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A comparison of mental training skills levels of handball and basketball players

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Abstract

Mental Training in "athletics means preparing the mind to help you perform at your best, mentally and physically. Mental factors such as confidence, focus, self-belief, and motivation are crucial to athletic performance. Mental training in sports gives you the mental exercises to build these qualities proactively. It also teaches tools and strategies to prepare you for uncontrollables that you might face so that you can consistently perform at your best. In this study, it was aimed to compare the mental training skill levels used by handball" and basketball games. Relational screening model was used in the research. The study group consists of 400 athletes. In the study, the Mental Training Inventory in Sports "SZAE (The Sport Mental Training Questionnaire SMTQ), developed by Behnke et al., (2017) and adapted into Turkish by doing validity and reliability studies by Yarayan and İlhan (2018), was used. In addition, a personal information form containing the demographic information of the participants was used as a data collection tool. In the research, SPSS 24 package program was used in the analysis of the data. As a result of the analysis, "Handball and Basketball groups, which are the branches of the athletes, differed significantly for the variables of mental performance and interpersonal skills. According to the findings obtained from the research; A positive significant relationship was found between the age variable and the level of mental skills. In this case, it can be said that as age increases, mental skills will also increase. According to another finding obtained in the study, the relationship between the experience variables in sports and the research variables is significant and positive. According to another finding obtained from the research; It is seen that the gender groups do not differ in terms of mental basic skills, mental performance, interpersonal skills, talking to yourself and mental animation variables, which are the sub-dimensions of the mental training inventory scale. As a result; It is seen that the handball and basketball groups, which are the branches of the athletes, differ significantly for the variables of mental performance and interpersonal skills.

Keywords: Sport, skill, handball, basketball, mental Training

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1. Introduction

1.1. Introduce the problem

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Mental training "has been expressed as a precautionary exercise performed at the stage of learning a new movement or developing a previously experienced movement for a specific goal by using the mind without any physical action (Konter, 1999). Mental training, motivation, concentration, attention, imagination, goal setting, self-confidence, positive thinking, emotion and thought control, etc. to achieve high performance.

It is defined as a systematic and programmed process aiming at the acquisition and development of psychological skills (Neff et al., 2007). Mental strength, resilience, and strategy are learned through facing challenges, succeeding and failing, and learning to use fear as a motivating force not a debilitating one. It's learned through life experience, athletics, and cultivation of the mind and it's enormous potential. It's not genetic. Mental training gives athletes structure to build these qualities from the ground up so that they are prepared to grow as an athlete and face anything in competition (https://www.positiveperformancetraining.com). Concepts such as sports or athlete are often associated with physical strength. It would not be wrong to say that the muscular and athletic bodies that athletes have caused this idea. But mental strength and skills, as well as physical strength and skills, are an important component of sporting success. Through the developments and scientific researches in sports psychology after the Second World War, mental strength and skills have gained an important place in the training programs of the athletes and started to be an important part of the successes (Çelik and Güngör, 2020).

Mental training alone means nothing. It is beneficial for the athlete together with a scientific training program. It should not be forgotten that 20% of success is physical and 50% is mental (Aktepe, 1999). The mental and psychological actors needed for ideal performance are; being positive and realistic, motivating and directing oneself, being determined, focusing and concentrating, having self-confidence and taking responsibility, being confident, being willing and ready (Biçer, 2008). Mental training can benefit every part of your life. Whether you're an entrepreneur, student, parent, or athlete, mental training can teach you to harness the power of your own mind to achieve what you want to achieve. Since we've already talked about the many benefits of mental training for athletes, it's important to note that mental training is perhaps *just* as important for coaches. As a leader, it's imperative that you practice mental training in your own life to prepare your own mind for competition (https://www.positiveperformancetraining.com).

Anshel (1990) stated that athletic success is the sum of physical performance, mental performance and psychological performance. Competitions in which the best athletes with superior physical skills, conditioning and competent technique take part are actually psychological competitions. Athletes and coaches who can cope with this psychology can be successful. Understanding that there is a positive relationship between physical training and performance reveals the importance of exercise and sports psychology day by day. Nowadays, psychological counselors and mentors are given important roles in organizations such as Olympics, high-level World and European Championships. Therefore, in today's sports world, physical, technical and tactical skills alone are not enough for high-level performance and success to occur, but at the same time, they can be applied in the best way in mental preparation. These preparations are one of the most important factors for athletes to cope with anxiety, stress and stress.

Psychomotor skill is the individual's small and large involves the use of muscles. While performing major muscle skills, walking, running, balance, turning, bending and swinging, small muscle skills; It includes the ability to use hands and feet and object control skills. It is expressed as psychomotor skills in the features that cover different processes in the physical structure and nervous system of the individual (Erol, 2022). The techniques involved and used in this preparation are of great importance for athletes striving for peak performance (Walker, 2007). In addition, these techniques have been described as a psychological strategy used by athletes to help manage or reduce stressed emotions, anxiety and anger, and physical symptoms, physical tension and increased heart rate (Eklund & Tenenbaum, 2014).

It has been proven by studies that mental training, which is one of the application areas of sports psychology, causes an increase in learning and motor skill development. In these studies, it was stated that mental training was not as efficient as physical training, but the skills of the mental training group were better than the group that did not train at all (Ekmekçi, 2019).

In the light of this information, in this study, it is aimed to examine the mental training skills of handball and basketball players in terms of some variables.

2. Method

This research will be designed based on the relational screening model. Relational studies, according to Büyüköztürk (2015), are studies that examine relationships and connections, and the main examples are correlational and causal comparison methods. The research was carried out in accordance with the Principles of the Declaration of Helsinki, but ethics committee approval was not obtained because it was not experimental and only used scale form.

2.1. Population and Sample

The universe of this research consists of handball players and basketball players participating in league level competitions, while the sample consists of 183 handball players and 217 basketball players selected by random methods.

2.2. Data Collection Tools

The Mental Training Inventory in Sport "SZAE" (The Sport Mental Training Questionnaire SMTQ), which they adapted into Turkish after making its validity and reliability, was used. In addition, the Personal Information Form containing the demographic information of the participants was used as a data collection tool.

It was developed by Behnke et al., (2017) to measure mental skills and mental techniques used in mental training practices in the sports environment. This inventory, translated into Turkish by Yarayan and İlhan (2018), consists of 20 items in the adaptation study, in line with its original form. The lowest score that can be obtained from the inventory is 20, and the highest score is 100.

2.3. Data Collection and Analysis

The data collected for the problems whose answers were sought within the framework of the purpose of the research were first processed into the data coding form. All 400 data were included in the research. Then, statistical analyzes were applied on the data transferred to the SPSS 25.0 package program.

Table 1. Normality distributions of the data

	N	Skewness	Kurtosis
Mental Training Inventory in Sports Total	400	-573	,628

When the Skewness and kurtosis coefficients in Table 1 are examined, it has been determined that the scores are in the range of ±2. While Cooper-Cutting explains that the skewness and kurtosis values are in the range of ±2, as a suitable situation in terms of normality, Büyüköztürk interprets that these values are in the range of ±1 as no deviation from normality.

In the study, it was decided to apply parametric statistical techniques because it was seen that the skewness-kurtosis values of the scores were not at extreme levels, were in the range of ±2, and there were no excessive deviations in the normal distribution curves.

3. Results

Table 2. The results of the analysis between the age variable and the level of mental training skills

	Age range	N	X± Ss	F	P	Tukey
Mental Training Inventory in Sports Total	14-20 Age[1]	112	63,46±,15,31	6,037	0,03*	1-3*
	21-27 Age[2]	198	65,27±16,24			
	27 and upper Age[3]	90	74,46±24,23			

P<0,05

According to the findings obtained from the research; A significant difference was found between the age variable and the level of mental training skills ($p<0.05$). It was observed that the significant difference emerged between the ages of 14-20 and the age of 27 and above. In this case, it can be said that as age increases, mental skills will also increase.

Table 3. The results of the analysis between the branch variable and the level of mental training skills

	Branch	N	X± Ss	t	p
Mental Training Inventory in Sports Total	Handball	183	68,27±18,45	4,673	0,02*
	Basketball	217	79,47±20,39		

P<0,05

According to another finding obtained in the study, it was determined that there was a statistically significant difference between the handball and basketball branches and the mental training skill level. Looking at the scores, it was seen that the scores of the basketball players were significantly higher than the scores of the handball players.

Table 4. The results of the analysis between the gender variable and the level of mental training skills

	Gender	N	X± Ss	t	p
Mental Training Inventory in Sports Total	Male	211	18,27±8,45	,673	0,25
	Female	189	20,49±7,39		

P<0,05

According to another finding obtained from the research; It was determined that there was no statistically significant difference between gender variable and mental training skill level.

4. Discussion

According to the findings obtained from the research; A significant difference was found between the age variable and the level of mental training skills. It was observed that the significant difference emerged between the ages of 14-20 and the age of 27 and above. In this case, it can be said that as age increases, mental skills will also increase.

When the literature was examined, Connaughton et al. (2008) reported that the mental training skills of the athletes developed with the advancement of their age and were directly proportional to the age. Yarayan et al., (2018) reported in their study that there was a statistically significant difference in the mental toughness sub-dimension according to the age variable. Orhan (2020) stated in his study that there was a significant difference when the mental training scores of the swimmers were examined in terms of the age variable. Cankurtaran determined that there is a positive and significant relationship between the ages of the archers participating in the (2020) Indoor Turkey Championship, and talking to yourself, basic mental skills, mental performance skills, mental animation, and interpersonal skills. Studies in the literature support the findings obtained from this study.

In the study, it was determined that there was a statistically significant difference between the handball and basketball branches and the mental training skill level. Looking at the scores, it was seen that the scores of the basketball players were significantly higher than the scores of the handball players.

When the literature is examined, it is seen that there is no study examining the relationship between basketball and handball branches and mental training skill level. It is thought that this result obtained from this research will support future studies as a source and contribute to the literature.

According to another finding obtained from the research; It was determined that there was no statistically significant difference between gender variable and mental training skill level.

When the literature was reviewed, Erdoğan and Gülşen (2020) found that there was no statistical difference in mental training according to gender factor in their study. In the Altunkalem (2020) study, it was found that there was no statistically significant difference in the total score of the mental endurance scale according to the gender of the participants. Orhan (2020) stated in the research results that mental training levels did not differ in terms of gender in male and female swimmers in comparison according to the gender variable of mental training.

Dogan, (2019) stated that there is no difference in terms of using animation skills in the mind according to gender in their study. In their study, Hocaoğlu (2019) emphasized that there is no difference between mental skills in terms of gender. These studies support the findings obtained. There were 350 active licensed officials of national and regional level. The findings of that research revealed that the national first-level referees have a level of self-efficacy significantly higher than that of the regional referees (Diotaiuti et al., 2017). Moreover, Giske, Haugen & Johansen, (2016) aimed to examine different category soccer officials' levels about mental preparation to the matches. As they found, elite officials report significantly greater use of mental training compared with sub-elite referees. The results can be speculated as upper category officials may get through the fact that the effects of mental development are not immediate and instead require patience and persistence (Miçooğulları et al., 2017).

According to Sotoodeh et al., (2012) significant difference between male and female athletes only in activation factor. Also, elite athletes significantly used game planning, goal setting, activation, relaxation, self-confidence and commitment more than non-elite athletes. However, non-elite athletes were better than elite athletes in refocusing and stress reaction. According to the results of this study, it is recommended that taekwondo coaches improved game planning, goal setting, activation, self-confidence and commitment factors in non-elite taekwondo athletes. Elite taekwondo athletes also should develop their refocusing and stress reaction to maintain their skill level. Studies on the psychological characteristics of athletes in different sports show that, depending on the nature and type of sports, different mental skills are effective to their optimal performance. Furthermore, athletes with various levels of skill and competitive experience have different psychological profiles, consequently, psychological profiles of elite athletes can often be distinguished from athletes who have lower skill levels. The results of this study have highlighted the psychological profile, weaknesses and strengths of the psychological skills employed by elite and beginner Iranian Darts throwers (Kaseb et al., 2020). The findings of this research paper showed that there were significant differences between soccer officials' three sub-factors (confidence--constancy--control) of mental toughness and their officiating experience years. This could be attributed to the fact that 15 and above years experienced officials were mentally tougher than those with 0-5 years' experience and those with 6-10 years' experience. There were not any significant differences between other variables (refereeing categories, education levels

and age groups) of soccer officials and their mental toughness levels (Miçooğulları et al., 2017).

5. Conclusions

According to the results of the research, it can be noted that the gender variable Dec different in the activation skill between men and women, as men use this skill more than women. Therefore, when providing handball and basketball athletes with mental skills, the gender factor should be taken into account and different programs should be provided according to their gender. In addition, the observed differences showed that the skill level variable was more effective compared to gender. These results have shown that the mental skills of athletes compensate for some of the deficiency. In addition, coaches in this area are advised to use game planning, goal setting, activation self-confidence, commitment and relaxation for athletes, develop these skills in these players and try to ensure that they progress to higher levels.

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Conflict of interest

There were no conflicts of interest.

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