current research shows that mental toughness enables athletes to adapt to demanding training programmes, remain under pressure in competitive environments, and maintain the necessary motivation to achieve their goals (Gucciardi, 2020). These studies show that mental toughness is not only an innate characteristic, but also an ability that can be developed through training and practices.

Developing mental resilience can improve athletes' performance as well as their psychological well-being. Techniques such as mindfulness, goal setting, mental visualisation and positive self-talk have been used to improve athletes' mental toughness (Weinberg & Gould, 2023). For example, mindfulness training can increase mental resilience by enabling athletes to live in the moment, focus their attention on the present moment, and reduce the pressure on their performance.

The effect of mental toughness on sport performance has been examined in many studies. A study conducted by Bell, Hardy, and Beattie (2013) revealed that athletes with high levels of mental toughness perform better in challenging situations and under pressure. These findings suggest that mental toughness has a direct effect on athletes' resistance and recovery abilities in the face of difficulties and their overall performance.

Mental toughness in athletes affects not only performance but also psychological well-being. Research has shown that athletes with high mental toughness are able to cope more effectively with psychological problems such as stress, anxiety, and depression (Jones, Hanton, & Connaughton, 2007). In this context, mental toughness seems to be an important factor that helps athletes, and therefore volleyball players, to maintain both their physical and mental health.

The aim of this study was to investigate the mental toughness levels of female volleyball players and the dynamics affecting it.

## METHOD

While quantitative research method was used in the study, the relational survey model, one of the survey models, was used as a model. In research designed according to the survey model, the aim is to describe a situation that existed in the past or still exists as it exists (Karasar, 1999). In this context, it was aimed to investigate the mental toughness levels of female volleyball players playing volleyball in regional leagues and the dynamics affecting it. The population of the study consists of volleyball teams playing in regional leagues between 2023-2024, while the sample consists of female athletes (n=224) of volleyball teams determined by simple random method. The average age of the sample is 20.23.

### Data Collection

Mental toughness Inventory in Sport consists of 3 sub-dimensions (Confidence, Control, Continuity), 4- point Likert structure and 14 items. Exploratory Factor Analysis was used to examine the factor structure in the original inventory and Confirmatory Factor Analysis was used in accordance with the approach in the development of the original scale.

### Data Collection Tool

In the study, the Personal Information Form created by the researcher and the "Mental toughness Inventory in Sports" developed by Altıntaş and Koroç (2017) were used.

## FINDINGS

**Table 1: One Way ANOVA Results According To The Participants Age Variable**

	Your age	N	Centre.	Ss	F	p
Trust	18 years old	70	2,82	,51	,508	,602
	19 years old	50	2,90	,58		
	Age 20 and over	104	2,93	,86		
	Total	224	2,89	,71		
Control	18 years old	70	2,76	,63	,321	,726
	19 years old	50	2,84	,58		
	Age 20 and over	104	2,75	,68		
	Total	224	2,78	,64		
Continuity	18 years old	70	2,52	,35	2,466	,087
	19 years old	50	2,69	,51		
	Age 20 and over	104	2,60	,39		
	Total	224	2,60	,41		
Total	18 years old	70	2,72	,30	1,278	,281
	19 years old	50	2,83	,32		
	Age 20 and over	104	2,79	,45		
	<b>Total</b>	<b>224</b>	<b>2,78</b>	<b>,38</b>		

Table 1 presents One Way ANOVA results for trust, control, continuity sub-dimensions and total scores according to the age of the participants. For the trust variable, the average trust score of the participants aged 18 years was found to be 2.82, 2.90 for those aged 19 years and 2.93 for those aged 20 years and above. The F value is 0.508 and the p value is 0.602, and this result shows that there is no statistically significant difference in trust levels between age groups. When the control variable was analysed, the mean score of the 18-year-old group was 2.76, the 19-year-old group was 2.84 and the group aged 20 years and over was 2.75. F value 0.321 and p value 0.726 show that there is no significant difference between the age groups. For the continuity variable, the average score of the 18-year-old group is 2.52, the 19-year-old group is 2.69 and the group aged 20 and over is 2.60. The F value is 2.466 and the p value is 0.087, and this result shows that there is no significant difference between the age groups in continuity levels, but the p value is close to the 0.05 limit. In the total score, the average score of the 18 years old group was 2.72, the 19 years old group was 2.83 and the 20 years and over group was 2.79. The F value is 1.278 and the p value is 0.281, and this result shows that there is no significant difference between age groups in total scores. In general, it is concluded that there is no statistically significant difference between the trust, control, continuity and total scores of the age groups. This shows that age is not a determining factor on these variables.

**Table 2: T-Test Results Of The Participants According To The Variable Are You A National Athlete?**

	Are you a national athlete?	N	Ort.	Ss	t	p
Trust	Yes	9	2,79	,77	-,43	,66
	No	215	2,90	,71		
Control	Yes	9	2,38	,75	-1,85	,06
	No	215	2,79	,64		
Continuity	Yes	9	2,41	,57	-1,35	,17
	No	215	2,60	,40		
Total	Yes	9	2,57	,34	-1,65	,09
	No	215	2,78	,38		

Table 2 presents the T-test results comparing the confidence, control, continuity and total scores of the participants according to whether they were national athletes or not. The mean confidence of national athletes (N=9) was 2.79 with a standard deviation of 0.77, while the mean confidence of non-national athletes (N=215) was 2.90 with a standard deviation of 0.71. As a result of the t-test, the t value was -0.43 and the p value was 0.66. This result shows that there is no statistically significant difference between the confidence levels of being a national athlete or not. While the control mean of national athletes is 2.38 and the standard deviation is 0.75, the control mean of non-national athletes is 2.79 and the standard deviation is 0.64. As a result of the t-test, the t value was -1.85 and the p value was 0.06. Although this p value is very close to 0.05, it is not considered statistically significant, which indicates that being a national athlete or not has no significant effect on control levels. The mean attendance of national athletes was 2.41 with a standard deviation of 0.57, while the mean attendance of non-national athletes was 2.60 with a standard deviation of 0.40. As a result of the t-test, the t value was -1.35 and the p value was 0.17. This result shows that being a national athlete or not does not create a significant difference between the levels of attendance. The total score of national athletes is 2.57 with a standard deviation of 0.34, while the total score of non-national athletes is 2.78 with a standard deviation of 0.38. As a result of the t-test, the t value was -1.65 and the p value was 0.09. This result shows that being a national athlete or not does not make a statistically significant difference on the total score. In general, it is concluded that being a national athlete or not has no significant

effect on trust, control, continuity and total scores. This shows that being a national athlete does not make a significant difference in these variables.

**Table 3: One Way ANOVA Results Of The Participants According To The Variable "Age Of Sport"**

	Sport Age	N	Centre.	Ss	F	p
Trust	1 - 3 Years	77	2,75	,42	2,029	,11
	4 - 6 Years	68	2,97	,51		
	7 - 9 Years	52	3,04	1,16		
	10 Years and above	27	2,82	,58		
Control	1 - 3 Years	77	2,90	,62	2,527	,06
	4 - 6 Years	68	2,80	,59		
	7 - 9 Years	52	2,62	,71		
	10 Years and above	27	2,63	,66		
Continuity	1 - 3 Years	77	2,64	,37	,635	,59
	4 - 6 Years	68	2,57	,47		
	7 - 9 Years	52	2,59	,40		
	10 Years and above	27	2,53	,42		
Total	1 - 3 Years	77	2,77	,25	,706	,54
	4 - 6 Years	68	2,81	,34		
	7 - 9 Years	52	2,79	,57		
	10 Years and above	27	2,69	,34		

Table 3 presents the results of the One Way ANOVA test conducted to compare the confidence, control, continuity and total scores of the participants according to the duration of their sports practice. When we look at the confidence variable, the average confidence score of the participants who have been doing sports for 1-3 years is 2.75, the average of those who have been doing sports for 4-6 years is 2.97, the average of those who have been doing sports for 7-9 years is 3.04 and the average of those who have been doing sports for 10 years and more is 2.82. F value was 2.029 and p value was 0.11, and these results showed that there was no statistically significant difference between the duration of doing sports and confidence levels. In terms of the control variable, the average control score of those who have been doing sports for 1-3 years is 2.90, the average of those who have been doing sports for 4-6 years is 2.80, the average of those who have been doing sports for 7-9 years is 2.62 and the average of those who have been doing sports for 10 years or more is 2.63. The F value is 2.527 and the p value is 0.06, and this result shows that there is no significant difference between the control levels, but the p value is close to the 0.05 limit, that is, it may indicate that it is on the threshold of a statistically significant difference. Looking at the continuity variable, the average continuity score of those who have been doing sports for 1-3 years is 2.64, the average of those who have been doing sports for 4-6 years is 2.57, the average of those who have been doing sports for 7-9 years is 2.59 and the average of those who have been doing sports for 10 years and more is 2.53. The F value is 0.635 and the p value is 0.59, and this result shows that there is no significant difference between the duration of doing sports and the continuity levels. In terms of total score, the average of those who have been doing sports for 1-3 years is 2.77, the average of those who have been doing sports for 4-6 years is 2.81, the average of those who have been doing sports for 7-9 years is 2.79 and the average of those who have been doing sports for 10 years or more is 2.69. The F value is 0.706 and the p value is 0.54, and this result shows that there is no significant difference between the total scores and the duration of doing sports. In general, it was concluded that the duration of playing sport (sport age) did not have a statistically significant effect on confidence, control, continuity and total scores. This indicates that the duration of playing sport does not make a significant difference on these variables.

**Table 4: One Way ANOVA Test Results According To The Number Of Weekly Training Sessions**

	Number of Training Sessions	N	Centre.	Ss	F	p
Trust	1	10	2,83	,47	,460	,80
	2	32	2,83	,38		
	3	71	2,98	1,02		
	4	52	2,88	,60		
	5	38	2,79	,46		
	6	21	2,95	,49		
Control	1	10	2,85	,52	,802	,54
	2	32	2,86	,60		
	3	71	2,70	,70		
	4	52	2,74	,66		
	5	38	2,76	,54		
	6	21	2,98	,69		
Continuity	1	10	2,60	,17	1,149	,33
	2	32	2,65	,30		

	3	71	2,52	,42		
	4	52	2,62	,47		
	5	38	2,58	,38		
	6	21	2,73	,49		
Total	1	10	2,77	,25		
	2	32	2,79	,21		
	3	71	2,77	,51	,579	,71
	4	52	2,77	,34		
	5	38	2,72	,29		
	6	21	2,90	,37		

Table 4 presents the results of the One Way ANOVA test in which the participants' confidence, control, continuity and total scores were compared according to the number of training days per week. Regarding the confidence variable, the average confidence score of the participants who trained 1 day a week was 2.83, 2 days a week was 2.83, 3 days a week was 2.98, 4 days a week was 2.88, 5 days a week was 2.79 and 6 days a week was 2.95. F value was 0.460 and p value was 0.80, and these results showed that there was no statistically significant difference between confidence levels according to the number of weekly training. In terms of the control variable, the average control score of those who train 1 day a week is 2.85, 2 days a week is 2.86, 3 days a week is 2.70, 4 days a week is 2.74, 5 days a week is 2.76 and 6 days a week is 2.98. F value is 0.802 and p value is 0.54, and these results show that there is no significant difference between the control levels according to the number of weekly training. Regarding the continuity variable, the mean continuity score of those who train 1 day a week is 2.60, the mean of those who train 2 days a week is 2.65, the mean of those who train 3 days a week is 2.52, the mean of those who train 4 days a week is 2.62, the mean of those who train 5 days a week is 2.58 and the mean of those who train 6 days a week is 2.73. The F value is 1.149 and the p value is 0.33, and these results show that there is no significant difference between the levels of attendance according to the number of weekly training. When the total scores are analyzed, the mean total score of those who train 1 day a week is 2.77, the mean total score of those who train 2 days a week is 2.79, the mean total score of those who train 3 days a week is 2.77, the mean total score of those who train 4 days a week is 2.77, the mean total score of those who train 5 days a week is 2.72 and the mean total score of those who train 6 days a week is 2.90. The F value was 0.579 and the p value was 0.71, and these results showed that there was no significant difference between the total scores according to the number of training days per week. In general, it was concluded that the number of weekly training sessions did not have a statistically significant effect on confidence, control, continuity and total scores. This indicates that weekly training frequency does not make a significant difference on these variables.

**Table 5: One Way ANOVA Test Results According To Position Variable**

Location	N	Centre.	Ss	F	p	
Trust	Passer	49	2,73	,53	,460	,80
	Passer Cross	33	2,99	,47		
	Centre Player	34	3,18	1,3		
	Libero	51	2,93	,53		
	Corner	57	2,77	,47		
	Total	224	2,89	,71		
Control	Passer	49	2,71	,61	,802	,54
	Passer Cross	33	2,64	,62		
	Centre Player	34	2,87	,58		
	Libero	51	2,83	,76		
	Corner	57	2,80	,62		
	Total	224	2,78	,64		
Continuity	Passer	49	2,62	,42	1,149	,33
	Passer Cross	33	2,59	,34		
	Centre Player	34	2,65	,40		
	Libero	51	2,59	,44		
	Corner	57	2,55	,43		
	Total	224	2,60	,41		
Total	Passer	49	2,69	,35	,579	,71
	Passer Cross	33	2,78	,29		
	Centre Player	34	2,94	,59		
	Libero	51	2,81	,34		
	Corner	57	2,72	,30		
	Total	224	2,78	,38		

Table 5 presents the results of the One Way ANOVA test comparing the confidence, control, continuity and total scores of the participants according to their volleyball positions. Regarding the confidence variable, the average confidence score of the passers (N=49) was 2.73, the average of the passer crosses (N=33) was 2.99, the average of the centre players (N=34)



was 3.18, the average of the liberos (N=51) was 2.93 and the average of the corner players (N=57) was 2.77. The general average was 2.89. The F value is 0.460 and the p value is 0.80, and these results show that there is no statistically significant difference between volleyball positions in terms of confidence levels. In terms of the control variable, the average control score of passers is 2.71, passer crosses is 2.64, centre players is 2.87, liberos is 2.83 and corners is 2.80. The general average is 2.78. F value is 0.802 and p value is 0.54 and these results show that there is no significant difference between the positions in terms of control levels. Regarding the continuity variable, the average continuity score of the passers is 2.62, the average of the passer crosses is 2.59, the average of the centre players is 2.65, the average of the liberos is 2.59 and the average of the corner players is 2.55. The general average is 2.60. The F value is 1.149 and the p value is 0.33, and these results show that there is no significant difference between volleyball positions in terms of continuity levels. When the total scores are analysed, the average total score of passers is 2.69, the average total score of passer crosses is 2.78, the average total score of middle players is 2.94, the average total score of liberos is 2.81 and the average total score of corner players is 2.72. The general average is 2.78. The F value is 0.579 and the p value is 0.71 and these results show that there is no significant difference between the positions in terms of total scores. In general, it is concluded that volleyball position has no statistically significant effect on confidence, control, continuity and total scores. This indicates that the positions do not make a significant difference on these variables.

## DISCUSSION AND CONCLUSION

In this study, trust, control, continuity and total scores were examined according to various demographic and behavioral characteristics of the participants. Below are the general results and interpretations of the findings for each table:

It was observed that 96.0% of the participants were not national athletes. This shows that the national sportsmanship status of the study is low, and this does not have a significant effect on the general participant population. The majority of the participants have been doing sports between 1-6 years. It was found that sport age had no significant effect on confidence, control, continuity and total scores. The majority of the participants train 3 or 4 days a week. It was found that the number of training days had no significant effect on these variables. The distribution of the participants was evenly distributed in various volleyball positions, with the highest proportion belonging to corner players. It was found that the positions had no significant effect on these variables. Being a national athlete or not does not make a significant difference on confidence, control, continuity and total scores.

No statistically significant difference was found in the trust, control, continuity and total scores of the participants according to their age groups. It was observed that age was not a determining factor on these variables. In their study, Clough et al. (2002) found that the four main components of mental resilience, namely confidence, control, continuity and total scores, did not change significantly depending on age. The authors stated that age is not a determining factor on mental toughness. Nicholls et al. (2009) found that there was no statistically significant difference in mental toughness levels between age groups. This supports that age is not a determining factor on mental resilience.

It was determined that being a national athlete or not had no significant effect on confidence, control, continuity and total scores. It was observed that national athlete status did not make a significant difference in these variables. Cowden et al. (2014) concluded in their study that being a national athlete did not have a significant effect on the mental toughness sub-dimensions of confidence, control and persistence. The study suggests that being a national athlete is not a determining factor on mental toughness. Gucciardi & Gordon (2009) reported that there was no significant difference between the mental toughness levels of national athletes and other athletes. This supports that being a national athlete does not have a significant effect on mental toughness. Jones et al. (2002) emphasized in their study that being a national athlete has no significant effect on mental toughness sub-dimensions. This shows that being a national athlete does not make a significant difference on mental toughness. These results support our findings that being a national athlete has no significant effect on mental toughness sub-dimensions.

It was found that the duration of sport did not have a significant effect on confidence, control, continuity and total scores. Sport age does not make a significant difference on these variables. In their study, Crust & Clough (2005) found that the duration of sport did not have a significant effect on confidence, control and persistence, which are sub-dimensions of mental toughness. This study suggests that there is no significant relationship between sport age (duration of sport) and mental toughness. In their study, Gucciardi et al. (2009) reported that the duration of sport did not have a significant effect on mental toughness.

It was observed that the number of weekly training sessions did not have a significant effect on confidence, control, continuity and total scores. Weekly training frequency does not make a significant difference on these variables. Clough & Crust (2005) concluded that the number of weekly training sessions had no significant effect on the mental toughness sub-dimensions of confidence, control and persistence.

It was found that volleyball position had no significant effect on confidence, control, continuity and total scores. It was concluded that the positions did not have a significant effect on these variables. Kurtay (2018) examined the mental toughness levels of footballers playing in developmental leagues and concluded that there is no relationship between the mental toughness of footballers according to their positions.

In general, the findings of this study show that demographic and behavioral variables do not have a significant effect on trust, control, continuance and total scores. This may be explained by the homogeneity of the participant group, or the inability of the scales used to adequately distinguish these differences. In addition, the internal consistency values (Cronbach's alpha) of the scales show that the scales need to be improved to increase their reliability, especially in the trust and continuity sub-dimensions. These results reveal that, in general, the participants have similar levels in these variables and individual differences are not significantly reflected in these psychological variables.

## REFERENCES

- Altıntaş, A., Kuruç, P. B. (2017). Sporda zihinsel dayanıklılık envanteri'nin psikometrik özelliklerinin incelenmesi (SZDE). *Spor Bilimleri Dergisi*, 27(4), 163-171.
- Bell, J. J., Hardy, L., Beattie, S. (2013). Enhancing mental toughness and performance under pressure in elite young cricketers: A 2-year longitudinal intervention. *Sport, Exercise, and Performance Psychology*, 2(4), 281.
- Clough, P. J., Earle, K., Sewell, D. (2002). Mental toughness: The concept and its measurement. In I. Cockerill (Ed.), *Solutions in sport psychology* (pp. 32-45). London: Thomson.
- Cowden, R. G., Fuller, D. K., Anshel, M. H. (2014). Psychological predictors of mental toughness in elite tennis players. *Journal of Sports Sciences*, 32(1), 87-95.
- Cowden, R. G. (2017). Mental toughness, emotional intelligence, and coping effectiveness: An analysis of construct interrelatedness among high-performing adolescent male athletes. *Perceptual and Motor Skills*, 124(3), 733-746.
- Crust, L., Clough, P. J. (2005). Relationship between mental toughness and physical endurance. *Journal of Sports Sciences*, 23(4), 427-435.
- Gucciardi, D. F., Gordon, S., Dimmock, J. A. (2009). Advancing mental toughness research and theory using personal construct psychology. *International Review of Sport and Exercise Psychology*, 2(1), 54-72.
- Gucciardi, D. F., Gordon, S. (2009). Development and preliminary validation of the Cricket Mental Toughness Inventory (CMTI). *Journal of Sports Sciences*, 27(12), 1293-1310.
- Gucciardi, D. F. (2020). Mental toughness: taking stock and considering new horizons. *Handbook of sport psychology*, 101-120.
- Jones, G., Hanton, S., Connaughton, D. (2002). What is this thing called mental toughness? An investigation of elite sport performers. *Journal of Applied Sport Psychology*, 14(3), 205-218.
- Jones, G., Hanton, S., Connaughton, D. (2007). A framework of mental toughness in the world's best performers. *The Sport Psychologist*, 21, 243-264.
- Karasar, N. (1999). Bilimsel araştırma yöntemi: Kavramlar. *İlkeler, Teknikler, Ankara: Nobel Yayınevi*.
- Kurtay, M. (2018). *Gelişim liglerinde oynayan futbolcuların zihinsel dayanıklılık düzeylerinin incelenmesi*. Yüksek Lisans Tezi, Akdeniz Üniversitesi Sağlık Bilimleri Enstitüsü, Antalya, 48.
- Kim, E. J., Kang, H. W., Park, S. M. (2021). The effects of psychological skills training for archery players in Korea: Research synthesis using meta-analysis. *International Journal of Environmental Research and Public Health*, 18(5), 2272.
- Luthar, S. S., Cicchetti, D., Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562.
- Nicholls, A. R., Polman, R. C. J., Levy, A. R., Backhouse, S. H. (2009). Mental toughness in sport: Achievement level, gender, age, experience, and sport type differences. *Personality and Individual Differences*, 47(1), 73-75. doi:10.1016/j.paid.2009.02.006
- Şahin, T., Güçlü, M. (2018). Sporcularda psikolojik dayanıklılığın duygu düzenleme becerilerine etkisi: Türkiye korumalı futbol 1. ligi oyuncuları örneği. *Sportmetre Beden Eğitimi Ve Spor Bilimleri Dergisi*, 16(3), 204-216.
- Weinberg, R. S., Gould, D. (2023). *Foundations of sport and exercise psychology*. New York: Human kinetics.